



FLUVANNA COUNTY BOARD OF SUPERVISORS

REGULAR MEETING AGENDA

June 5, 2019

Regular Meeting, 4:00 pm in Circuit Courtroom

Work Session, 7:00pm in Morris Room

TAB	AGENDA ITEMS
1	CALL TO ORDER
2	PLEDGE OF ALLEGIANCE AND MOMENT OF SILENCE
3	ADOPTION OF AGENDA
4	COUNTY ADMINISTRATOR'S REPORT
5	PUBLIC COMMENTS #1 (5 minutes each)
6	PUBLIC HEARING
	None.
7	ACTION MATTERS
A	County Attorney Agreement—Steven. M. Nichols, County Administrator
B	NetMotion Addendum—Cyndi Toler, Purchasing Officer
C	Next Generation Core Services Solution—Cyndi Toler, Purchasing Officer
D	FY19 CSA Purchase of Services Supplemental Budget Appropriation—Bryan Moeller, CSA Coordinator
E	Columbia Area Renewal Effort (CARE) Charter and Member Extension—Steven M. Nichols, County Administrator
F	Initiation of Zoning Text Amendment – Industrial Setbacks—Brad Robinson, Senior Planner
7A	APPOINTMENTS
G	Jefferson Area Board (JABA) for Aging Board of Directors—Kelly Belanger Harris, Clerk to the Board
8	PRESENTATIONS (normally not to exceed 10 minutes each)
	None
9	CONSENT AGENDA
H	Minutes of May 15, 2019—Kelly Belanger Harris, Clerk to the Board
I	New Hire Salary Ratification – Community Development Director – Jessica Rice, HR Manager
J	FLSA Status Changes for Assistant PW Director Positions – Jessica Rice, HR Manager
K	ZXR Sargent Change Order #1—Cyndi Toler, Purchasing Officer
10	UNFINISHED BUSINESS
	TBD
11	NEW BUSINESS
	TBD
12	PUBLIC COMMENTS #2 (5 minutes each)

Fluvanna County...The heart of Virginia and your gateway to the future!

For the Hearing-Impaired – Listening device available in the Board of Supervisors Room upon request. TTY access number is 711 to make arrangements.
For Persons with Disabilities – If you have special needs, please contact the County Administrator's Office at 591-1910.

13 – CLOSED MEETING

TBD

RECESS – DINNER BREAK**RECONVENE @ 7:00pm in Morris Room**

A - CALL TO ORDER

B - WORK SESSION

Space Utilization Study—Steven M. Nichols, County Administrator

C – CLOSED MEETING

TBD

D – ADJOURN



Digitally signed by Steven M.
Nichols
Date: 2019.05.31 08:25:59 -04'00'

County Administrator Review

Fluvanna County...The heart of Virginia and your gateway to the future!

*For the Hearing-Impaired – Listening device available in the Board of Supervisors Room upon request. TTY access number is 711 to make arrangements.
For Persons with Disabilities – If you have special needs, please contact the County Administrator's Office at 591-1910.*

PLEDGE OF ALLEGIANCE

I pledge allegiance, to the flag,
of the United States of America,
and to the Republic for which it stands,
one nation, under God, indivisible,
with liberty and justice for all.

GENERAL RULES OF ORDER

1. It shall be the duty of the Chairman to maintain order and decorum at meetings. The Chairman shall speak to points of order in preference to all other members.
2. In maintaining decorum and propriety of conduct, the Chairman shall not be challenged and no debate shall be allowed until after the Chairman declares that order has been restored. In the event the Board wishes to debate the matter of the disorder or the bringing of order; the regular business may be suspended by vote of the Board to discuss the matter.
3. No member or citizen shall be allowed to use defamatory or abusive language directed at any member of the Board or other person, to create excessive noise, or in any way incite persons to use such tactics. The Chair shall be the judge of such breaches, however, the Board may by majority vote of the Board members present and voting to overrule the judgment of the Chair.
4. When a person engages in such breaches, the Chairman shall order the person's removal from the building, or may order the person to stand silent, or may, if necessary, order the person removed from the County property.

RULES OF PROCEDURE FOR PUBLIC HEARINGS

1. PURPOSE
 - The purpose of a public hearing is to receive testimony from the public on certain resolutions, ordinances or amendments prior to taking action.
 - A hearing is not a dialogue or debate. Its express purpose is to receive additional facts, comments and opinion on subject items.
2. SPEAKERS
 - Speakers should approach the lectern so they may be visible and audible to the Board.
 - Each speaker should clearly state his/her name and address.
 - All comments should be directed to the Board.
 - All questions should be directed to the Chairman. Members of the Board are not expected to respond to questions, and response to questions shall be made at the Chairman's discretion.
 - Speakers are encouraged to contact staff regarding unresolved concerns or to receive additional information.
 - Speakers with questions are encouraged to call County staff prior to the public hearing.
 - Speakers should be brief and avoid repetition of previously presented comments.
3. ACTION
 - At the conclusion of the public hearing on each item, the Chairman will close the public hearing.
 - The Board will proceed with its deliberation and will act on or formally postpone action on such item prior to proceeding to other agenda items.
 - Further public comment after the public hearing has been closed generally will not be permitted.

Fluvanna County...The heart of Virginia and your gateway to the future!



COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

2018-2019 STRATEGIC INITIATIVES AND ACTIONS

A	SERVICE DELIVERY
A1	Work with FRA to identify support options for Fire and Rescue volunteers.
A2	Continue to research and evaluate county-wide broadband expansion opportunities.
A3	Hold review meeting on ordinance enforcement (trash, buildings, vehicles) with Health Dept., Planning, Building Inspections, Public Works, and County Attorney.
A4	Perform strategic review of existing and needed partnerships with local area support and other non-profit groups. (Needed? Effective? Consolidate resource contributions?)
A5	Improve partnership with the school system for shared use of county and school owned facilities.
A6	Identify and assess resident concerns about roadway and public safety issues, and coordinate with VDOT for appropriate actions.
A7	Initiate comprehensive review of the Hwy 53 corridor from Lake Monticello Road to Ruritan Lake Road (e.g., Safety improvements at LM Monish Gate; 3-way stoplight at Food Lion; sight improvement at Ruritan Lake Road and Hwy 53; etc.)
B	COMMUNICATION
B1	Assess options to communicate more efficiently, effectively, and economically with Fluvanna residents.
B2	Marketing campaign to let residents know about accomplishments and where their tax dollars go.
B3	Meet with local Pastors to discuss effective communications and community support.
B4	Promote tax due dates, public hearings, etc., in FAN Mail.
B5	Expand County Website to receive, answer, and post questions from residents.
B6	Hold an Elected Official's Breakfast for our State Representatives in Fall of 2018
B7	Hold an Elected Official's Breakfast for our State Representatives in Fall of 2019
B8	Conduct 2019 Fluvanna County Residents Survey and analyze results.
C	PROJECT MANAGEMENT
C1	Continue Columbia area renewal efforts including improved enforcement of County/State codes and Health Department regulations.
C2	Complete a Master Water and Sewer (Plan Phase I) to identify sources for the county's long-term water needs; particularly for each of its community planning areas.
C3	Incorporate well-drilling logs provided by the Fluvanna Health Dept. into the county's geographic information system (GIS).
C4	Create master report and marketing plan regarding County tower assets and rental options.
C5	Investigate the use of Overlay Zones for the Zion Crossroads Community Planning Area to support economic development.

C6	Create a County-wide overlay map showing utilities and other key features that support business growth and development.
C7	Review and pursue opportunities and options for a Palmyra Village Streetscape project to improve safety, parking, walkability, and overall appearance.
C8	Successfully oversee and manage Fluvanna County aspects of the James River Water Project.
C9	Successfully oversee and manage the design and construction of the Zion Crossroads water and sewer system.
C10	Pursue Phase II of Fork Union streetscape project.
D	ECONOMIC DEVELOPMENT AND TOURISM
D1	Draft and adopt a formal County-wide economic development and tourism strategy inclusive of an implementation schedule.
D2	Develop a “This is Fluvanna County” video message to be shared with county citizens and businesses as well as use with county economic development initiatives.
D3	Coordinate development activity at Fluvanna’s northern border with Louisa County, including possible natural gas line along 250 and discussing “shared” parcels.
D4	Conduct 2018 local Business Climate Survey and analyze results.
D5	Hold an Economic Development Discussion Forum for local businesses with planning, zoning, building inspections, infrastructure components.
D6	Investigate and pursue with State offices the installation of select Boat Ramps along the Rivanna and James Rivers to support additional recreational and tourism opportunities.
D7	Investigate opportunities for park expansion or Rivanna River access points to support expanded recreational activities
D8	Investigate allowing large lot subdivisions in A-1 as alternative to current cluster subdivisions. (Amend the zoning and subdivision ordinances to allow for varying lot sizes, from small clustered lots to large parcels suitable for continued farming and rural living.)
D9	Review higher density options between PDA and R4.
D10	Review options, pros, cons, costs, etc., of creating a “teaching farm” at PG Park,
E	FINANCIAL STEWARDSHIP AND EFFICIENCY
E1	Review local business license/registration options and pros/cons.
E2	Reduce the County’s reliance on creating and mailing paper checks for payments and implement expanded ACH/EFT transaction options.
E3	Create monthly Treasurer’s Report for BOS Package and quarterly in-person briefing on the data.
E4	Implement credit card payment option for citizen at all County funds collection points through MUNIS Cashiering process.
E5	Expand Fluvanna County Website Data Dashboard with key metrics.
E6	Implement easy to access electronic format code of ordinances (MuniCode or similar).

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB A

MEETING DATE:	June 5, 2019																												
AGENDA TITLE:	County Attorney Compensation Agreement																												
MOTION(s):	I move to approve the County Attorney's Compensation Agreement for Fiscal Year 2020 services, effective July 1, 2019, with no change in rates from FY19.																												
TIED TO STRATEGIC INITIATIVES?	Yes	No	If yes, list initiative(s):																										
		X																											
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other																								
		XX																											
STAFF CONTACT(S):	Steven M. Nichols, County Administrator, and Fred Payne, County Attorney																												
PRESENTER(S):	Steven M. Nichols, County Administrator																												
RECOMMENDATION:	Approval.																												
TIMING:	The County Attorney's current agreement ends June 30, 2019.																												
DISCUSSION:	<p>The County Attorney has proposed the same service rates for FY18 as are currently in effect. The agreement calls for a flat monthly fee of \$10,000 and includes additional services and periodic on-site work. Other rates and terms are specified below and in the attached proposal document.</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Position</th><th style="text-align: right;">Prior</th><th style="text-align: right;">New</th></tr> </thead> <tbody> <tr> <td>Frederick W. Payne, County Attorney</td><td style="text-align: right;">\$310</td><td style="text-align: right;">\$310</td></tr> <tr> <td>Donna R. DeLoria, Dep County Attorney</td><td style="text-align: right;">\$265</td><td style="text-align: right;">\$265</td></tr> <tr> <td>William W. Tanner, Dep County Attorney</td><td style="text-align: right;">\$240</td><td style="text-align: right;">\$240</td></tr> <tr> <td>Kristina M. Hofmann, Asst County Attorney</td><td style="text-align: right;">\$215</td><td style="text-align: right;">\$215</td></tr> <tr> <td>Associate</td><td style="text-align: right;">\$150</td><td style="text-align: right;">\$150</td></tr> <tr> <td>Paralegals</td><td style="text-align: right;">\$ 95</td><td style="text-align: right;">\$ 95</td></tr> <tr> <td>Assistants (when applicable)</td><td style="text-align: right;">\$ 75</td><td style="text-align: right;">\$ 75</td></tr> </tbody> </table>					Position	Prior	New	Frederick W. Payne, County Attorney	\$310	\$310	Donna R. DeLoria, Dep County Attorney	\$265	\$265	William W. Tanner, Dep County Attorney	\$240	\$240	Kristina M. Hofmann, Asst County Attorney	\$215	\$215	Associate	\$150	\$150	Paralegals	\$ 95	\$ 95	Assistants (when applicable)	\$ 75	\$ 75
Position	Prior	New																											
Frederick W. Payne, County Attorney	\$310	\$310																											
Donna R. DeLoria, Dep County Attorney	\$265	\$265																											
William W. Tanner, Dep County Attorney	\$240	\$240																											
Kristina M. Hofmann, Asst County Attorney	\$215	\$215																											
Associate	\$150	\$150																											
Paralegals	\$ 95	\$ 95																											
Assistants (when applicable)	\$ 75	\$ 75																											
FISCAL IMPACT:	Budgeted for FY20																												
POLICY IMPACT:	N/A																												
LEGISLATIVE HISTORY:	N/A																												
ENCLOSURES:	Draft Agreement																												
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other																								
	XX																												

FLUVANNA COUNTY ATTORNEY**Deputy County Attorneys:**

Donna R. DeLoria
William W. Tanner

Frederick W. Payne

414 East Jefferson Street
Charlottesville, Virginia 22902
Telephone: (434) 977-4507
Facsimile: (434) 977-6574
E-mail: fwpayne@fluvannacounty.org

Assistant County Attorney:

Kristina M. Hofmann

COUNTY ATTORNEY SERVICES

Effective July 1, 2019

The Fluvanna County Attorney is appointed by the governing body and serves at the pleasure of the governing body. He shall serve at a rate of compensation as set forth hereinafter and shall be allowed to recover his reasonable costs expended. When serving at an hourly rate, the County Attorney shall provide the County with an itemized list of fees and expenses.

The County Attorney shall have the duty in civil matters of advising the governing body and all boards, departments, agencies, officials and employees of the County, of drafting or preparing ordinances, of defending or bringing actions in which the County or any of its boards, departments or agencies, or officials or employees, thereof, shall be a party, and in any other manner advising or representing the County, its boards, departments, agencies, officials and employees, and the County Attorney shall be accountable to the governing body in the performance of his duties.

The County Attorney is the primary risk management officer for the County and works daily with leadership, staff and citizens to resolve problems. The County Attorney and Deputy/Assistant County Attorneys work collaboratively with County leadership to accomplish the essential functions outlined below with an emphasis on creative solutions to the County's desired goals within the limits of state law.

ESSENTIAL FUNCTIONS: This information is of a general nature, and is not intended to be a comprehensive description of every role and responsibility.

I. For routine services, the County Attorney will be paid a flat fee of \$10,000 per month. "Routine services" shall include such matters as (a) regular advice and support to members of the Board, the County Administrator and other members of the County staff, as well as constitutional officers upon their request; (b) reviewing/drafting of ordinary documents, including, but not limited to, private road maintenance agreements, development bonds, zoning and subdivision staff reports, tax refund letters, legal notices, etc.; (c) drafting of routine ordinance amendments and regular maintenance of the County Code to maintain compliance with state enabling legislation; (d) support of staff in enforcement of zoning, subdivision and other County Code violations (but not including court proceedings except as directed by the Commonwealth's Attorney); (e) assistance to staff regarding compliance with the Freedom of Information Act, and policies for records retention and policies for procurement; (f) preparation, review and execution of simple leases, simple deeds and other simple contracts which are not subject to the Virginia Public Procurement Act; and (g) occasional briefing/educational activities, including such things as updating the Board, Planning Commission and staff on matters such as zoning procedures and other legal

matters. It shall also include attendance at regular meetings of the Board of Supervisors, the Planning Commission, the Board of Zoning Appeals and the building code board of appeals, with occasional attendance at special meetings and work sessions as directed by their respective chairmen or the County Administrator. It shall also include attendance at occasional staff and other meetings, approximately twice per week, as scheduled in consultation with the County Administrator.

II. For other, non-routine services, which are particularly time-intensive and unpredictable, the County Attorney will bill the County by the hour at the rates set out below and will provide a monthly itemized list of fees and expenses. The additional services would include such things as the following:

- (a) real estate (including sales, acquisitions and other non-routine matters, such as the negotiation of telecommunications leases, etc., not covered in Section I. (f), above);
- (b) general procurement, reviewing/drafting contracts, memoranda of understanding/agreement, requests for proposals/bids not covered by Section I. (f), above;
- (c) litigation; and
- (d) special projects (such as comprehensive review/revision of major legislative projects including land use ordinances, comprehensive plan, exercises of the County's power of eminent domain, appearance before governmental bodies other than as provided in Section I., above, etc.).

Frederick W. Payne, county attorney	\$310
Donna R. DeLoria, deputy county attorney	\$265
William W. Tanner, deputy county attorney	\$240
Kristina M. Hofmann, assistant county attorney	\$215
Associate	\$150
Paralegals	\$ 95
Assistants (when applicable)	\$ 75

When a matter involves travel outside the immediate Charlottesville area, the County will be charged for travel time (at the above-listed hourly rates) and mileage (at rates approved by the federal IRS) **except** that there will be no such charges for attendance at regular meetings of the Board of Supervisors and Planning Commission.

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB B

MEETING DATE:	6/5/19				
AGENDA TITLE:	NETMOTION MOBILITY CONTRACT ADDENDUM				
MOTION(s):	I move the Board of Supervisors approve the addendum to the contract between the County of Fluvanna, Virginia, and AT&T Mobility National Accounts LLC, for the NetMotion Mobility Contract for \$15,120 for 3 years of service and further authorize the County Administrator to execute the agreement subject to approval as to form by the County Attorney.				
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):		
		XX			
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
		X			
STAFF CONTACT(S):	Cyndi Toler, Purchasing Officer; Michael Grandstaff, Director of Communications				
PRESENTER(S):	Cyndi Toler, Purchasing Officer				
RECOMMENDATION:	Approve				
TIMING:	Routine				
DISCUSSION:	<ul style="list-style-type: none"> As part of our CAD System, our responders need a VPN (Virtual Private Network) in order to communicate and transmit data over secured lines to each other and to Dispatch. NetMotion is specifically designed for Mobile devices to account for poor signal and dropped calls/data by enhancing and optimizing network connectivity. Allows for transparent transitions between cellular, Wi-Fi and wired networks. The department has been using this service since August 2018 with no issues and wishes to continue using this company. We have been offered a discount for an extended renewal of 3 years. <ul style="list-style-type: none"> 1 year renewal is \$6,300 3 year renewal is \$15,120 Saving the county \$3,780 over the 3 years Because of cost savings with other maintenance contracts, there are enough funds available to pay the 3 year renewal without increasing the budget. 				
FISCAL IMPACT:	Saving the county \$3,780 over 3 years				
POLICY IMPACT:	NA				
LEGISLATIVE HISTORY:	NA				
ENCLOSURES:	addendum				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other
	X	X	X		X- Sheriff



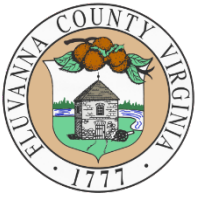
NETMOTION MOBILITY CONTRACT ADDENDUM

JUNE 5, 2019



NETMOTION®

BOS 2019-06-05 p.14/278



NETMOTION®

- 1 year renewal is \$6,300
- 3 year renewal is \$15,120
- Saving the county \$3,780 over the 3 years



Fairfax County Public Schools
Wireless Digital Voice & Data Services, Associated Services/Equipment
Contract Number 4400006674 (the "FCA" or "FCA #4400006674")
Purchase Order Under Participating Addendum ("PA")

This Purchase Order under Participating Addendum is made between Fluvanna County, a political subdivision of the State of Virginia ("Participant"), and AT&T Mobility National Accounts LLC ("AT&T") (collectively, the "Parties") and is effective on the date when first signed by both parties.

Participant agreed to participate in the FCA, see attached Exhibit 1, Participating Addendum ("PA") dated _____, incorporated herein by reference as a material part hereof. Under the PA, Participant desires to extend its premium maintenance services for three (3)-years for \$15,120.00 total (\$5,040 per year) as set out in the attached Quote Q-150264-1. Except as otherwise modified hereby, the PA remains in full force and effect.

AGREED: FLUVANNA COUNTY

By: _____

Name: _____

Title: _____

Date: _____

AGREED: FLUVANNA COUNTY SHERIFF'S OFFICE

By: _____
Eric Hess, Sheriff

AGREED: AT&T Mobility National Accounts LLC

By: _____

Name: _____

Title: _____

Date: _____

Approved as to form: _____
Fluvanna County Attorney

**Ship To:**

Michael Grandstaff
Fluvanna County Sheriff
160 Commons Blvd
Palmyra, VA 22963
(434) 589-8211
mgrandstaff@fluvannasheriff.com

Dear Michael,

This quote is valid until July 1, 2019.

1-Year Premium Maintenance

Maintenance Covers: Mobility with 100 Devices, Analytics Module, NAC Module, Policy Module
Maintenance effective from 7/2/2019 to 7/1/2020

Product Description	SKU	Quantity	Extended Price
NM Mobility Premium Maintenance (25%)	11NMXP25	1	USD6,300.00

2-Year Premium Maintenance

Maintenance Covers: Mobility with 100 Devices, Analytics Module, NAC Module, Policy Module
Maintenance effective from 7/2/2019 to 7/1/2021

Product Description	SKU	Quantity	Extended Price
NM Mobility Premium Maintenance (22%)	11NMXP22	1	USD11,088.00

3-Year Premium Maintenance

Maintenance Covers: Mobility with 100 Devices, Analytics Module, NAC Module, Policy Module
Maintenance effective from 7/2/2019 to 7/1/2022

Product Description	SKU	Quantity	Extended Price
NM Mobility Premium Maintenance (20%)	11NMXP20	1	USD15,120.00

Remaining current on NetMotion Software maintenance provides you and your organization a number of benefits:

- 24x7 technical support
- Major version upgrades
- Tech notes and web based support
- Cumulative quantity discounts on additional device licenses
- Patch and point releases at no additional charge
- Guaranteed response times

By renewing your maintenance agreement, you retain email (support@netmotionsoftware.com) and phone (North American Toll Free: (888) 723-2662 access to the NetMotion Software technical support team. Our technical support team is staffed by highly qualified networking experts who are full time employees of the company (not outsourced), and are located in two US based support centers - Seattle, Washington and Bethlehem, PA.

Our goal is to continue to support you, your IT staff and the users of NetMotion Software and ensure your organization is optimizing its deployment.

Please do not hesitate to contact your AT&T and NetMotion Software Sales Representatives, who are available to answer any questions you may have.

Jonathan Melgoza
jonathan.melgoza@netmotionsoftware.com
Phone:

Pete Hatcher
AT&T Mobility
ph3193@att.com
(804) 334-2490

POS 2019-06-05 p 19/28
State and local sales tax will apply in certain states. Exempt customers must provide an official sales tax exemption certificate in compliance with state and local laws to avoid sales tax charges. Please note that pricing on this quote is subject to change if you purchase additional licenses, add new software features, or if we change our software prices. Maintenance renewals are based on current software list prices at the time of renewal and must include the total quantity of licenses, servers, and features that you own at the time of renewal. This pricing quote is confidential and may not be redistributed.

**Fairfax County Public Schools
Wireless Digital Voice & Data Services, Associated Services/Equipment
Contract Number 4400006674 (the "FCA" or "FCA #4400006674")
Participating Addendum ("PA")**

This Participating Addendum is made between Fluvanna County, a political subdivision of the State of Virginia ("Participant"), and AT&T Mobility National Accounts LLC ("AT&T") (collectively, the "Parties") and is effective on the date when first signed by both parties.

Participant agrees to participate in the FCA. Participant agrees to be bound by and pay for all services obtained pursuant to valid purchase orders submitted by Participant to AT&T under this PA and agrees that all terms, conditions, rights and remedies under the FCA applicable to Customer or Participant are fully enforceable against Participant as if Participant were the "Customer" thereunder; provided, however, that Participant has no right to terminate the FCA or any other Participant's Participating Addendum. AT&T agrees to provide AT&T Mobile Services (and related products and services as set forth in the FCA to Participant pursuant to the terms and conditions of the FCA and this Participating Addendum, together with all valid purchase orders submitted to AT&T by the Participant under this PA (collectively, the "Agreement").

Any required notices under this PA shall be in writing and shall be sent to the office of the recipient set forth below or to such other office or recipient as designated in writing from time to time:

To Participant:

Name: ATTN: Steve Nichols
Title: County Administrator
Address: 132 Main Street
Palmyra, VA 22963
Telephone: (434) 591-1910
E-Mail: snichols@fluvanna.org

To AT&T:

Name: Pete Hatcher
Title: Client Solution Executive
Address: 1025 Lenox Park Blvd NE
Atlanta, GA 30319
Telephone: (804) 334-2490
E-Mail: pets.hatcher@att.com

All purchase orders issued by Participant hereunder must reference FCA #4400006674 and this PA. AT&T is not subject to the preprinted terms of a purchase order form. Notwithstanding the foregoing, any purchase order submitted that does not properly reference the Contract number and/or the PA may be accepted, at AT&T's sole discretion, if AT&T can reasonably ascertain that such purchase order was properly authorized and intended for use with the PA. In such instances, the corresponding purchase order will be similarly valid and binding. Notwithstanding anything to the contrary in the Participant's purchase order or in the FCA, the Parties agree that in the event of a conflict between the terms contained in the documents comprising the Agreement, the following order of precedence will control: (a) the PA; (b) the FCA; and (c) the purchase orders. Each signatory below represents that he or she is authorized to sign this Participating Addendum on behalf of the party designated.

AGREED: FLUVANNA COUNTY

By: 

Name: Steven M. Nichols
Title: County Administrator
Fluvanna County
Date: _____

AGREED: AT&T Mobility National Accounts LLC

By: 

Name: Mark Flister
Title: Sr. Contract Manager
Date: 05/14/2018

AGREED: FLUVANNA COUNTY SHERIFF'S OFFICE

By: 

Eric Hess, Sheriff

Date: 5/22/18

Approved as to form:


Fluvanna County Attorney

By Kristina M. Hofmann
Assistant Fluvanna County
Attorney

PURCHASE ORDER

**Fluvanna County Sherriff's
Office
160 Commons Boulevard
Palmyra, VA 22963
(434) 589-8211**

Order Date	May 1, 2018
P O Number	
Created By	
Telephone	
Email	

**Supplier:
AT&T MOBILITY NATIONAL ACCOUNTS LLC
1025 Lenox Park Blvd
Atlanta, GA 30319
Attn: Pete Hatcher
(804) 334-2490
Pete.hatcher@att.com**

**Ship To:
Michael Grandstaff
Fluvanna County Sherriff's
Office
160 Commons Boulevard
Palmyra, VA 22963
(434) 589-8211
mgrandstaff@fluvannasheriff.com**

**Bill To:
Fluvanna County Sherriff's Office
ATTN: Accounts Payable
160 Commons Boulevard
Palmyra, VA 22963
(434) 589-8211**

Customer Foundation Account No.	Supplier No	Payment Terms	Freight Terms	FOB
		30 Net	Prepaid	Destination
<p>Fluvanna County, Virginia (the "County") is procuring the services identified in this Purchase Order pursuant to the terms and conditions of Wireless Digital Voice & Data Services, Associated Services/Equipment Contract Number 440006674 with Fairfax County Public Schools, dated July 1, 2016, as amended (the "FCA Contract"). Notwithstanding anything to the contrary in the County's Purchase Order, AT&T and the County acknowledge and agree that to the extent of any material conflict between any of the documents comprising the Purchase Order, the terms and conditions of the FCA Contract will govern.</p>				

Mobility 100

Product Description	AT&T SKU	SKU	Qty	Unit List Price	Fluvanna County Sheriff Price
NetMotion Mobility - Universal Device License includes: * Policy Module * Network Access Control Module (NAC) * Analytics Module	43714	11RMUPNA100	100	\$240.00	\$24,000.00
License Subtotal					\$24,000.00
Mobility Premium Software Maintenance * 24x7 technical support * Major version upgrades * Tech notes and web based support * Cumulative quantity discounts on additional device licenses * Patch and point releases at no additional charge * Guaranteed response times (Effective from 11/6/2017 through 11/5/2018)	43985	11NMXP25	1	25%	\$6,016.44
Maintenance Subtotal					\$6,016.44
Total					\$30,016.44

Please do not hesitate to contact your AT&T and NetMotion Software Sales Representatives, who are available to answer any questions you may have.

Matt Crandall
Inside Sales Executive
matt.crandall@netmotionsoftware.com
Phone: (206) 691-5550

Fete Hatcher
AT&T Mobility
ph3193@att.com
(804) 334-2490

Above prices in US dollars. State and local sales tax will apply in certain states. Exempt customers must provide an official sales tax exemption certificate in compliance with state and local laws to avoid sales tax charges. Please note that pricing on this quote is subject to change if you purchase additional licenses, add new software features, or if we change our software prices. Maintenance renewals are based on current software list prices at the time of renewal and must include the total quantity of licenses, servers, and features that you own at the time of renewal. This pricing quote is confidential and may not be redistributed.

NOTE: The \$24,000.00 NetMotion Mobility – Universal Device License Price is a one-time non-recurring fee.
The \$6,016.44 Mobility Premium Software Maintenance Fee is an annual fee.

NetMotion Mobility – Universal Device License will be delivered to the County electronically within 48 hours of receipt of this signed Purchase Order by AT&T Mobility from the County.

FLUVANNA COUNTY

By: _____
Steven M. Nichols, County Administrator

Date: _____

FLUVANNA COUNTY SHERIFF'S OFFICE

By: _____
Eric Hess, Sheriff

Date: _____

Approved as to form: _____

Fluvanna County Attorney

Kristina M. Hoffmann
Assistant County Attorney

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB C

MEETING DATE:	June 5, 2019				
AGENDA TITLE:	Next Generation Core Services Solution				
MOTION(s):	I move the Board of Supervisors approve the participation agreement between the County of Fluvanna, Virginia, and AT&T Corp, for the Next Generation Core Services Solution with the non-recurring cost to be billed directly to VITA under the NG911 Grant and further authorize the County Administrator to execute the agreement subject to approval as to form by the County Attorney.				
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):		
		X			
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
		XX			
STAFF CONTACT(S):	Cyndi Toler, Purchasing Officer; Michael Grandstaff, Director of Communications				
PRESENTER(S):	Cyndi Toler, Purchasing Officer				
RECOMMENDATION:	Approve				
TIMING:	Normal				
DISCUSSION:	<ul style="list-style-type: none"> • In September 2018 the Board approved acceptance of the NG911 grant from VITA • Grant funds will be used to replace the current voice logging software, and other equipment related to E-911. • Voice logging software is used to monitor and verify communications and interactions; it allows dispatchers to rapidly and proactively listen in and instantly review any call. • This participation agreement is for the software only; there will be additional charges against the grant for the call handling equipment that will be required. • Reoccurring Costs <ul style="list-style-type: none"> ○ Current Software System Costs: approximately \$4,529 a month. ○ The grant will reimburse additional costs for 24 months. The estimated Additional Cost after Deployment: \$1,034 a month; this amount will not be finalized until closer to deployment. 				
FISCAL IMPACT:	State grant award of estimated \$246,000. State pays full cost of one-time installation and first 24 months of contractual cost increase.				
POLICY IMPACT:	NG9-1-1 is a state-wide initiative with no option for not deploying the new system.				
LEGISLATIVE HISTORY:					
ENCLOSURES:	PARTICIPATION AGREEMENT				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other
	X	X	X		

PARTICIPATION AGREEMENT

WHEREAS, AT&T Corp. (“AT&T”) and the County of Fairfax (also known as “Fairfax County”) are parties to that Contract Number 4400007825 for Next Generation Core Services Solution (NGCS), between the County of Fairfax and AT&T Corp., dated August 8, 2017, including the Acceptance Agreement, the Memorandum of Negotiations, and all attachments and documents incorporated therein (collectively the “Fairfax Agreement”); and

WHEREAS, the County of Fluvanna, a political subdivision of the Commonwealth of Virginia, and the Fluvanna County Sheriff’s Office (together “Participant”) wish to purchase certain services from AT&T as a cooperative procurement Fairfax Agreement upon the same terms and conditions provided for in the Fairfax Agreement;

NOW, THEREFORE, PREMISES CONSIDERED, PARTICIPANT AND AT&T AGREE on the terms of this Participation Agreement as follows:

1. This Participation Agreement is made between Participant and AT&T (collectively, the “Parties”), and is effective on the date when first signed by both Parties. Fairfax County is not a party to this Participation Agreement and takes on no obligations and receives no entitlements as a result of this Participation Agreement.
2. Participant agrees to purchase certain services (the “Services”) in accordance with the terms, conditions, and pricing contained in the Fairfax Agreement, attached hereto as Exhibit “A”, as such Services are specified in more detail in Participant’s purchase order(s) attached hereto as Exhibit(s) “B” [attach B-1, B-2, B-3, as needed].
3. Participant agrees to be bound by and pay for all Services obtained pursuant to this Participation Agreement and agrees that all terms, conditions, rights and remedies under the Fairfax Agreement applicable to Fairfax County are fully enforceable by Participant and against Participant as if Participant were the “County” or “Fairfax County” under the Fairfax Agreement. AT&T agrees to provide the Services to Participant pursuant to the terms, conditions, rights and remedies of the Fairfax Agreement and this Participation Agreement. AT&T agrees that all terms, conditions, rights and remedies under the Fairfax Agreement applicable to it are fully enforceable by AT&T and against AT&T by Participant.
4. Under this Participation Agreement, all orders for services must be entered no later than August 7, 2025. Services obtained under this Participation Agreement will terminate on or before August 7, 2027, or such earlier date as may be set forth in an individual purchase order.
5. This Participation Agreement may not be assigned by Participant. Any such assignment shall be null and void.
6. AT&T may disclose the fact of Participant’s participation to Fairfax County. Such disclosures may include Participant’s name, services purchased, monthly or annual usage, total billings and payment status.
7. In the event of a conflict between the terms contained in this Participation Agreement and the Fairfax Agreement, the terms of this Participation Agreement shall control.
8. Any required notices under this Participation Agreement shall be in writing and shall be sent to the office of the recipient set forth below or to such other office or recipient as designated in writing from time to time:

To Participant: Fluvanna County Sheriff's Office

Name: Eric Hess

Title: Sheriff

Address: 160 Commons Blvd, Palmyra, VA 22963; with a copy to

Fluvanna County

Attn: Cyndi Toler, Purchasing Officer

132 Main Street, Palmyra, VA 22963; and

Fluvanna County Attorney

414 East Jefferson St.

Charlottesville, VA 22902

To AT&T:

Name:

Title:

Address:

9. This Participation Agreement constitutes the entire agreement between the parties. This agreement supersedes all prior agreements, proposals, representations, statements or understandings, whether written or oral concerning the services. This agreement shall not be modified or supplemented by any written or oral statements, proposals, representations, advertisements, or service descriptions not expressly set forth or incorporated into this Participation Agreement. This Participation Agreement shall only be modified by a writing signed by the Participant and AT&T.
10. Each signatory below represents that he or she is authorized to sign this Participation Agreement on behalf of the party designated.

IN WITNESS WHEREOF, AT&T and Participant have caused this Participation Agreement to be executed and sealed by their duly authorized representatives as of the date written below.

Fluvanna County

By: _____ (SEAL)
(by its authorized representative)

(Typed or Printed Name)

(Title)

(Date)

AT&T Corp.

By: _____ (SEAL)
(by its authorized representative)

(Typed or Printed Name)

(Title)

(Date)

Fluvanna County Sheriff's Office

By: _____ (SEAL)
Eric Hess, Sheriff

(Date)

Approved as to form:

By: _____
Fluvanna County Attorney



Connecting Your World

AT&T's Response to Fairfax County's Solicitation for Next Generation Core Services Solution (NGCS) RFP2000002010

Cost Proposal (Appendix D)

Updated Pricing Proposal Final

July 11, 2017

Asif Iqbal
Client Solutions Executive
AT&T
3033 Chain Bridge Road
Oakton, VA 22124
Phone: (703)-474-6025
Email: asif.iqbal.1@att.com





Table of Contents

Appendix D Cost Proposal – Narrative.....	1
Appendix D Cost Proposal Worksheet.....	3
Attachment 1: ECaTS MIS and Data Analytics (Standard)	13
Dashboard	14
i3 Compliant Logging Service	14
Attachment 1: ECaTS MIS and Data Analytics Workbook	17
Attachment 2: GIS - NG9-1-1 Transitional Data Management Services.....	19
Introduction	19
Attachment 2: GIS - NG9-1-1 Transitional Data Management Services Workbook	25
Attachment 3: AT&T Security Solutions PSAP Assessment Service.....	27
1. Introduction	27
2. Description of Work.....	27
3. Scope.....	27
4. Methodology.....	28
5. Deliverables.....	28
6. References	28
Exhibit A: NENA 75-502, NENA NG- SEC Audit Checklist	29
Exhibit B: CSRIC Best Practices.....	31
Exhibit C: FCC Rules and Regulations for VoIP 9-1-1	33



This Page was Intentionally Left Blank



Appendix D Cost Proposal – Narrative

Please see Section 2.7.1 of the AT&T Emergency Service IP (ESInet) Service Guide.

The One Time Fee for each PSAP listed on the Appendix D Cost Proposal excel file worksheet is estimated to cover Professional Services for PSAP training sessions billed on an hourly basis.

Unless otherwise noted with **“PLEASE NOTE in red”** on the Appendix D Cost Proposal excel file worksheet, the Monthly Recurring Fee (MRF) includes the following:

- Ingress circuit connection charges to the regional AT&T ESInet™ Aggregation Sites and Legacy Network Gateways from either Other Service Provider (OSP) Legacy Selective Routers or OSP End Offices.
- Redundant transport and Local Access connections from the AT&T ESInet™ Core Processing Centers to the “Primary PSAP”, along with redundant transport and Local Access connections for the Back Up PSAP and/or Secondary PSAPs that are not “Host-Remote” Secondary PSAPs. Special Construction may be required to achieve Local Access Diversity for each redundant connection. The One Time Cost for Special Construction is listed as an "Optional Service" for each PSAP. If Special Construction is not contracted and purchased to achieve Local Access Diversity, then exceptions may apply to respective PSAP Service Level Agreements. Each PSAP would be contracted separately for the Special Construction optional service.
- Call Routing charges for each PSAP
- A full time dedicated Program Manager for all PSAP migration planning and implementations
- A Regional AT&T Central Office Aggregation Site that is recommended to be built in Arlington, VA, as requested within a 50 mile radius of the National Capital Region Footprint,

Any one time payments (i.e., the \$400,000 grant money divided among the Part A PSAP's) can be applied to the optional service of Special Construction charges in order to achieve Local Access Diversity. Alternatively, one time payments could also be applied to respective PSAP billings as a credit to the Monthly Recurring Fees, until respective payment credit are used up by the Monthly Recurring Fees.





This Page was Intentionally Left Blank





Appendix D Cost Proposal Worksheet

The following pages contain AT&T's cost proposal worksheet.

Response from Negotiation Issues dated April 18, 2017

3. Please provide a best and final price proposal on the Annual Recurring Costs and also for the Non-recurring cost for each jurisdiction in Part A and Part B as described in the RFP. Please provide the response in the same format as your original submission. Consider in your response, any additional discounts that can be applied given the additional participating PSAPs in the request for pricing in question 6 below for the Commonwealth of Virginia. Ongoing recurring costs, maintenance and license renewal will be billed to each individual jurisdiction. Non-recurring costs will also be billed to individual jurisdictions.

AT&T Response:

[See attached pricing.](#)



Appendix D Cost
Proposal Worksheet



Response from Negotiation Issues dated April 18, 2017

4. Please provide a best and final offer on the expected costs for the Annual recurring costs for each of the five option years (years 6 through 10 of the contract if all options are exercised) for both Part A and Part B.

AT&T Response:

[AT&T is pleased to extend the lower price mentioned in question 3 for the extended period of an additional five \(5\) one-year periods, or any combination thereof.](#)

Response from Negotiation Issues dated April 18, 2017

5. Briefly summarize the variance in Special Construction costs (an "optional service") for route diversity listed in your proposal and what factors specifically comprise those cost figures for each jurisdiction. For example, the Fairfax Primary PSAP facility has true east and west diverse entrances (as does the Fairfax Backup PSAP), with separate routes to different Central Offices (Centreville and Fairfax, Merrifield and Braddock Road). Subsequent to the Derecho storm for 2012, a considerable number of diversity enhancements, including statements about no single point of failure and route diversity were made by Verizon to all PSAPs in the region. Fairfax County believes the estimates for Special Construction are based on faulty data given to AT&T and we do not accept them as accurate or binding at this time.



**AT&T Response:**

AT&T understands this concern of the County and is continuing the time intensive process to clarify and verify the information provided by the current service provider. AT&T agrees to never charge for special construction that is unnecessary. AT&T would only charge once special construction is determined to be required by the local access service provider and the NCR member.

Response from Negotiation Issues dated April 18, 2017

6. In your revised cost proposal please consider having the POI that is proposed to be located in Arlington to be located somewhere within Fairfax County. Fairfax County would prefer a location within Fairfax County. Advise if this is possible and what cost changes would result in your price proposal.

AT&T Response:

AT&T can provide the location of a POI within Fairfax County. AT&T may have the ability to move the Legacy Network Gateway (Aggregation Site) from Arlington, VA to another site within Fairfax County boundaries. AT&T is actively pursuing Fairfax County's request and we respectfully ask for additional time to further evaluate/investigate alternative facilities in Fairfax County to verify they meet the necessary requirements for public safety grade operations.

Updated response as of May 22, 2017

AT&T can provide the location of a POI within Fairfax County. For the regional Aggregation Site with the Legacy Network Gateway (LNG), AT&T has started leasing option discussions with the owners of the building located at 3033 Chain Bridge Rd Oakton, VA and may have the ability to change the initial recommended location from 900 S. Walter Reed Drive, Arlington, VA 22204. At this time, AT&T can only commit to the Arlington, VA location just outside of Fairfax County with no additional costs. If the owners of the building located at 3033 Chain Bridge Rd Oakton, VA decide to offer additional lease options, additional costs to secure this location would need to be evaluated.

Response from Negotiation Issues dated April 18, 2017

11. Please provide an optional cost proposal (recurring and non-recurring) for jurisdictions that wish to use the West TCC as the text service provider to the PSAP CPE.





AT&T Response:

The AT&T ESInet™ service pricing includes routing of text to 9-1-1- messages to PSAPs via industry standard TTY or SIP/MSRP delivery methods. AT&T recommends that jurisdictions verify technical support of Text to 9-1-1 delivery with their respective call handling vendor and ascertain whether additional call handling fees apply (outside of ESInet scope).

For jurisdictions that wish to support the over the top (OTT) web browser approach for accepting Text to 9-1-1 messages, the PSAPs would connect directly to the West Text Control Center and the following pricing schedule would apply:

<u>PSAP Using Web Browser</u>	<u>One Time Non-Recurring Charge</u>	<u>Monthly Recurring Charge</u>
<u>PSAP with 1-4 Positions</u>	<u>\$1,568</u>	<u>\$157</u>
<u>PSAP with 5-10 Positions</u>	<u>\$4,077</u>	<u>\$408</u>
<u>PSAP with over 10 Positions</u>	<u>\$11,917</u>	<u>\$1,192</u>

Response from Negotiation Issues dated April 18, 2017

12. Please provide a schedule of labor categories and hourly rates that would be used to prepare price quotes for additional Statements of Work that might occur during the life of the contract and include a schedule of hardware and or software components that might be necessary to support upgrades to PSAP facilities during the life of the contract when such Statements of Work might be needed.

AT&T Response:

AT&T ESInet™ works with both i3 and Legacy PSAP Customer Premise Equipment (CPE). While AT&T does not anticipate a need for the PSAPs to procure additional hardware or software for ESInet, we will be able to provide better guidance based on PSAP site surveys that would occur prior to the implementation and deployment. Please see the AT&T labor category and rate structure below.





Connecting Your World

Labor Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Standard Technician										
Standard Business Hours (8a-5p)	\$85	\$85	\$85	\$87.55	\$90.18	\$92.88	\$95.67	\$98.54	\$101.49	\$104.54
Non-Standard Business Hours (M-F after 5pm or Sat all day)	\$113	\$113	\$113	\$116.39	\$119.88	\$123.48	\$127.18	\$131.00	\$134.93	\$138.98
Sunday / Holiday all day	\$141	\$141	\$141	\$145.23	\$149.59	\$154.07	\$158.70	\$163.46	\$168.36	\$173.41
Technical Project Manager										
Standard Business Hours (8a-5p)	\$155.00	\$158.88	\$162.85	\$166.92	\$171.09	\$175.37	\$179.75	\$184.25	\$188.85	\$193.57
Network Consultant										
Standard Business Hours (8a-5p)	\$175.00	\$179.38	\$183.86	\$188.46	\$193.17	\$198.00	\$202.95	\$208.02	\$213.22	\$218.55

Response from Negotiation Issues dated April 18, 2017

13. Please provide clarifying pricing for some of the optional items in your price proposal. Virginia jurisdictions already have ECaTS installed with CPE as part of a statewide initiative. In order to fully utilize ECaTS in the provided solution please clarify if the \$43.00 per month recurring charge is all that is necessary to support the i3 event logger solution (e.g., logs all events across all i3 functional elements and includes the i3 loggers, i3 capable dashboard if a dashboard is already in place in a PSAP, etc.).

AT&T Response:

AT&T is aware that the Virginia jurisdictions already have ECaTS MIS installed with CPE as part of a statewide initiative. As an option, AT&T has proposed adding the ECaTS i3 logging reporting functionality to enhance the existing ECaTS installation. This functionality would incorporate all functional i3 element logs into the existing ECaTS reporting platform along with additional i3 reports, additional costs will apply for customization. Please find attached the Virginia (Part A) cost breakdown for deploying Server Class RDDMs (\$33,600), logger setup per PSAP (\$500) and monthly service fee per PSAP (\$43).

****Please Note: ECaTS i3 logger functionality requires a one-time purchase cost for the Server Class RDDMs (\$33,600) per ESInet, not per PSAP.**

Response from Negotiation Issues dated April 18, 2017

14. Please provide price quotes, broken out by jurisdiction, for ECaTS installation and maintenance for all Part B Maryland jurisdictions configured for use in the proposed ESInet solution (ECaTS is not currently installed as a statewide solution). The chart of ECaTS pricing for Part B jurisdictions in your price proposal (pricing by Tier) is not clear as to what each jurisdiction would incur on a monthly or non-recurring basis (is there one set of ECaTS servers for the ESInet or does each jurisdiction require the indicated servers). Initial installation and ongoing maintenance and license renewal for ECaTS will be billed to each individual jurisdiction.





AT&T Response:

AT&T is pleased to provide ECaTS installation and maintenance pricing for all Part B Maryland jurisdictions that are part of the ESInet proposal. The Part B ESInet and NGCS entities are not currently ECaTS Reporting customers, therefore they may purchase ECaTS in one of three ways:

1. Standard ECaTS MIS Call Handling Reporting (only), would have the following charges per PSAP:
 - Monthly Tiered Pricing (noted in part B of spreadsheet)
 - One-Time fee of \$4300 for the deployment of one Linux RDDM
2. i3 Logging Reporting (only), would have the following charges per PSAP:
 - Monthly Tiered Pricing (noted in part B of spreadsheet)
 - One-Time fee of \$500 for system setup and configuration
 - Server Class RDDMs (\$33,600), as outlined under Part A.

****Please Note:** ECaTS i3 logger functionality requires a one-time purchase cost for the Server Class RDDMs (\$33,600) per ESInet, not per PSAP.

3. Both Standard ECaTS MIS Call Handling Reporting and i3 Logger Reporting, would have the following charges per PSAP:
 - Monthly Tiered Pricing (noted in part B of spreadsheet)
 - Monthly i3 Logger Service Fee of \$43
 - One-Time fee of \$4300 for Deployment of (1) Linux RDDM at standalone PSAP for local call handling reporting
 - One-Time fee of \$500 for i3 logger system setup and configuration
 - Server Class RDDMs (\$33,600), as outlined under Part A.

****Please Note:** ECaTS i3 logger functionality requires a one-time purchase cost for the Server Class RDDMs (\$33,600) per ESInet, not per PSAP.

All individual PSAP pricing is noted in Part B of the attached spreadsheet. AT&T has included the 3 options (Standard MIS (only), i3 Reporting (only) and both MIS/i3 reporting) as separate line items in the spreadsheet broken out by PSAP.



eCaTS BAFO.xlsx





Response from Negotiation Issues dated April 18, 2017

16. What is the pricing for the GIS Routing Accuracy Report and the corresponding hourly rate? The price proposal, page 15 listed them as TBD.

AT&T Response:

The one-time non-recurring charge per report for GIS Routing Accuracy initially proposed at TBD on page 15 is \$2,000.

<u>Item</u>	<u>Non-Recurring Charge Per Report</u>
<u>GIS Routing Accuracy Report</u>	<u>\$2,000</u>

Training and any other support service fees are based on an hourly rate:

<u>Item</u>	<u>Non-Recurring Charge Per Hour</u>
<u>Hourly rate for the support described above</u>	<u>\$120.00 per hour</u>

Response from Negotiation Issues Part C dated April 25, 2017

6. With regard to your solution response, which you indicate is scalable, please provide a cost estimate for the jurisdictions listed in the attached table, Part C – Other Commonwealth PSAPs. A separate Excel spreadsheet is also attached to be used in any price proposal provided for this question. For circuit connectivity costs and other non-recurring charges that might be necessary for circuit diversity it is understood that additional detail might be needed which is not currently available in a timely manner. Please provide budgetary estimates for such unknown circuit costs and diversity costs as these negotiations cannot wait for AT&T to perform a statewide survey of all sites. Subsequent negotiations or Statements of Work would refine the budgetary estimates.

AT&T Response:

AT&T appreciates the extended time to reply to question by April 25, 2017. Attached, please find budgetary pricing for Part C (113 other Commonwealth PSAP's) on the requested template. The pricing methodology used for the budgetary pricing of Part C PSAP's is the same used for Part A and Part B PSAP's. The primary variables in the budgetary elements of price are respective Local Access Network pricing from appropriate third party providers. Estimated Local Access Network pricing reflects redundant connections that may not be on diverse paths. Local Access connections requiring diverse paths may incur additional Special Construction charges or alternative exceptions to the Service Level Agreement.



Part C-PSAPs
BAFO.xlsx





Response from Second Round Negotiation Issues dated May 11, 2017

1. The recently submitted price proposal for Part C jurisdictions includes a one-time fee of \$4,000 per PSAP for years 6-10. Fairfax County assumes this year 6-10 one-time fee is a typographical error, as a one-time fee should only be paid one time which is covered in the pricing proposed for years 1-5. Fairfax County asks that the \$4000 per PSAP in the AT&T price sheet for years six to ten be removed.

AT&T Response:

AT&T apologizes for this oversight and typographical error. The One-Time Fee of \$4,000 per PSAP does not apply for years 6 – 10 and will be removed.

Response from Second Round Negotiation Issues dated May 11, 2017

2. Fairfax County would prefer, under the eventual contract, to prepay for an installation of the MapSAG software for each of the Part A jurisdictions. Fairfax County will propose a Project Inception pre-payment schedule that includes a breakout of items (including MapSAG) where current grant funding will be divided across the Part A jurisdictions and where payment will be made from the project "grant" funds).

The prepayment proposed for MapSAG would include the agreed upon price for installation and training and would likely include a prepayment of one year of maintenance support for each jurisdiction using project funds. The quoted price from AT&T of \$22,800 per single use license includes installation and training. Fairfax County would like to consider an initial training approach where all Part A jurisdictions would attend a single joint training class. The County wishes to know, with this volume approach (seven jurisdictions), and given the advanced readiness state of the NCR's GIS data, is there a discount from the \$22,800 that could be gained from such a coordinated training approach. Given the current state of GIS data readiness of the Part A jurisdictions, the "NG9-1-1 GIS Data Readiness Assessment" described on Page 8 of the April 18, 2017 response would not be necessary (or would be done with minimal effort on the part of AT&T). This GIS Data assessment might be fully required for another set of jurisdictions who have done less pre-work on GIS data (perhaps some of the Part C jurisdictions). Also, installation of MapSAG would likely occur at Fairfax County first and installation at other Part A sites would need to be coordinated with AT&T. Fairfax County requests an understanding of where in the project life cycle and Project Plan such training and installation for MapSAG should occur for Part A jurisdictions.

Also, as future jurisdictions join the ESInet solution provided (e.g., Part B and Part C jurisdictions), is there a way to gain economies of scale on that training when it is done in groups of coordinated jurisdictions? Perhaps the cost would be a different rate from the Part A jurisdictions (e.g., if four or more jurisdictions join in MapSAG training at one time then the rate per single user license is \$_____, including training.)? "One off" separate installations of MapSAG in a jurisdiction might also be at a different rate.





AT&T Response:

AT&T is pleased to provide a further discount, and accept a payment for the one-time fees associated with the use of MapSAG, and a volume discount to provide on-site training for Part A PSAPs.

The payment would be a cumulative total of the following two (2) fees:

1. One Time Fee for Single Use License for each Part A PSAP can be reduced from \$22,800 to \$18,000 per PSAP.
2. On Site Training can be a restructured fee of \$8,400 per 6-person session, combining personnel from multiple PSAPs.

Single user installation and training of MapSAG in a single PSAP will remain as previously proposed.

Annual maintenance remains unchanged.

MapSAG installation and training timing in the project life cycle will be represented in the requested project plan in question 5.

Non-Recurring (Single Use License)

<u>One Time Service</u>	<u>Non-Recurring Charge (NRC)</u>
<u>Do It Yourself Next Generation 9-1-1 GIS Data Readiness Training and Tools (Per PSAP installed)</u>	<u>\$18,000</u>

Pricing Includes:

- NG9-1-1 GIS Data Assessment, Analysis and Recommendations Report
- Single use or Concurrent use MapSAG license
- Complete data configuration
- Year 1 MapSAG maintenance and support
- Free access to the MapSAG Data Exchange Center when coupled with MapFlex 9-1-1 to greatly enhance GIS data updates and dispatch map discrepancy tracking.





Training 2 – 6 Users

<u>One Time Service</u>	<u>Non-Recurring Charge (NRC)</u>
<u>On Site Training – Per session for up to 6 people</u>	<u>\$8,400</u>

Pricing Includes:

- The on-site training session fee includes travel & expense for two trainers to one location. Each session can accommodate up to a maximum of six people in each session. Fairfax County / NCR can gain significant economies of scale using this methodology and combining personnel from multiple PSAPs. The training location / facility would be provided by Fairfax County. The maximum amount of people that can be trained at one time is six. By example, if 12 people need to be trained, two sessions would be required at \$8,400 each totaling \$16,800.





This Page was Intentionally Left Blank





Attachment 1: ECaTS MIS and Data Analytics (Standard)

The Emergency Call Tracking System (ECaTS) data analytics services allows public safety entities the ability to aggregate all their public safety data, regardless of platform in a centralized location for pre-configured (Standard and Management) and Ad-hoc reporting readily accessible via web browser utilizing secure cloud technology, so they are not tied down to a workstation to create or access valuable situational reports. Information can be extracted within seconds and does not require manual collating of information from multiple sources.

ECaTS Data Analytics provides the client with both standard and management reports in the ECaTS suite of reports. Standard reports are those that users would typically pull on a daily basis. The comprehensive management reports specifically address the analytical requirements of individual PSAP managers, supervisors and executives within jurisdictions. The reports provide the tools necessary to identify areas and issues that require management attention.

Ad-Hoc reporting is one of the most powerful features of ECaTS and accessible through an intuitive user friendly interface. It allows the users to generate reports against any data element stored in the system, providing a broad range of ad hoc reporting capability.

In addition to the advanced ad-hoc reporting, users will have access to the ECaTS helpdesk for custom report rendering. ECaTS will build the custom report you've requested using the advanced ad-hoc reporting tool and send the template directly to your user login. Any custom reports requiring development of new parsers and or new functionality to the existing portal will incur additional charges.

The ECaTS MIS and Data Analytics (Standard) is a secure Internet-based Enterprise Analytics application with the ability to report on individual PSAPs, countywide, state-wide and/or any given size jurisdiction with the same level of simplicity.

- Intuitive “one click” reporting
- Call and Trunk statistics information
- CDR and ALI information
- Local call taker statistics
- Hassle-free & Low-maintenance





- No servers or expensive equipment at PSAP
- Built in System Monitoring and Response
- Role-based Accessibility via an Internet Browser
- Carrier-Manufacturer-Service Provider Agnostic
- Customer Care & Ongoing Training Included

Dashboard

The dashboard gives PSAP/County/State Management Personnel the ability to monitor 9-1-1 call activity in a near real-time display.

The ECaTS Dashboard provides a visual representation of actual 911 call activity, answer time, hold time, and other factors, and clearly represents the real-or near-time condition of 9-1-1 within the specified jurisdiction. Additional analytics segment the data by wireless carrier providing a clear identification of wireless 9-1-1 calls or other communication data traffic through the PSAP/PSAPs in the State and/or County. Each data factor such as call volume will be compared against normative values (averages) to identify anomalies in call traffic, call volume and call handling statistics. An area of the dashboard will be dedicated to mapping incoming calls to clearly illustrate possible areas of high traffic or anomalous call volume (either higher or lower than normal). Wireless carrier activity will also be compared against normative values and significant deviations between normal and abnormal call activity will be highlighted as an “alert” by the dashboard.

i3 Compliant Logging Service

The ECaTS i3 logger has the ability to review and retrieve MIS and i3 Logging Events through a common interface, aggregate logs from the ESInet /CPE to support end to end transaction logging and retrieval, supports an i3 compliant web services interface in addition to its web interface for retrieval of reporting and data. In the interim also serves as a “Transaction Logger” with the ability to receive log events from any i3 compliant equipment that can generate call log information, will only store meta-data of the call event to create a complete event picture.

The ECaTS i3 logger supports retrievals and reports in compliance with the following i3 requirements:

- Retrieve Log Event





Connecting Your World

- List Incidents By Date Range
- List Calls By Date Range
- List Events By Call ID
- List Incidents By Location
- List Agencies By Call ID
- List Events By Incident ID
- List Incidents By Date And Location
- List Agencies By Incident ID
- List Calls By Incident ID





This Page was Intentionally Left Blank





Attachment 1: ECaTS MIS and Data Analytics Workbook

This section contains pricing for our ECaTS MIS and Data Analytics services.





This Page was Intentionally Left Blank



i3 Logger with existing ECaTS MIS	NRC	MRC	
	\$ 500.00	\$ 43.00	per psap

ECaTS MIS	\$ 2,400.00		per psap
Tier 1 : 0-24,999K (1-2 Pos)		\$ 304.00	per psap
Tier 2 : 25K - <50K (3-4 Pos)		\$ 327.60	per psap
Tier 3 : 50K - <250K (5-9 Pos)		\$ 379.60	per psap
Tier 4 : 250K - <500K (10-19 Pos)		\$ 431.60	per psap
Tier 5 : 500K - <1M (20-39 Pos)		\$ 483.60	per psap
Tier 6 : 1M - <2M (40-75 Pos)		\$ 535.60	per psap
Tier 7 : 2M+ (76 + Pos)		\$ 1,400.00	per psap
Backup PSAP		\$ 100.00	per psap

Part B i3 Logger Stand Alone	\$ 500.00		per psap
Tier 1 (1-2 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 304.00	
			per psap
Tier 2 (3-4 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 327.60	
			per psap
Tier 3 (5-9 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 379.00	
			per psap
Tier 4 (10-19 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 431.60	
			per psap
Tier 5 (20-39 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 483.60	
			per psap
Tier 6 (40-75 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 535.60	
			per psap
Tier 7 (76+ Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdes, maintence and management.		\$ 1,400.00	
			per psap
Unmanned Back up PSAP		\$ 180.00	

Host A i3 Logger Servers	\$ 16,800.00	One time
Host B i3 Logger Servers	\$ 16,800.00	One time

This Page was Intentionally Left Blank



Attachment 2: GIS - NG9-1-1 Transitional Data Management Services

Introduction

The move to an i3 compliant Next Generation 9-1-1 system will require many years of interacting with legacy systems and carriers (OSPs) who have no mandates or incentives to comply with the standards as laid out in NENA i3 (STA-010.2). For the foreseeable future, carriers will continue to submit their subscriber records using legacy service order input (SOI) provisioning for validation against the tabular MSAG and provisioning into the ALI database. As such, there are complications when working with both legacy and Next Generation systems that need to be addressed to assure interoperability during this transition.

AT&T offers three Data Management Services to support 9-1-1 Jurisdictions that are currently managing GIS data and 9-1-1 Jurisdictions who have not yet started a GIS data management program.

3. NG9-1-1 Transitional Data Management
4. GeoMSAG Replacement Service
5. GIS Routing Accuracy Report

1. NG9-1-1 Transitional Data Management

The Service will allow Customer's GIS data to serve as the authoritative source for 9-1-1 address validation.

The Service provides the following benefits:

- Operational efficiency – 9-1-1 address management using GIS data
- Highest NG9-1-1 data accuracy - continuous GIS to ALI synchronization
- No changes required for carriers - support of legacy TSP provisioning and ALI
- Full i3 readiness – Streamlines deployment to West's i3 Routing Services

Service Scope

Provides services and systems incremental to ALI Data Management Services.





The Service includes the following:

- geoMSAG Replacement Service – includes initial Customer GIS data load, GIS to MSAG and GIS to ALI data match rate verification and GIS validation report, tabular MSAG replacement, and initial geocoding of ALI records.
- GIS Routing Accuracy Report – one time report containing a list of ALI records that will route differently using Customer's GIS data from ESN based routing using Customer's GIS data for routing.
- Ongoing GIS to ALI Synchronization – 9-1-1 address validation and management against Customer's GIS data. GIS data becomes the master data set and tabular MSAGs are derived from the GIS data.
- Geocoding – ongoing geocoding of ALI database records based on GIS data.

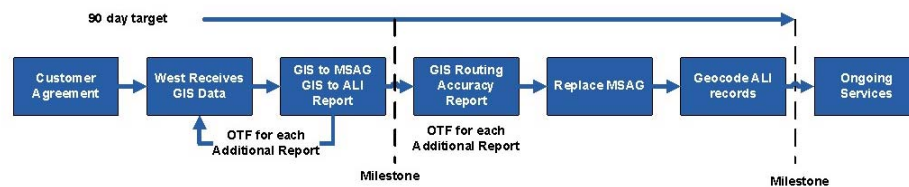


Figure 1 – Service turn-up process and key milestones

As part of the service turn-up process, AT&T will validate the Customer's GIS dataset against the ALI and MSAG databases and provide GIS validation report(s) of GIS change recommendations. Once the GIS to ALI match rate reaches at least 98%, West will move forward with the tabular MSAG replacement. If the GIS to ALI match rate is less than 98%, then Customer will be required to modify their GIS data or contract with West for professional services to bring the match rate into compliance.

This service includes a map-based web tool (GIS Director) that enables Customers to coordinate their GIS data with legacy ALI records. GIS Director allows Customers to review their 9-1-1 data through a map interface, request changes to resolve errors and discrepancies, and GIS-validate addresses. Geocoding of validated OSP records is provided to bridge the gap between legacy and NG9-1-1 address data standards for i3 Routing accuracy.



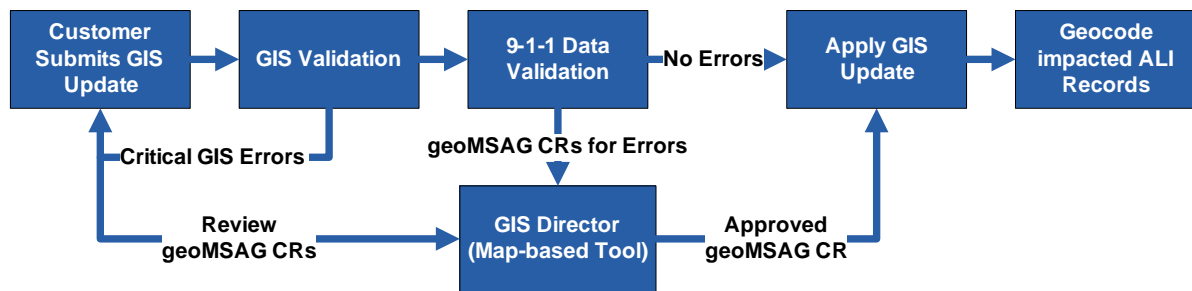


Figure 2 – Ongoing Services

Pricing

Pricing is outlined in Appendix D Attachment 2

2. GeoMSAG Replacement Service

The Service provides one replacement of the tabular MSAG with a GIS-derived MSAG and a GIS Routing Accuracy Report.

The Service provides the following benefits:

- Operational Efficiency – Allows Customer to align GIS data with tabular MSAG
- Self-Management – Allows the 9-1-1 jurisdiction to self-manage their GIS and tabular MSAG data

PLEASE NOTE: There is a need to continue to support legacy 9-1-1 address validation (SOI validation) for OSP address records provisioned to ALI. The 9-1-1 jurisdiction is responsible for maintaining data consistency between GIS and tabular MSAG through 9-1-1 NET® change requests.

Service Scope

Provides a one-time service incremental to ALI Services.

The Service includes:

- Creation of a GIS-derived MSAG load file from Customer's GIS road centerline data (if not provided by Customer)
- GIS to MSAG and GIS to ALI data match rate verification and GIS validation report
- GIS Routing Accuracy Report – one time report containing a list of ALI records that will route differently using Customer's GIS data from ESN based routing using Customer's GIS data for routing





- Replacement of tabular MSAG with GIS-derived MSAG

AT&T will validate the Customer's GIS dataset against the ALI and MSAG databases and provide a GIS validation report of GIS change recommendations. If the GIS to ALI match rate is at least 98%, West will move forward with the tabular MSAG replacement. If the GIS to ALI match rate is less than 98%, then Customer will be required to modify their GIS data or contract with West for professional services to bring the match rate into compliance. Optional Services are available for an additional GIS to ALI data match rate verification.

Following project completion, Customer will be responsible for ongoing synchronization between Customer's GIS data and the MSAG using 9-1-1 NET.

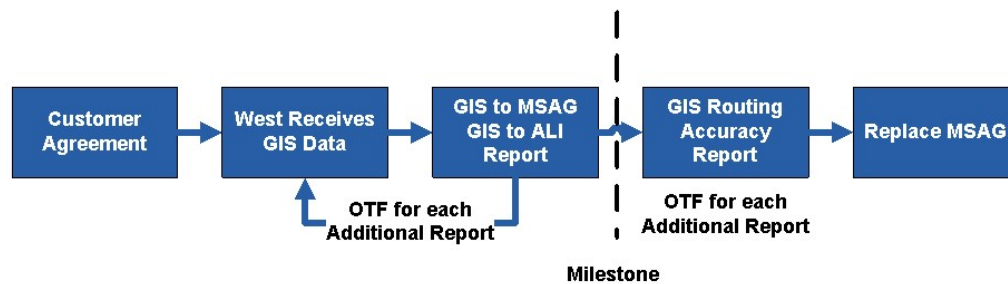


Figure 3 – GeoMSAG Replacement Process

Pricing

Pricing is outlined in Appendix D Attachment 2

3. GIS Routing Accuracy Report

The Service will provide an evaluation of ALI records that would route differently using legacy ESN routing versus using Customer's GIS data for routing.

The Service provides the following benefits:

- Data Accuracy – Allows Customer to proactively resolve routing discrepancies

Service Scope

Provides a one-time service incremental to i3 ESInet.

The Service includes:





- Report containing a list of ALI records that will route differently using Customer's GIS data from ESN based routing using Customer's GIS data for routing

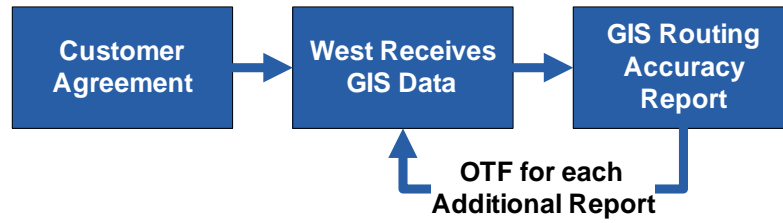


Figure 4 – GIS Routing Accuracy Report

Pricing

One Time Fee - \$TBD per report

Hourly Rate - \$TBD





This Page was Intentionally Left Blank





Attachment 2: GIS - NG9-1-1 Transitional Data Management Services Workbook

This section contains pricing for the GIS-NG9-1-1 Transitional Data Management services.





This Page was Intentionally Left Blank



Appendix D Attachment 2 Cost Worksheet**GIS Services**

				Total Discount Price	
Description				MRC	NRC
GIS - NG911 Transitional Data Management One-time Fee, 1st 200,000 persons				-	\$ 27,000.000
GIS - NG911 Transitional Data Management One-time Fee, each addl person				-	\$ 0.048
GIS - NG911 Transitional Data Management Monthly Recurring, Less than 200,000 persons				\$ 1,608.000	-
GIS - NG911 Transitional Data Management Monthly Recurring, 200,000 - 1,000,000 persons, per person				\$ 0.008	-
GIS - NG911 Transitional Data Management Monthly Recurring, 1,000,000 - 5,000,000 persons, per person				\$ 0.008	-
GIS - NG911 Transitional Data Management Monthly Recurring, >5,000,000 persons, per person				\$ 0.008	-
GeoMSAG Replacement Svc One-time Fee, 1st 200,000 persons				-	\$ 19,200.000
GeoMSAG Replacement Svc One-time Fee, each addl person				-	\$ 0.048
Additional GIS to MSAG/GIS to ALI Match Rate Validation Report, each				-	\$ 1,200.000

This Page was Intentionally Left Blank



Attachment 3: AT&T Security Solutions

PSAP Assessment Service

1. Introduction

The PSAP Assessment Service offers a comprehensive security evaluation for Public Safety Answer Points within Northern Virginia and Suburban Maryland Counties based on industry standards, including:

- NENA (National Emergency Number Association) Next Generation 9-1-1 Security (NG-SEC)
- Communications Security, Reliability and Interoperability Council (CSRIC) "Best Practices"
- All applicable rules and regulations of the Federal Communications Commission (FCC)

2. Description of Work

As part of the PSAP Assessment Service, the following assessment activities will be performed:

- Gather Information
- Conduct Customer Interviews
- Review Applicable Security Policy and Procedure Documents
- Perform Analysis and Compile Data
- Complete a NENA 75-502 NG- SEC Audit Checklist
- Review NENA Audit Findings, Best Practices, and Remediation Recommendations with Customer

3. Scope

The scope of the assessment service is limited to a single PSAP end-site location and does not extend beyond a carrier demarcation point or to remote sites. The service as

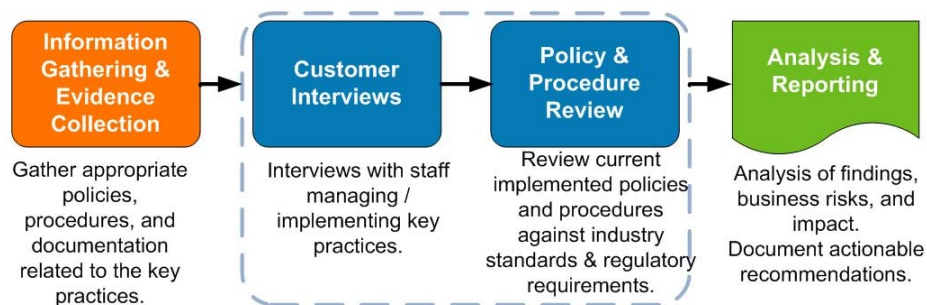




described is not available to Public Safety Answer Points outside of Northern Virginia and Suburban Maryland Counties.

4. Methodology

The assessment methodology will consist of information gathering, customer interviews, policy and procedure reviews, analysis and reporting.



5. Deliverables

At the end of the engagement, the customer will receive a compliance matrix, as outlined in NENA 75-502, NENA NG- SEC Audit Checklist, which identifies whether the PSAP Complies (C), Complies Partially (CP), Complies with Future Capability (CFC) or Does Not Comply (DNC) to the identified requirement(s) for each audit question, using the instructions provided in Section 3 of NENA 75-502. Customer will also receive an Executive Presentation that summarizes the assessment effort and audit findings.

6. References

Please refer to the following documents for more information:

- Exhibit A: NENA 75-502, NENA NG- SEC Audit Checklist
- Exhibit B: Communications Security, Reliability and Interoperability Council (CSRIC) "Best Practices
- Exhibit C: FCC Rules and Regulations for VoIP 9-1-1





Exhibit A: NENA 75-502, NENA NG- SEC Audit Checklist

This section contains the NENA 75-502, NENA NG-SEC Audit Checklist.





This Page was Intentionally Left Blank



Audit Item Number	Section	Section Title	NG-SEC Standard	Audit Area	Compliance Type	Compliance Finding	Comments
1	1	Senior Management Statement	4.1	Has Senior Management created a Senior Management Statement (SMS) of Policy?(Audit Guidance: this could take the shape of a security plan, executive level security policy, or other such documents. The auditor should use his/her discretion as to whether the document in question meets the requirements of this portion of the NG-SEC standard)	R	C	
2	1	Senior Management Statement	4.1	Does the SMS designate the person responsible for security (e.g. Security Administrator)?	R	C	
3	1	Senior Management Statement	4.1	Does the SMS clearly document the security goals and objectives of the organization?	R	C	
4	2	Acceptable Use Policy	4.2	Does the organization have an Acceptable Usage Policy?	R	C	
5	2	Acceptable Use Policy	6.6	Are any and all actual, attempted, and/or suspected misuses of Public Safety assets reported and documented by appropriate organizations?	R	C	
6	3	Authentication / Password Policy	4.2	Does the organization have an Authentication / Password Policy?	R	C	
7	3	Authentication / Password Policy	7.1.1	Is each individual requiring access to the NG9-1-1 System provided a unique Identification and authentication?	R	CP	There is a shared Application User ID in use on some systems.
8	3	Authentication / Password Policy	7.1.1	Do individuals share their authentication information (including usernames and passwords) with other individuals or groups?	R	C	
9	3	Authentication / Password Policy	7.1.2	Are requests for new User Accounts, User IDs, and File and Resource authorization documented? (Audit Guidance: review applicable documentation and processes for adequacy of process and adherence to process)	R	C	
10	3	Authentication / Password Policy	7.1.2	Do personnel performing entity or security administration ensure that only approved entities are granted access?	R	C	
11	3	Authentication / Password Policy	7.1.2.1	Does the organization have procedures for changing access authority?	R	C	
12	3	Authentication / Password Policy	7.1.2.1	Does the organization have procedures for removing access authority for terminated personnel?	R	C	
13	3	Authentication / Password Policy	7.1.3	When system to system access is implemented does the system mask individual accountability for transactions?(Audit Guidance: The system shall not mask individual accountability for transactions)	R	CP	For automated system to system access; individual user actions are logged at the application level through unique credentials and never masked. There is less detailed logging when changing through interactive sessions.
14	3	Authentication / Password Policy	7.1.3	When system to system access is implemented is the source system authenticated before each transfer session?	R	C	
15	3	Authentication / Password Policy	7.1.3	When system to system access is implemented and push technology is utilized, is the destination authenticated by the source?	R	N/A	The ESInet solution does not push system updates
16	3	Authentication / Password Policy	7.1.3	When system to system access is implemented and a continuous connection is utilized, was authentication performed at the initial connection?	R	C	
17	3	Authentication / Password Policy	7.1.3	When system to system access is implemented are individuals accessing any of the systems required to Authenticate when initially accessing each system?	R	C	
18	3	Authentication / Password Policy	7.1.5	Are Authentication Credentials displayed in an obscured format when entered on computer screens? (Auditor Guidance: Check to see if passwords can be seen on the screen when typed in. They should not be able to be seen so as to prevent "shoulder surfing.")	R	C	
19	3	Authentication / Password Policy	7.1.4	Are users locked out after no more than 5 invalid sign on attempts?	R	C	
20	3	Authentication / Password Policy	7.1.5	Are Default and Null Passwords changed when installing new equipment or software?	R	C	

21	3	Authentication / Password Policy	7.1.5	Are Authentication Credentials encrypted when stored on a computer?	R	C	
22	3	Authentication / Password Policy	7.1.5	When two-factor authentication is used, (e.g. SecurID + Pin or Certificate + Passphrase) are two authentication factors stored in such fashion that one incident can compromise both? (Auditor Guidance: e.g. password or pin isn't written down on the token, or stored with the token)	R	C	
23	3	Authentication / Password Policy	7.1.5.1	All user accounts shall require a password	R	C	
24	3	Authentication / Password Policy	7.1.5.1	Passwords are not based on the user's account name.	R	C	
25	3	Authentication / Password Policy	7.1.5.1	Passwords must meet the following complexity requirements: Contains characters from three of the following four categories: Uppercase alphabet characters (A–Z)Lowercase alphabet characters (a–z)Arabic numerals (0–9)Non-alphanumeric characters (for example, !\$#.%)	R	C	
26	3	Authentication / Password Policy	7.1.5.1	Minimum password length shall be 8 characters or greater	R	C	
27	3	Authentication / Password Policy	7.1.5.1	Minimum password age shall be 3 days or greater	R	C	
28	3	Authentication / Password Policy	7.1.5.1	Maximum password age requirement 60 days or less	R	C	
29	3	Authentication / Password Policy	7.1.5.1	Maximum password age recommendation 30 days	BP	No	Maximum password age is 60 days.
30	3	Authentication / Password Policy	7.1.5.1	If feasible, authentication schemes shall provide for password exchange in a format that cannot be captured and reused/replayed by unauthorized users to gain authenticated access, e.g., random password generating tokens or one-way encryption (also known as hashing) algorithms.	R	C	
31	3	Authentication / Password Policy	7.1.5.1	When using temporary passwords they shall be required to be changed upon initial login	R	C	
32	3	Authentication / Password Policy	7.1.5.1	Passwords should not be hard coded into automatic login sequences, scripts, source code and batch files, etc., unless required by business need and then only if protected by security software and/or physical locks on the workstation, and passwords are encrypted.	BP	C	
33	3	Authentication / Password Policy	7.1.5.1	Password construction should be complex enough to avoid use of passwords that are easily guessed, or otherwise left vulnerable to cracking or attack. Names, dictionary words, or combinations of words shall not be used; nor shall they contain substitutions of numbers for letters, e.g., s3cur1ty. Repeating numbers or sequential numbers shall also not be used	BP	CP	This requirement is not enforceable on all ESInet systems.
34	3	Authentication / Password Policy	7.1.5.1	Passwords should not contain sequences of three (3) or more characters from the user's login ID or the system name.	BP	CP	This requirement is not enforceable on all ESInet systems.
35	3	Authentication / Password Policy	7.1.5.1.4	Passwords should not contain sequences of three (3) or more characters from previous chosen or given passwords.	BP	CP	This requirement is not enforceable on all ESInet systems.
36	3	Authentication / Password Policy	7.1.5.1.5	Passwords should not contain a sequence of two (2) or more characters more than once, e.g., a12x12.	BP	CP	This requirement is not enforceable on all ESInet systems.
37	3	Authentication / Password Policy	7.1.5.1.5	Passwords used to access Public Safety systems and resources should not be used on any external systems, e.g., Home PC's, Internet sites, shared public systems.	BP	C	
38	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used do they have a required length of at least 15 characters? (Audit Guidance: Alpha, numeric and special characters may all be used.)	R	N/A	The AT&T ESInet systems require passwords. They do not use passphrases
39	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used they shall not use repeating words, or sequential characters or numbers.	R	N/A	The AT&T ESInet systems require password. They do not use passphrases
40	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used they shall be case sensitive	R	C	
41	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used and where they are automatically set or set by administrator, the initial passphrase shall be randomly generated and securely distributed.	R	C	
42	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used first-time users may create their own passphrase after authenticating.	R	C	

43	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used Users shall have the capability of changing their own passphrase online. However, the old passphrase shall be correctly entered before a change is allowed	R	C	
44	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used a lost or forgotten passphrase can be reset only after verifying the identity of the user (or process owner) requesting a reset.	R	C	
45	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used passphrases shall automatically expire every 180 days or less for General Users.	R	C	
46	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used systems shall notify users at expiration time and allow the user to update the passphrase.	R	C	
47	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used and when it is changed, the old passphrase shall not be reused until either: 1. at least four (4) other passphrases have been used, or 2. at least 4 months have passed.	R	C	
48	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used systems shall not display the passphrase in clear text as the user enters it.	R	C	
49	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used shall not be stored in script files or function keys.	R	C	
50	3	Authentication / Password Policy	7.1.5.2	When Passphrases are used Passphrases shall always be encrypted for transmission	R	N/A	The AT&T ESInet systems require password. They do not use passphrases
51	3	Authentication / Password Policy	7.1.5.3	If Digital Certificates are used is a revocation procedure in place if compromised?	R	C	
52	3	Authentication / Password Policy	7.1.5.3	Are Digital Certificates kept current and expired or invalid certificates not used?	R	C	
53	3	Authentication / Password Policy	7.1.5.3	Cryptographic implementations use standard implementations of security applications, protocols, and format?	R	C	
54	3	Authentication / Password Policy	7.1.5.3	Cryptographic implementations shall be purchased from reputable vendors?	R	C	
55	3	Authentication / Password Policy	7.1.5.3	If Cryptographic solutions are developed in-house staff should be properly trained in cryptology.	R	C	
56	3	Authentication / Password Policy	7.1.5.3	Do employees protect and safeguard any encryption keys for which they are responsible?	R	C	
57	3	Authentication / Password Policy	7.1.5.3	Employees do not share private encryption keys with others except when applicable or appropriate authorities demand the key be surrendered (Termination, Promotion, Investigation etc.)	R	C	
58	3	Authentication / Password Policy	7.1.5.3	A process exists by which current validity of a certificate can be checked and a certificate can be revoked Validity testing includes: Do key holders initiate key revocation when they believe access to their keys have been compromised Has the Certificate Authority signature on the certificate been validated Is the date the certificate is being used within the validity period for the certificate The Certificate Revocation List for the certificates of that type are checked to ensure they have not been revoked The identity represented by the certificate - the "distinguished name" is valid (distinguished name refers to the location in the x.500 database where the object in question exists)	R	C	
59	3	Authentication / Password Policy	7.2.6	In order to help assure segregation of duties, developers shall not be System Administrators for the Production Systems they have developed (small, stand-alone systems can be excepted from this requirement)	R	C	
60	4	Data Protection	4.2	Does the organization have a Data Protection Policy?	R	C	
61	4	Data Protection	6.2	Application, system, and network administrators perform a security self-review on systems for which they have operational responsibility at least once per year.	R	C	
62	4	Data Protection	6.2	The self-review assessments are in writing and retained by the Security Manager and the NG9-1-1 Entity	R	C	
63	4	Data Protection	6.2	A copy of the current security self-review or security assessments/audit reports are retained until superseded by another security assessment or the system is retired	R	C	

64	4	Data Protection	6.3	Application, system, and network administrators have identified which security solutions have or require periodic review and the frequency by which they shall occur (Auditor Guidance: This finding refers to recurring security solutions, such as audit logs, or Intrusion Prevention Systems.)	R	C	
65	4	Data Protection	6.3	Application, system, and network administrators conduct the periodic reviews defined in audit number 64	R	C	
66	4	Data Protection	6.4.2	All networks have a clearly defined purpose or mission so appropriate security measures can be implemented. (Auditor Guidance: To verify if this has occurred request documentation such as drawings, mission statements, policies, etc., that clearly indicate that the network in question's mission is defined)	BP	C	
67	4	Data Protection	6.4.3	For systems on the network in question, an accurate and current inventory is maintained. (Auditor Guidance: Request copies of a current inventory. Acceptable inventories included automated systems, paper logs, or logbooks).	R	C	
68	4	Data Protection	6.4.3	Inventories are appropriately classified and in accordance with the implemented information classification and protection policy	R	CP	A uniform data classification scheme is in the process of being implemented.
69	4	Data Protection	6.4.4	All administrative access to the network is precisely controlled with appropriate identification, authentication, and logging capabilities	R	C	
70	4	Data Protection	6.4.4	Uncontrolled points of entry are not allowed on the	R	C	
71	4	Data Protection	6.4.4	All point of ingress and egress to a network are fully documented, approved, and protected	R	C	
72	4	Data Protection	6.4.5	Connecting multi-homed computers to networks that have different security postures is not allowed	R	C	
73	4	Data Protection	6.4.5	When multi-homed computers are implemented Host IPS shall be installed on the multi-homed computer	R	N/A	No computers are multi-homed across security domains.
74	4	Data Protection	6.4.5	When multi-homed computers are implemented, all other appropriate security countermeasures, including those described in this document are implemented on multi-homed computer	R	N/A	No computers are multi-homed across security domains.
75	4	Data Protection	6.4.5	When multi-homed computers are implemented Anti-virus is running on both/all networks and the multi-homed computer	R	N/A	No computers are multi-homed across security domains.
76	4	Data Protection	6.4.5	When multi-homed computers are implemented, IP-forwarding is explicitly disabled?	R	N/A	No computers are multi-homed across security domains.
77	4	Data Protection	6.4.5	When multi-homed computers are implemented multi-homed computers should have 'Hardened Operating Systems'	BP	N/A	No computers are multi-homed across security domains.
78	4	Data Protection	6.4.5	When multi-homed computers are implemented multi-homed computers should have 'Hardened Applications'	BP	N/A	No computers are multi-homed across security domains.
79	4	Data Protection	6.4.6.3	Firewalls are maintained at all 4.9GHz network boundaries	R	C	
80	4	Data Protection	7.1.2.2	Does the organization have procedures for reviewing access authority for inactive accounts?	R	C	
81	4	Data Protection	7.2.1	Accounts shall be created based on "Least Privilege"	R	C	
82	4	Data Protection	7.2.1	Are users given access to only the functions and data necessary to perform their assigned duties	R	C	
83	4	Data Protection	7.2.1	All computer resource access is restricted to only the command, data, and systems necessary to perform authorized functions	R	C	
84	4	Data Protection	7.2.1.1	All data has appropriate minimum access privileges, e.g. read, write, modify, as defined by the data owner and is in compliance with local laws	R	C	
85	4	Data Protection	7.2.1.2	Access is restricted to only those individuals and groups with a business need, and subject to the data's classification.	R	C	
86	4	Data Protection	7.2.1.2	Unrestricted/global access should be avoided whenever possible and is only used where specifically appropriate and with the data owners approval	BP	C	
87	4	Data Protection	7.2.1.2.a	Is an annual review of all resources, (e.g., files or directories, to which access is not restricted, i.e., have universal or public access) shall be performed and the resource owners shall be notified of the results.	R	C	

88	4	Data Protection	7.2.1.2.b	Is group membership restricted only to persons performing the given function?	R	C	
89	4	Data Protection	7.2.1.3	All unnecessary services and network services are disabled.	R	C	
90	4	Data Protection	7.2.1.3	Any application service which lets the user escape to a shell, provide access to critical system files, or maps/promotes IDs to privileged user levels is disabled.	R	C	
91	4	Data Protection	7.2.1.3a	Is an annual review for compliance with Audit Area 90 completed and findings documented?	R	CP	Compliance for the AT&T ESInet will be verified Q217.
92	4	Data Protection	7.2.1.3a	Are findings from the audit conducted in Audit Area 91 closed or has the risk been managed?	R	CP	See audit item 91; findings will be tracked and managed 2Q17
93	4	Data Protection	7.2.1.4	Administrator shall ensure that system access controls (e.g. filters that restrict access from only authorized source systems), are used where they exist and only contain necessary system authorizations?	R	C	
94	4	Data Protection	7.2.1.4.a	Is an annual review for compliance with Audit Area 93 completed and findings documented?	R	CP	Compliance will be verified Q217.
95	4	Data Protection	7.2.1.4.a	Are findings from the audit conducted in Audit Area 94 closed or has the risk been managed?	R	CP	See audit item 91; findings will be tracked and managed 2Q17
96	4	Data Protection	7.2.1.5	Do Administrators use non-Administrative accounts when performing non-Administrative tasks?	R	C	
97	4	Data Protection	7.2.1.6	Do ALL System Administrators have a personal Administrator account rather than use a generic account? (Auditor Guidance: Administrators shall not use default, or built-in Administrator accounts except during disaster recovery or initial installations. Each Administrator must have his or her own unique Administrator account to provide traceability. Administrator accounts shall never be shared)	R	C	
98	4	Data Protection	7.2.1.6	Systems that do not support unique administrative accounts should not be used as they pose a significant threat. Entities are encouraged to prevent inclusion of such systems onto the NG9-1-1 networks. .	BP	N/A	Users have unique identifiers and there will be no guest, shared, or anonymous accounts.
99	4	Data Protection	7.2.2	The login "Warning Notice" is displayed during the boot up or logon sequence (either before or after the authentication, preferably before, but it is displayed before any substantive data	R	C	
100	4	Data Protection	7.2.2	The "Warning Notice" remains displayed until positive action by the user is taken to acknowledge the message	R	C	
101	4	Data Protection	7.2.3	Computer resources, systems, applications, and networks shall be restricted at all times to authorized personnel	R	C	
102	4	Data Protection	7.2.3	Where possible access control is accomplished with "role bases" privileges that assign users to roles and grant access to members of a role rather than to individuals	R	C	
103	4	Data Protection	7.2.4	Non-privileged users do not have read/write access to system files or resources such as protected memory, critical devices, executable programs, network configuration data, application file systems, etc.	R	C	
104	4	Data Protection	7.2.4	Only administrative users are assigned passwords to access and modify sensitive files/resources	R	C	
105	4	Data Protection	7.2.5	Files/File Folders are restricted to only those requiring access	R	C	
106	4	Data Protection	7.2.5	Rights assigned only to those who actually need them and are documented as needing them	R	C	
107	4	Data Protection	7.2.5	Access Groups used whenever possible to simplify administration	R	C	
108	4	Data Protection	7.2.5	Has the organization renamed built-in Administrator accounts?	R	C	
109	4	Data Protection	7.2.5	Anonymous and/or guest accounts are disabled to prevent exploitation	R	C	

110	4	Data Protection	7.2.5	Are periodic audits of user account access conducted to ensure users have only the "effective rights" required to perform their functions?	R	C	
111	4	Data Protection	7.2.6	Are Production and Non-Production systems separated to protect integrity of the Production System?	R	C	
112	4	Data Protection	7.2.6	If the Non-Production System is intended to become a Production System is it governed by the requirements of a Production System. (Auditor Guidance: While it is unlikely a non-production system will be "in-scope" during an audit, if it is, this requirement refers to the need for that system to comply with all requirements herein)	R	C	
113	4	Data Protection	7.2.6	Production data is not copied off the system without the service owner's permission and is protected to an equivalent or greater degree	R	C	
114	4	Data Protection	7.2.6	Production systems do not contain any software development tools except where essential for the application	R	C	
115	4	Data Protection	7.2.6	While software development tools may be installed for software upgrades, or installation of new software packages, or for troubleshooting, but they must be removed immediately after use	R	CP	Some software development tools are required and installed on productions systems
116	4	Data Protection	7.2.6	When software development tools are essential for production operation, they must be inaccessible to users	R	CP	Some software development tools are required and installed on productions systems
117	4	Data Protection	7.2.7	All devices capable of enforcing a password protected screensaver or a keyboard lock do so with an inactivity timeout of 15 minutes or less exceptions will comply with Para 7.2.7.1, .2, and .3 The following are exceptions: When superseded by local public safety policy Users in a customer facing role, such as sales representatives making sales presentations, may have the automated screensaver temporarily disabled so long as the following conditions are met: a. The automated screensaver shall not be deactivated for any longer than justified and not for a period greater than four hours b. While the automated screensaver is deactivated the screensaver shall be manually activated whenever the device is to be left unattended, even for a brief period of time Devices that are dedicated to displaying messages/information to a number of people, for example, in a reception area or in an operations center, may have their screensaver disabled so long as the following conditions are met: Access (physically and logically) to the device, including its keyboard and user IDs, is controlled in accordance with all applicable physical and logical security requirements Visibility of the display is restricted to only individuals authorized to see the data that will be displayed	R	C	
118	4	Data Protection	7.2.7	All devices not capable of enforcing a password protected screensaver or a keyboard lock will have controlled access in accordance with all applicable physical and logistical security or have session inactivity timeouts set for 15 minutes	R	C	
119	4	Data Protection	7.2.7	Consoles not capable of enforcing a password protected screensaver or a keyboard lock are configured to automatically log out after 15 minutes of inactivity	R	C	
120	4	Data Protection	7.2.7	If automatic inactivity logout is not supported are users required to logout when console is left unattended	R	C	
121	4	Data Protection	7.2.8.4	Peer to Peer Networking is NOT allowed in the NG 9-1-1 environment	R	C	
122	4	Data Protection	7.3.1	NG9-1-1 Entity information which is either discoverable or otherwise requested by the general public or media must be clearly identified.	R	C	
123	4	Data Protection	7.3.1	Specific guidelines must be written and followed to document what data is released, when and to whom when releasing NG9-1-1 Entity information which is either discoverable or otherwise requested by the general public or media must be clearly identified.	R	C	
124	4	Data Protection	7.3.1	The guidelines identified in Audit Area 123 shall capture any specific release requirements for data such as video, names, call content, message text, or other personal	R	C	

125	4	Data Protection	7.3.1	Where such data is intermingled with other data of differing classification, consideration shall be given to replicating the public domain data into a separate data store	BP	C	
126	4	Data Protection	7.3.2	Where email is used to send NG 9-1-1 Sensitive Information, is the message clearly marked with its classification, do the senders ensure recipients are aware	R	C	
127	4	Data Protection	7.3.2	Where email is used for emergency communications, senders must verify the recipient's email ID is correct prior to sending	R	C	
128	4	Data Protection	7.3.2	Where email is used for emergency communications, the recipient shall understand the safeguards associated with the proprietary marking	R	C	
129	4	Data Protection	7.3.2	Where email is used for emergency communications and email with Sensitive Information is printed it shall be protected according to the rules associated with its classification	R	C	
130	4	Data Protection	7.3.2	Where email is used for emergency communications, Sensitive Information must be encrypted when sent by email	R	CP	West Safety Services only requires encryption of restricted data when being sent across public networks.
131	4	Data Protection	7.3.2	Does the NG9-1-1 entity control the domain used for email communication unless otherwise covered by a formal contractual document. (Auditor Guidance: The intent of this audit question is to ensure that entities register a legitimate DNS domain name for any NG9-1-1 communication as opposed to using free email services, etc.).	R	C	
132	4	Data Protection	7.3.2	Internal NG9-1-1 Entity email should not be made available on a 9-1-1 call-taking position workstation, but rather on a separate system.	BP	CP	In rare cases the West SFS Emergency Call Resource Center may support calls that personnel have email on the same machine used for receiving emergency calls.
133	4	Data Protection	7.3.2	In lieu of detailed security standards for email use in an NG9-1-1 environment, NG9-1-1 Entities are encouraged to follow best practices such as those offered by the National Institute for Standards and Technology (NIST)	BP	N/A	We have and use detailed corporate security standards
134	4	Data Protection	7.3.2.1	Individual messaging services have been evaluated to ensure they comply with NG9-1-1 Entity production and security requirements	R	C	
135	4	Data Protection	7.3.3.1	Do cryptographic installations use industry standard cryptographic algorithms and standard modes of operations and comply with the laws of the United States	R	C	InfoSec defines security requirements for the configuration of key servers, Public Key Infrastructures and related equipment. Information Security will also set standards for encryption algorithms, hashes, key lengths, key lifetimes, and other factors relevant to encryption practices. The user of proprietary encryption algorithms, either in-house or from Suppliers/Contributors of freeware/shareware is not permitted. West SFS shall implement key and seed management procedures that enable customer Confidential or Sensitive Information to be retrieved if the person who encrypted such data is unable or unwilling to decrypt the data
136	4	Data Protection	7.3.3.1	The use of encryption algorithm or device complies with the laws of the United States and any country in which there are plans to use data encryption	R	C	The use of proprietary encryption algorithms, either in-house or from Suppliers/Contributors of freeware/shareware is not permitted
137	4	Data Protection	7.3.3.1	It is recommended the algorithm certified by the NIST FIPS 140 certification, currently AES, be used	BP	C	
138	4	Data Protection	7.3.3.1	Where there are no US federal standards for specific encryption functions e.g. public key cryptography, message digests, commercial algorithms may be used.	BP	C	A list of acceptable encryption standards are included in Security Policy.

139	4	Data Protection	7.3.3.1	Implementations of cryptography shall follow best commercial practices e.g. Public Key Cryptography Standards.	R	C	InfoSec defines security requirements for the configuration of key servers, Public Key Infrastructures and related equipment. Information Security will also set standards for encryption algorithms, hashes, key lengths, key lifetimes, and other factors relevant to encryption practices. The user of proprietary encryption algorithms, either in-house or from Suppliers/Contributors of freeware/shareware is not permitted. West SFS shall implement key and seed management procedures that enable customer Confidential or Sensitive Information to be retrieved if the person who encrypted such data is unable or unwilling to decrypt the data
140	4	Data Protection	7.3.3.1	Implementations and modes shall use the strongest available product (encryption algorithms)	R	C	
141	4	Data Protection	7.3.3.2	If Public Key Cryptography is used does the NG9-1-1 entity have a Public Key Infrastructure to manage and distribute public keys?	R	C	
142	4	Data Protection	7.3.3.2	Does the PKI manage both Symmetric and Asymmetric Keys through the entire life cycle?	R	CP	Separate PKIs for management of symmetric and asymmetric.
143	4	Data Protection	7.3.3.2	Encryption Devices and any server used to store encryption keys are protected from unauthorized access	R	C	
144	4	Data Protection	7.3.3.2	Key generation is performed using a commercial tool that comply with x.509 standards and produce x.509 compliant keys.	R	C	
145	4	Data Protection	7.3.3.2	Keys are not generated using predictable function or values	R	C	
146	4	Data Protection	7.3.3.2	Symmetric keys must be at least 112 bits in length and Asymmetric keys at least 1024 bits in length	R	C	
147	4	Data Protection	7.3.3.2	Keys are distributed to appropriate recipients through secure channels	R	C	
148	4	Data Protection	7.3.3.2	Keys used to secure stored data are safeguarded so authorized persons can recover them at any time	R	C	
149	4	Data Protection	7.3.3.3	Does the Public Key Infrastructure (PKI) have a documented Certificate Practice Statement defining how security is provided for the infrastructure, registration process, relative strength of the system, and Legitimate uses?	R	CP	A Certificate Practice Statement will be available in 2017.
150	4	Data Protection	7.3.3.3	Does the PKI implement a registration process that identifies the requester by an acceptable form of identification before the Certificate Authority (CA) creates a Digital Certificate?	R	C	
151	4	Data Protection	7.3.3.3	Does the PKI have a review process for validity checks and revocation as required?	R	C	
152	4	Data Protection	7.3.3.3	Do key holders initiate key revocation if they believe access to their keys have been compromised?	R	C	
153	4	Data Protection	7.4.1	Are all files and software scanned for viruses and malicious code, and verified as free of logic bombs or	R	C	
154	4	Data Protection	7.4.3	Does the NG 9-1-1 entity use licensed industry standard antivirus (or anti-malware) software on all devices	R	CP	AV software is loaded on all Window devices and Linux servers that are publically accessibility.
155	4	Data Protection	7.4.3	Does the NG 9-1-1 entity, install and maintain the latest version (including engine) of their licensed anti-virus software?	R	C	
156	4	Data Protection	7.4.3	Is the antivirus software installed and maintained on any <u>personal</u> equipment used for business functions?	R	N/A	Personal equipment is not used for business functions.
157	4	Data Protection	7.4.3	Is the software current with the latest available and applicable virus definitions?	R	C	
158	4	Data Protection	7.4.3	Does the software scan all files when opened and/or executed (including files on network shares)?	R	CP	Scans are performed on all files that do not impact call processing performance.

159	4	Data Protection	7.4.3	Does the software scan files on local drives at least once a week?	R	C	
160	4	Data Protection	7.4.3	Does the software scan all files, attachments, and software received via email and/or downloaded from websites before opening?	R	C	
161	4	Data Protection	7.4.3	Does the software scan all removable media and software (including new workstations equipped with pre-loaded software) before opening and/or executing?	R	CP	Removable media is not scanned when it is plugging in. A scan is performed if the user attempts to open a file.
162	4	Data Protection	7.4.3	Does the NG 9-1-1 Entity scan all removable media and software before opening and/or executing if it has not been kept secure within its control?	R	C	
163	4	Data Protection	7.4.3	Are all files made available as network shares scanned at least once per week?	R	CP	A scan is performed when a file is opened. Servers that are hosts on are scanned once per week.
164	4	Data Protection	7.5.4	Does the NG 9-1-1 Entity have a backup procedure?	R	C	
165	4	Data Protection	7.5.4	Is a copy of the routine full backup media described in Audit Area 164 sent to a secure offsite location?	R	C	
166	4	Data Protection	7.6	All systems, applications, and databases have internal controls for logging, tracking, and personnel accountability	R	C	
167	4	Data Protection	7.6.1	All systems, including but not limited to applications and databases, have a security event record(log) capable for after-the-fact investigation of loss, impropriety, or other inappropriate activity	R	C	
168	4	Data Protection	7.6.2	A written Security Audit Log Review Plan has been developed	R	C	
169	4	Data Protection	7.6.3	A Security Alarm Plan has been developed and documented which sets criteria for generating alarms, who is notified, and what actions are to be taken.	R	C	
170	4	Data Protection	8.3	Sensitive data is printed only on attended printers or on printers in a secured area. Distribution is controlled and printouts of sensitive information are secured when not in use.	R	C	
171	4	Data Protection	8.3	Data stored on removable media that are external to the system hardware is safeguarded.	R	C	
172	4	Data Protection	8.3	Personal storage devices are not used within the NG9-1-1 entity location. (Auditor Guidance: Examples of personal storage devices include USB Thumbstick, etc.)	R	C	
173	4	Data Protection	8.3	When storage media and output is destroyed it is in a manner that contents cannot be recovered or recreated	R	C	
174	4	Data Protection	8.3	When producing copies containing classified, the originals and copies are not left unattended	R	C	
175	4	Data Protection	8.3	NG9-1-1 Entity personnel ensure re-used storage media is "clean" (i.e. does not contain any residual of information from previous uses)	R	C	
176	4	Data Protection	8.3	All media distributed outside NG9-1-1 Entity is either new or comes directly from a recognized pool of "Clean" media	R	C	
177	4	Data Protection	8.4.2	If possible, information resources using a power supply are connected to electrical outlets and communications connections that utilize surge protection	BP	C	
178	4	Data Protection	8.6.2.10	Combustible materials are not stored in the computer center or server room	R	C	
179	4	Data Protection	8.6.2.11	Furniture, storage cabinets, and carpets are of nonflammable material.	R	C	
180	4	Data Protection	8.6.2.12	Carpets are anti-static.	R	C	
181	4	Data Protection	8.6.2.6	All critical information resources are on UPS	R	C	
182	4	Data Protection	8.6.2.7&8	Food, drinks, or smoking is not allowed in the server room	R	C	
183	4	Data Protection	8.6.2.9	Storage under raised floors or suspended ceilings is prohibited.	R	C	

184	5	Exception Request / Risk Assessment	12	An Exception Approval / Risk Assessment process is in place.	R	C	
185	5	Exception Request / Risk Assessment	12	The exception approval and risk acceptance process includes Risk Justification, Risk Identification, Risk Assessment, Risk analysis, and Risk Acceptance and Approval.	R	C	
186	5	Exception Request / Risk Assessment	12	The exception approval and risk acceptance process is documented on each Exception Approval / Risk Acceptance Form (EA/RAF), including the names and contact information of the people who carried out the analysis.	R	C	
187	5	Exception Request / Risk Assessment	12.1	The EA/RAF process is followed for "ALL RISKS" (e.g., security vulnerabilities cannot be fixed or security patched, or cases of non-compliance with this Security Standard.	R	C	
188	5	Exception Request / Risk Assessment	12.1	The specific non-compliance or vulnerability documented in each EA/RAF was reviewed by NG9-1-1 Entity security organization and the legal department.	R	C	
189	5	Exception Request / Risk Assessment	12.1	The actual form is maintained and tracked by the NG9-1-1 Entity Security Risk Manager, the Security Point of Contact, and all involved parties.	R	C	
190	5	Exception Request / Risk Assessment	12.2.1	The NG9-1-1 Entity has assigned a Security Risk Manager to manage security risks and is responsible for completing the EA/RAF in a complete and accurate manner prior to submitting to the Security Point of Contact / Team for review.	R	C	
191	5	Exception Request / Risk Assessment	12.2.1	The Security Risk Manager collaborates with other members of the pertinent security team in completing the form and obtains the approval signature from the NG9-1- Entity Risk Acceptance Approver.	R	C	
192	5	Exception Request / Risk Assessment	12.2.1	The Security Risk Manager is an employee or an authorized agent acting on behalf of the NG9-1-1 Entity.	R	C	
193	5	Exception Request / Risk Assessment	12.2.1	The Security Risk Manager is the person identifying the need for the execution of the exception approval and risk acceptance process with technical and business knowledge of the asset(s) at risk or, meets 195	R	C	
194	5	Exception Request / Risk Assessment	12.2.1	The Security Risk Manager is a system administrator, systems engineer, project manager, or other key stakeholder with technical and business knowledge of the asset(s) at risk.	R	C	
195	5	Exception Request / Risk Assessment	12.2.1	The Security Risk Manager acts as Point of Contact for the organization owning the identified asset(s) at risk within the scope of the exception approval and risk assessment process for the duration of the EA/RAF	R	C	
196	5	Exception Request / Risk Assessment	12.2.1	If the Security Risk Manager leaves the entity or is changes job during the active duration of the EA/RAF, a new Security Risk Manager is identified to fill the role	R	C	
197	5	Exception Request / Risk Assessment	12.2.2	A Security Point of Contact / Team is assigned to review for completeness, accuracy, and consistency and subject matter expertise.	R	C	
198	5	Exception Request / Risk Assessment	12.2.2	For high level risks, a team of Subject Matter Experts (SME) is assembled to review, document concurrence, and sign the EA /RAF prior to submission for final approval.	R	C	
199	5	Exception Request / Risk Assessment	12.2.3	Has the senior official of the NG9-1-1 Entity has signed forms accepting complete accountability for any identified risk?	R	C	
200	5	Exception Request / Risk Assessment	12.3	Risks to the NG9-1-1 Entity are acknowledged, assessed, and managed according to their severity.	R	C	
201	5	Exception Request / Risk Assessment	12.3	Responsibility is not delegated to subordinates or peers, and adheres to the management level or higher.	R	C	
202	5	Exception Request / Risk Assessment	12.3	The Risk Acceptance Approver is the senior manager with financial and legal responsibilities for the services and operation of the specific NG9-1-1 Entity.	R	C	

203	5	Exception Request / Risk Assessment	12.3.1	<p>The NG9-1-1 entity manages the process flow as noted below:</p> <ol style="list-style-type: none"> 1. The NG9-1-1 Entity's Security Risk Manager identifies, justifies, assesses, and analyzes the risk. If the identification and/or analysis of the risk prove to be difficult, then a security team shall be contacted for assistance. The Security Risk Manager shall complete the EA/RAF, including Risk Justification, identifying the Security POC / Team, and NG9-1-1 Entity Risk Acceptance Approver. 2. The Security Point of Contact / Team shall assign the EA/RAF a globally unique tracking identifier / document number, review the form, determine or agree to who the NG9-1-1 Entity senior management approver is, discuss with Security Risk 3. Manager until agreement reached or no more progress possible, involve a team of SMEs as necessary. 4. NG9-1-1 Entity Security Risk Manager signs EA/RAF. 5. The Security POC / Team documents concurrence position and signs the form. 6. NG9-1-1 Entity Risk Acceptance Approver (senior manager) reviews the form, determines/documents strategy and reason, ensures risk mitigation is completed on the form, and accepts full responsibility and accountability by signing the EA/RAF. 7. The Security Risk Manager shall ensure the completed EA/RAF along with all necessary signatures/approvals, either physical or electronic, are filed with the reviewing Security POC / Team. 8. The Security Risk Manager, Security POC / Team, and Risk Acceptance Approver as well as other involved parties 	R	C	
204	5	Exception Request / Risk Assessment	12.3.2	The entity tracks and documents risks in accordance with the chart provided in Appendix A.	R	N/A	Timelines allow for thorough regression and interoperability testing before applying a patch to the production network
205	5	Exception Request / Risk Assessment	12.4	Risk assessments are reviewed periodically in compliance with the following timeframes: Critical 0 Months High 3 Months	R	C	
206	5	Exception Request / Risk Assessment	12.5	Any change to the circumstances identified in the EA/RAF that affect the associated risk is immediately documented and submitted through the EA/RAF process.	R	C	
207	5	Exception Request / Risk Assessment	12.6.1-.3	When conducting risk assessments, vulnerability assessments, and impact assessments they should be conducted using the guidance provided in sections 12.6 Risks are identified and assessed IAW Para 12.6.1 through 12.6.3.	BP	CP	The majority of the section and field content are included.
208	5	Exception Request / Risk Assessment	12.6.8	The EA/RAF should comply with the requirements of Para 12.6.8.	BP	CP	The majority of the section and field content are included.
209	6	Hiring Practices	4.2	Does the organization have a Hiring Practice Policy?	R	C	
210	7	Incidence Response	13 & 4.2	Has a formal, written Incident Response Plan detailing how the organization will respond to a computer security incident been created?	R	C	
211	7	Incidence Response	7.2.6	Are software and/or data changes initiated due to outage/recovery process documented and retained until it is determined the production system and data were not corrupted?	R	C	
212	7	Incidence Response	7.5.5	Have Business Continuity/Disaster Recovery (BC/DR) procedures been developed and tested?	R	C	
213	7	Incidence Response	7.5.5	Do the plans allow for the 'Worst Case' event (i.e. Incident Recovery outside 50 miles from normal location)?	R	C	
214	7	Incidence Response	7.5.5	Are BC/DR drills conducted at least annually?	R	C	
215	8	Information Classification and Protection	5	Does the organization have an Information Classification and Protection Policy that encompasses both administrative and production systems?	BP	C	
216	8	Information Classification and Protection	5.10.1	Does the organization have disposal procedures for hard copy or printed sensitive data?	BP	C	
217	8	Information Classification and Protection	5.10.2	Does the organization have sanitation procedures for media/devices containing sensitive data?	BP	C	
218	8	Information Classification and Protection	5.2.1	Have Data Owner responsibilities been defined?	BP	C	
219	8	Information Classification and Protection	5.2.2	Have Data Custodian responsibilities been defined?	BP	C	

220	8	Information Classification and Protection	5.2.3	Are Data Classifications defined and used?	BP	C	
221	8	Information Classification and Protection	5.4.6	Is sensitive data received from a third party treated as if it were internal sensitive data?	BP	C	
222	8	Information Classification and Protection	5.5	When receiving information where the classification of information is unknown, does the organization treat it as Sensitive (Internal Use Only) until the proper classification is determined or it is determined to be Public Information by the originator or other applicable laws and regulations?	BP	C	
223	8	Information Classification and Protection	5.6	Does the organization protect classified information from unauthorized access?	BP	CP	Classification is not currently used in making access decisions, however, access to specific datasets is restricted to vetted employees and/or contractors.
224	8	Information Classification and Protection	5.7	Does the organization encrypt stored or transmitted classified information using AES Encryption Algorithm?	BP	CP	Encryption is not used in protected trusted zones in all cases.
225	8	Information Classification and Protection	5.7	Does the organization have a policy for removing Mobile Computing Devices with classified data from the NG9-1-1 Entity?	BP	C	
226	8	Information Classification and Protection	5.8	Does the entity utilize recorded/certified delivery for transporting sensitive data or media/devices containing sensitive data?	BP	C	
227	9	Physical Security	4.2	Does the organization have a Physical Security Policy?	R	C	
228	9	Physical Security	6.5	Does the Public Safety entity require annual Security Awareness Training?	R	C	
229	9	Physical Security	6.5	Have all Public Safety employees completed the annual Security Awareness Training?	R	C	
230	9	Physical Security	6.6	Does the entity have procedures for reporting any suspicious or unusual activity which may indicate an attempt to breach the Public Safety networks and systems?	R	C	
231	9	Physical Security	8	Is the entity is physically secured and protected from theft, misappropriation, misuse, and unauthorized access, and damage?	R	C	
232	9	Physical Security	8.1	Doors with security mechanisms shall not be propped open.	R	C	
233	9	Physical Security	8.1	Employees, suppliers, contractors and agents authorized to enter a controlled physical access area shall not allow unidentified, unauthorized or unknown persons to follow them through a controlled access area entrance.	R	C	
234	9	Physical Security	8.1	Each person entering a controlled access facility shall follow the physical access control procedures in place for that facility.	R	C	
235	9	Physical Security	8.1	Personnel shall be vigilant while inside the building and challenge and/or report unidentified persons including persons not displaying identification badges who have gained access.	R	C	
236	9	Physical Security	8.1	When automated access control and logging devices are installed, personnel shall use them to record their entry and exit.	R	C	
237	9	Physical Security	8.2.1	Personnel authorized with reoccurring unescorted access do not loan or share physical access devices or codes with another person?	R	C	
238	9	Physical Security	8.2.1.1	Non-employees granted reoccurring access are sponsored by NG9-1-1 management personnel?	R	C	
239	9	Physical Security	8.2.1.1	Does the facility's Physical Security Policy comply with all federal, state, and local laws?	R	C	
240	9	Physical Security	8.2.1.2	Identification badges containing a picture of the holder shall be issued to all residents of buildings containing information resources.	R	C	
241	9	Physical Security	8.2.1.2	Are ID Badges with picture issued to all residents of buildings containing information resources	R	C	
242	9	Physical Security	8.2.1.2	If the facility is guarded, identification badge is displayed to the guard on entry?	R	C	

243	9	Physical Security	8.2.1.2	Are persons on NG9-1-1 Entity premises required to present identification badges for examination and/or validation upon request?	R	C	
244	9	Physical Security	8.2.1.2	Building residents and non-residents with reoccurring access who do not have a valid identification badge in their possession are signed in and vouched for by an authorized building resident who possesses and displays a valid picture identification badge?	R	C	
245	9	Physical Security	8.2.1.2	Are temporary identification badge issued to all persons who do not have a permanent identification badge when entering the facility?	R	C	
246	9	Physical Security	8.2.1.2	Are persons who do not have a permanent identification badge escorted while in the facility?	R	C	
247	9	Physical Security	8.4.1	All portable computing devices in work areas are kept physically secure?	R	C	
248	9	Physical Security	8.4.1	When equipped with locks, portable computing devices are kept locked to prevent theft.	R	C	
249	9	Physical Security	8.4.1	Keys are stored in a secure location	R	C	
250	9	Physical Security	8.4.1	Docking station style portable devices are stored in a secure location when not in use.	R	C	
251	9	Physical Security	8.4.1	Docking station style portable devices are not left unattended outside normal working hours even when in the docking station	R	C	
252	9	Physical Security	8.4.1	Other portable devices are stored in a locked cabinet, drawer, or office (not just the building) when not in use	R	C	
253	9	Physical Security	8.4.1	Extra security precautions are implemented in and around the receiving, staging, assembly, and storage areas used for large deployments of portable computing devices	R	C	
254	9	Physical Security	8.4.2	Vigilance is maintained in airport luggage inspection and transfer areas, hotel check in and checkout areas and other public areas	R	C	
255	9	Physical Security	8.4.2	Devices are not left unattended in conference rooms, etc.	R	C	
256	9	Physical Security	8.4.2	Devices are not exposed to extreme heat or cold.	R	C	
257	9	Physical Security	8.5	Information resources are protected by a UPS system and/or a 'mirrored site' second location not subject to the same power outage.	R	C	
258	9	Physical Security	8.5	All buildings and critical support facilities have protective physical measures in place.	R	C	
259	9	Physical Security	8.6.1	Server Rooms, Data Centers, Wire Closets, and any other critical locations have limited and controlled access	R	C	
260	9	Physical Security	8.6.1	Raised floors or suspended ceilings do not allow physical access to limited access areas.	R	C	
261	9	Physical Security	8.6.2.1	The facility has a fire protection/detection system which meets code and is maintained and inspected at regular intervals.	R	C	
262	9	Physical Security	8.6.2.2	If sprinkler systems are provided, fire retardant polyethylene sheeting is readily available to protect media and equipment.	R	CP	The ESInet complies for media. In some locations there are dry pipe water-based sprinkler systems and the area is too large to cover with sheeting. The ESInet has multiple redundant sites that immediately support call processing when one physical location is compromised.
263	9	Physical Security	8.6.2.4	Cooling equipment is installed and in good working order.	R	C	
264	9	Physical Security	8.6.2.5	HVAC systems are used to maintain environmental conditions meeting manufacturer's requirements and are supported by backup power systems dedicated.	R	C	
265	9	Physical Security	8.7.1	Network equipment and access to cabling and physical wiring infrastructure are secured with appropriate physical access controls.	R	C	
266	9	Physical Security	8.7.2	Active network jacks and connections are located only in physically secured locations (i.e., entity owned or leased space, in locked cabinets, or protected by locked physical barriers).	R	C	
267	9	Physical Security	8.7.3	Unused network connections are disabled or removed in a timely manner.	R	C	
268	9	Physical Security	8.7.4	Network Media are selected and located so as to minimize the possibility of wiretapping, eavesdropping, or tampering.	R	C	

269	10	Compliance Audits and Reviews	11	Internal audits are, at minimum, conducted annually.	R	C	
270	10	Compliance Audits and Reviews	11	Findings from such assessments are subject to corrective actions and are applied to the satisfaction of the auditing entity.	R	C	
271	10	Compliance Audits and Reviews	11	External security audits are conducted at a minimum, once every 3 years	R	C	
272	10	Compliance Audits and Reviews	11	Security audits utilize various methods to assess the security of networks and processes, applications, services, and platforms. Suggested methods include automated tools, checklists, documentation review, penetration testing, and interviews	R	C	
273	11	Network / Firewall / Remote Access	7.2.8.1	Before deployment of new forms of communication, a risk assessment should be conducted in accordance with: The impact of resource availability The business justification or importance of the service or data to use a specific communication method. The utility of the service compared to the security risk The false positive rate (e.g. the possibility this new form of communication can generate false alarms while there are no security vulnerabilities) The false negative rate (e.g. the potential of unknown new vulnerability is introduced by this new technology while the vulnerabilities are undetected) The legal status (e.g. liability, contract language, recording as evidence, authority to access information, and privacy limitations) The volume (normal, bandwidth, latency, diversity/redundancy induced denial of service etc.)	BP	C	
274	11	Network / Firewall / Remote Access	4.2	Does the organization have a Remote Access Policy?	R	C	
275	11	Network / Firewall / Remote Access	9	No remote access is permitted to any NG9-1-1 Entity unless addressed by contract, employee policy, or similar legal instrument which contains adequate security language as determined by a security professional?	R	C	
276	11	Network / Firewall / Remote Access	9.1	Networks are segmented by business and technical functions to allow appropriate levels of protection be created while not placing unneeded restrictions on lesser risk areas	R	C	
277	11	Network / Firewall / Remote Access	9.1	All boundaries and points of ingress and egress are clearly defined for each network?	R	C	
278	11	Network / Firewall / Remote Access	9.1.1	Firewalls have been established at all boundary points to control traffic in and out.	R	C	
279	11	Network / Firewall / Remote Access	9.1.1	Firewalls use "fail all" as default?	R	C	
280	11	Network / Firewall / Remote Access	9.1.1	Application Layer Firewalls are in use (recommended)	BP	C	
281	11	Network / Firewall / Remote Access	9.1.10	Firewall logs are retained in accordance with applicable information retention requirements?	R	C	
282	11	Network / Firewall / Remote Access	9.1.10	Logs are replicated off of the firewall?	BP	C	
283	11	Network / Firewall / Remote Access	9.1.11	Identification, authentication, and access rights to log data are controlled to preserve the chain of custody for evidentiary purposes?	R	C	
284	11	Network / Firewall / Remote Access	9.1.2	Access through firewalls is governed by an established policy defining clear guidelines for what is or will be allowed?	R	C	
285	11	Network / Firewall / Remote Access	9.1.3	At a minimum, restriction of source and destination IP addresses are specific to individual addresses?	R	C	
286	11	Network / Firewall / Remote Access	9.1.3	The security risks for every host or platform within the network range or subnet are evaluated?	R	C	
287	11	Network / Firewall / Remote Access	9.1.4	The Firewall Administrator has minimized the number of ports exposed or permitted through the firewall? Clarifying note: the firewall administrator should be employing the least-access necessary privilege to ensure that only the necessary ports required for operation are permitted through the firewall.	R	C	

288	11	Network / Firewall / Remote Access	9.1.5	All Firewall Administrators are highly qualified and experienced and have an in depth knowledge and/or experience in firewall support and management, various operating systems including application and operating system protocols (ports and sockets), networking, routing, LAN/WAN technologies and associated security implications? (Auditor Guidance: Qualifications considered are, industry and or vendor certifications with various firewall products)	R	C	
289	11	Network / Firewall / Remote Access	9.1.6	Is the use of ports used by the operating system or infrastructure functions and features across network boundaries strictly controlled at the firewall?	R	C	
290	11	Network / Firewall / Remote Access	9.1.7	Firewall rules are reviewed at least once per year to verify continued need?	R	C	
291	11	Network / Firewall / Remote Access	9.1.8	Firewalls are accessed at least annually to address vulnerabilities identified since the last inspection?	R	C	
292	11	Network / Firewall / Remote Access	9.1.9	All firewalls must log traffic with at minimum, source and destination addresses and ports are captured along with relevant time stamps and actions by the firewall.	R	C	
293	11	Network / Firewall / Remote Access	9.2	No remote access is allowed to any NG9-1-1 Entity unless addresses by contract, employee policy, or similar legal instrument which contains adequate security language as determined by a security professional	R	C	
294	11	Network / Firewall / Remote Access	9.2.1	Client based VPNs and/or consolidated modem pools are operated by NG9-1-1 Entity security personnel or personnel contracted for the purpose.	R	C	
295	11	Network / Firewall / Remote Access	9.2.1	Strict control is maintained for the VPN and/or consolidated modem infrastructures as they enable access to the NG9-1-1 Entity from public networks such as the Internet or public switched telephone network	R	C	
296	11	Network / Firewall / Remote Access	9.2.1	All client based VPNs utilize industry standard technologies.	R	C	
297	11	Network / Firewall / Remote Access	9.2.1	All client based VPNs and/or consolidated modem pools access utilize strong authentication which includes single use passwords.	R	C	
298	11	Network / Firewall / Remote Access	9.2.1	All client based VPNs and/or consolidated modem pools access are controlled by a Firewall.	R	C	
299	11	Network / Firewall / Remote Access	9.2.1	All client based VPNs and/or consolidated modem pools access are logged.	R	C	
300	11	Network / Firewall / Remote Access	9.2.2	If directly attached modems are used, have they been approved using the exception methodology in Section 12?	R	N/A	Modems are not used with the ESInet service
301	11	Network / Firewall / Remote Access	9.2.2	Directly attached modems utilize industry standard third party authentication schema.	R	N/A	Modems are not used with the ESInet service
302	11	Network / Firewall / Remote Access	9.2.2	Use of only 'secured modems' is permitted. Uncontrolled use of modems can result in serious vulnerabilities and shall use risk mitigation measures	R	C	
303	11	Network / Firewall / Remote Access	9.2.2	When such modems are utilized through approved exception, they meet all criteria established for client based VPN or consolidated modem pools. Including firewall access controls and single use passwords.	R	N/A	Modems are not used with the ESInet service
304	11	Network / Firewall / Remote Access	9.2.2	An accurate inventory of directly attached modems is maintained.	R	C	
305	11	Network / Firewall / Remote Access	9.2.2	Other modem technologies which shall be considered include "dial/dial back", only when primary access means is down or attached only to devices which have strong authentication mechanisms.	R	C	
306	11	Network / Firewall / Remote Access	9.2.2	The use of modems which are directly attached to servers, routers, switches, or other such equipment is strongly discouraged and should be prohibited by default	BP	C	
307	11	Network / Firewall / Remote Access	9.3.1	When using private facility networks such as T1, DS-2, etc., whenever possible the network technologies should be always considered in lieu of communications over public transport	BP	C	

308	11	Network / Firewall / Remote Access	9.3.1	Organizations should evaluate the importance of the data traversing the network and determine if encryption is appropriate to meet the necessary privacy levels (note: Use of these network technologies does not necessarily preclude the need for end to end encryption)	BP	C	
309	11	Network / Firewall / Remote Access	9.3.2	Communications over the Internet must be encrypted using IPSEC or SSL.	R	C	
310	11	Network / Firewall / Remote Access	9.3.2	If using endpoint authentication it has been implemented using either certificates or similar credentials.	R	C	
311	11	Network / Firewall / Remote Access	9.3.2	When using Internet protocols, industry standard protocols are to be used with minimum key length of 128 bit.	R	C	
312	11	Network / Firewall / Remote Access	9.3.3	When external connections are clearly identified as un-trusted, a firewall must be utilized to control communication between the external endpoint or network and the NG9-1-1 environment.	R	C	
313	11	Network / Firewall / Remote Access	9.3.4	When applications require access from external, public transport (i.e. Internet) they have been placed on a DMZ or employ network based encryption and authentication.	R	C	
314	11	Network / Firewall / Remote Access	9.4	When using Intrusion Detection / Prevention technologies they shall be positioned on internal networks at strategic locations. Note: use of IPS/IDS is not mandatory.	R	C	
315	11	Network / Firewall / Remote Access	9.4	When using Intrusion Detection / Prevention technologies, their signatures must be routinely updated with processes that include well defined schedules for signature updates and emergency update protocols for high risk and zero day events.	R	C	
316	11	Network / Firewall / Remote Access	9.5	When used, technologies such as VLAN, VRF, or VPN are classified as required in section 9.3 and once classified they are treated as separate networks.	R	C	
317	11	Network / Firewall / Remote Access	9.5	All support equipment for virtual or logical networks shall have a management tunnel for support and monitoring.	R	C	
318	11	Network / Firewall / Remote Access	9.5	All support equipment for virtual or logical networks limits user group access to the particular virtual facilities when possible.	R	C	
319	11	Network / Firewall / Remote Access	9.5	Commands (like Telnet), which allow direct access between virtual facilities, are disabled or is only allowed under the highest administrative privilege supported by the device.	R	C	
320	11	Network / Firewall / Remote Access	9.5	Layer 3 interactions between networks of differing security classifications are only done using a firewall or similar device.	R	C	
321	11	Network / Firewall / Remote Access	9.5	User access to devices supporting multiple virtual networks should utilize an industry standard authentication and access control protocol such as TACACS or RADIUS.	BP	CP	Local authentication must be available as a fallback.
322	12	Security Enhancement Technical Upgrade	4.2	Does the organization have a Security Enhancement/Technology Upgrade Policy?	R	C	
323	12	Security Enhancement Technical Upgrade	6.7	Do the design, development, administration, and use of any computer resource, network, system, or application always enable compliance with security policies and requirements to its intended use?	R	C	
324	12	Security Enhancement Technical Upgrade	6.7	Is incorporating security into new products, services, systems, and networks before they are deployed a priority?	R	C	
325	12	Security Enhancement Technical Upgrade	6.7	Is a security assessment of controls and procedures conducted and documented before deployment to certify compliance with security policy and is this document retained as evidence for any future audit?	R	C	
326	12	Security Enhancement Technical Upgrade	7.2.8	Is a full business and security assessment conducted for any new form of communications prior to it being connected to the NG 9-1-1 environment?	R	C	
327	12	Security Enhancement Technical Upgrade	7.2.8.2	Are communication partners and the full scope of products subjected to full risk assessment?	BP	CP	A risk assessment is performed to the fullest extent possible.

328	12	Security Enhancement Technical Upgrade	7.2.8.3.1	Are Client Software Add-ons ("plug ins") assessed for security risks?	R	CP	A level of testing is performed
329	12	Security Enhancement Technical Upgrade	7.2.8.3.1	Is client software configured to disallow auto installation of software add-on or plug-ins?	R	C	
330	12	Security Enhancement Technical Upgrade	7.2.8.3.1	Are new add-ons or plug-ins tested prior to installation?	R	CP	A level of testing is performed
331	12	Security Enhancement Technical Upgrade	7.2.8.5	If the NG 9-1-1 Entity uses a VoIP system it does not connect to another VoIP System without securing the connection?	R	C	
332	12	Security Enhancement Technical Upgrade	9.6.1	Network redundancy is considered and implemented where possible for On-Site / Local High Availability environments.	R	C	
333	12	Security Enhancement Technical Upgrade	9.6.2	Network diversity is considered and implemented where possible when implementing NG9-1-1 networks.	R	C	
334	12	Security Enhancement Technical Upgrade	9.6.2	Traffic failover between different cities and firewall sites can result in dropping sessions at the time of failure. When employing applications in a network diversity-type model, applications shall be designed to recover such events and users advised to proper "restart" procedures in case such a failover event happens	R	C	
335	13	Technical Solutions Standards	10	Formalized pre and post security reviews are conducted when changes to architecture, design, or engineering of NG9-1-1 networks.	R	C	
336	13	Technical Solutions Standards	10	Security reviews are conducted by the NG91-1 security representative and any 3rd party vendors.	R	C	
337	13	Technical Solutions Standards	10	When changes to architecture, design, or engineering of NG9-1-1 network are made, a formal change control process is followed and appropriate documentation is produced and retained.	R	C	
338	13	Technical Solutions Standards	10	When architecture, design, or engineering are major, a team of Subject Matter Experts is assembled to review and approve the change.	R	C	
339	13	Technical Solutions Standards	4.2	Does the organization have a Technology Selection Policy?	R	C	
340	13	Technical Solutions Standards	7.4.2	Is time synchronization in accordance with the NENA 04-002 NG9-1-1 Entity Master Clock standard?	R	C	
341	13	Technical Solutions Standards	7.4.4	Do formal documented procedures exist for any changes to computer systems and operating systems software?	R	C	
342	13	Technical Solutions Standards	7.4.4	Are the procedures identified in the preceding finding followed?	R	C	
343	13	Technical Solutions Standards	7.4.4	Is the appropriate level of authorization required and obtained prior to change?	R	C	
344	13	Technical Solutions Standards	7.4.4	Does the System Administrator control software changes that affect the operation of an application, operating system, or utilities?	R	C	
345	13	Technical Solutions Standards	7.4.4	Does the System Administrator control updates and upgrades that could affect user response, machine performance or operations, security, or system availability?	R	C	
346	13	Technical Solutions Standards	7.4.4	Has a detailed audit trail of all modifications to network hardware and software been created, retained, and reviewed at least annually?	R	CP	Policies and processes are in place for ESInet systems. Annual reviews are provided upon request
347	13	Technical Solutions Standards	7.4.4	Are records of all system/application changes kept at least one year or the last major upgrade whichever is longer?	R	C	
348	13	Technical Solutions Standards	7.4.4	Do System Controls identify accountability for all program changes to a specific programmer and approving manager?	R	C	
349	13	Technical Solutions Standards	7.4.4	Excepting reporting procedures are built into the system software to detect computer program, communications and operations failures. .	R	C	

350	13	Technical Solutions Standards	7.4.4	Are error checking and validation controls are present in software?	R	C	
351	13	Technical Solutions Standards	7.4.4	Current complete backups are ALWAYS present prior upgrades to provide recovery capability in the event of system problems due to the changes?	R	C	
352	13	Technical Solutions Standards	7.4.4	If System Administration or Maintenance is outsourced all records kept by such agencies are available to the NG 9-1-1 Entity?	R	C	
353	13	Technical Solutions Standards	7.4.5	Have procedures been instituted to verify and document that the business hardware and software are currently supported by the manufacturer or supplier that advisories are issued and fixes are made available for any newly discovered security vulnerability?	R	C	
354	13	Technical Solutions Standards	7.4.5	Are Temporary Fixes applied when Permanent Fixes are not yet available and are Permanent Fixes applied promptly when they become available?	R	C	
355	13	Technical Solutions Standards	7.4.5	A process is in place which ensures all applicable Permanent fixes are installed and Temporary Fixes cannot become disabled until Permanent Fixes have been installed?	R	C	
356	13	Technical Solutions Standards	7.4.5	Are all Permanent or Temporary fixes tested prior to using them in a production environment?	R	C	
357	13	Technical Solutions Standards	7.4.6	Servers, workstations, desktops, or laptops shall be hardened utilizing recognized 'Best Practices for Operating System Hardening' like the National Institute	R	C	
358	13	Technical Solutions Standards	7.4.6	All unused services are disabled and end users do not have local administrator rights?	R	CP	Local administrator rights are restricted for some, but not all users in the organization. Justification related to employee role is required for end users who have local administrator rights.
359	13	Technical Solutions Standards	7.5.2	Has the entity identified all 'single point of failure' items for their system and have the alternate strategies been planned and documented?	R	C	
360	13	Technical Solutions Standards	7.5.2	Is a plan in place to distribute the 'downtime window' if possible?	R	C	
361	13	Technical Solutions Standards	7.5.2	Is equipment managed and monitored so if one element is down the entity and management are notified?	R	C	
362	13	Technical Solutions Standards	7.5.3	Is 'geographic redundancy' available. If so, are procedures in place for activation, use, and testing of the alternate site. Are the results of testing documented	R	C	
363	13	Technical Solutions Standards	7.5.3	Are the results of testing of failover procedures documented?	R	C	
364	14	Wireless Security	4.2	Does the organization have a Wireless Policy?(Auditor Guidance: if no wireless technologies are in place, then this finding, and all subsequent findings is not applicable. All requirements of this document also apply to communications in the 4.9G Hz band)	R	N/A	The ESInet does not implement any wireless technology
365	14	Wireless Security	6.4.6.1	Default router management passwords have been changed and is treated as an Administrator level password for syntax, history, and periodically changed?	R	N/A	The ESInet does not implement any wireless technology
366	14	Wireless Security	6.4.6.1	Router management over wireless link is disabled. Router management uses an encrypted protocol?	R	C	
367	14	Wireless Security	6.4.6.1	The SSID has been changed from the Default value to an identifier not easily associated with the NG 9-1-1 or easily guessed	R	N/A	ESInet does not implement any wireless technology
368	14	Wireless Security	6.4.6.1	SSID broadcast is disabled?	R	N/A	ESInet does not implement any wireless technology
369	14	Wireless Security	6.4.6.1	Wireless encryption is enabled WPA or greater is used? (Auditor Guidance: WEP is not allowed)	R	N/A	ESInet does not implement any wireless technology
370	14	Wireless Security	6.4.6.1	The TKIP passphrase is non-trivial and meets the requirements of this document?	R	N/A	ESInet does not implement any wireless technology
371	14	Wireless Security	6.4.6.1	The rekey maximum is no greater than 3600 seconds?	R	N/A	ESInet does not implement any wireless technology
372	14	Wireless Security	6.4.6.1	The WIFI LAN is dedicated to the NG 9-1-1 entity and not shared with any other entity?	R	N/A	ESInet does not implement any wireless technology
373	14	Wireless Security	6.4.6.1	Media Access Control (MAC) address filters are enabled and MAC Filter List is reviewed at least monthly and immediately after a machine is retired from the network?	R	N/A	ESInet does not implement any wireless technology

374	14	Wireless Security	6.4.6.1	Ad hoc modes are disabled?	R	N/A	ESinet does not implement any wireless technology
375	14	Wireless Security	6.4.6.1	Users should be authenticated to the wireless LAN using a two factor mechanism or emerging authentication standards like 802.1x?	BP	N/A	ESinet does not implement any wireless technology
376	14	Wireless Security	6.4.6.1	The WIFI LAN should be separated from other networks by a firewall which limits access to and from the wireless network on an exception only basis.	BP	N/A	ESinet does not implement any wireless technology
377	14	Wireless Security	6.4.6.1	Use of Intrusion Detection Systems (IDS) is encouraged on WIFI LANs	BP	N/A	ESinet does not implement any wireless technology
378	14	Wireless Security	6.4.6.1	Maximum encryption key lengths supported by the device should be utilized	BP	N/A	ESinet does not implement any wireless technology
379	14	Wireless Security	6.4.6.1	The WIFI LAN hardware should utilize a third party authentication service for management(such as TACAS, Radius) when supported	BP	N/A	ESinet does not implement any wireless technology
380	14	Wireless Security	6.4.6.1	The default SSID channel should be changed from its default value	BP	N/A	ESinet does not implement any wireless technology
381	14	Wireless Security	6.4.6.1	If DHCP is used, automatic assignment of other services(e.g. DNS servers, WINS servers) is allowed and should be reviewed in concert with the overall security plan	BP	N/A	ESinet does not implement any wireless technology
382	14	Wireless Security	6.4.6.1	DHCP should be disabled and require static IP Addresses for connected devices. If DHCP must be used the DHCP scope(range of addresses) should be kept to a minimum	BP	N/A	ESinet does not implement any wireless technology
383	14	Wireless Security	6.4.6.1	The WIFI LAN should utilize a Network Access Control technology to ensure proper patching and malicious software screening is performed on all LAN assets. At minimum, use of a rogue machine device detection capability is strongly recommended.	BP	N/A	ESinet does not implement any wireless technology
384	14	Wireless Security	6.4.6.2	Bluetooth shall not be used for backup of any medium or device which contains sensitive (internal data only) or greater data.	R	C	
385	14	Wireless Security	6.4.6.2	If Bluetooth is used is shall be configured to require device identifiers.	R	C	
386	14	Wireless Security	6.4.6.2	Presence of frequency hopping, phase shifting, device serialization, or other technologies alone shall not satisfy encryption or identification requirements	R	C	
387	14	Wireless Security	6.4.6.2	Bluetooth wireless networks should be avoided, where possible, including wireless headsets and other human interface devices such as mice and keyboards	BP	C	
388	14	Wireless Security	6.4.6.3	Does the entity use the 4.9 MHz band spectrum licensed by the FCC?	R	N/A	The ESinet does not implement any wireless technology
389	14	Wireless Security	6.4.6.3	If the 4.9 MHz band is used are all communications encrypted and all authentication, authorization, and accountability policies complied with?	R	N/A	ESinet does not implement any wireless technology
390	14	Wireless Security	6.4.6.3	If the 4.9 MHz band is used a Firewall is deployed at the network boundary	R	N/A	ESinet does not implement any wireless technology
391	14	Wireless Security	6.4.6.3	All communications on the 4.9G Hz band should be encrypted?	BP	N/A	See Check List item # 388
392	14	Wireless Security	6.4.6.3	Authentication, authorization, and accountability should be maintained.	BP	N/A	See Check List item # 388
393	14	Wireless Security	6.4.6.4	Each of these technologies(i.e. 3G, EDGE, etc.) should be regarded as a "remote access" capability and all security standards relevant to remote access found in this document are applicable	R	C	
394	14	Wireless Security	6.5	Does the NG 9-1-1 entity require contracting agencies to hold specific or certain certifications to prove compliance with this requirement?	R	N/A	ESinet does not implement any wireless technology.
395	14	Wireless Security	6.5	Entities responsible for system and security administration (including those contracted to do such tasks) employ individuals who have received current security training on their assigned systems.	R	C	
396	14	Wireless Security	6.5	All Public Safety employees receive complete security awareness training as established by each Public Safety Organization on an annual basis?	R	C	

This Page was Intentionally Left Blank



Exhibit B: CSRIC Best Practices

This section contains the NENA 75-502, NENA NG-SEC Audit Checklist.





This Page was Intentionally Left Blank





PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: <http://www.fcc.gov>
TTY: 1-888-835-5322

DA 12-891

Released: June 6, 2012

FCC'S PUBLIC SAFETY AND HOMELAND SECURITY BUREAU REMINDS TELECOMMUNICATIONS SERVICE PROVIDERS OF IMPORTANCE OF IMPLEMENTING ESTABLISHED 9-1-1 AND ENHANCED 9-1-1 SERVICES BEST PRACTICES

The Federal Communications Commission's (FCC's) Public Safety and Homeland Security Bureau (Bureau) encourages telecommunications service providers to adhere to 9-1-1/Enhanced 9-1-1 (9-1-1/E9-1-1) service best practices developed by the former Network Reliability and Interoperability Council (NRIC)¹ and by its replacement the Communications Security, Reliability and Interoperability Council.² Specifically, the Bureau reminds telecommunications service providers of the importance of providing diversity and redundancy in the provisioning of 9-1-1/E9-1-1 services. The need to maintain diversity and relevant best practices were addressed also in a March 2010 Bureau public notice,³ and the Bureau reiterates the importance of these practices to reliable and continuous 9-1-1/E9-1-1 service.

Based on submissions in the Commission's Network Outage Reporting System (NORS)⁴ and publicly available data, the Bureau has observed a number of major 9-1-1/E9-1-1 service outages caused by inadequate diversity and/or the failure to maintain diversity. Most of these major outages could have been prevented if existing NRIC best practices had been followed. In one recent case, the location information for wireless 9-1-1 calls from a 9-1-1 service provider entered a wireline carrier's network at two diverse entry points. The wireline carrier had two diverse Automatic Location Identification (ALI)⁵ databases to send the location information on wireless 9-1-1. However, all physical paths from the two diverse entry points had a single point of failure, resulting in an outage that impacted service to a significant number of PSAPs covering a large geographic region.

¹ The Network Reliability and Interoperability Council (NRIC) was a Federal Advisory Committee to advise the Commission regarding network reliability and interoperability. Many telecommunications service providers participated in NRIC and the process of developing and recommending best practices.

² Communications Security, Reliability and Interoperability Council (CSRIC), a Federal Advisory Committee on which many 9-1-1/E9-1-1 service providers are represented, is currently tasked with recommending best practices and other actions the Commission can take to enhance the security, reliability and operability of communications systems, including 9-1-1/E9-1-1. CSRIC II Working Group 4A recently recommended additional best practices for 9-1-1 and E9-1-1, available at <http://transition.fcc.gov/pshs/advisory/csrlic/>.

³ *FCC'S Public Safety And Homeland Security Bureau Reminds Telecommunications Service Providers Of Importance Of Implementing Advisory Committee 9-1-1 And Enhanced 9-1-1 Services Best Practices*, Public Notice, DA10-494, released March 24, 2010.

⁴ The Network Outage Reporting System (NORS) is the Internet-based filing system through which communications providers submit reports of service disruptions to the FCC. See 47 C.F.R. Part 4.

⁵ The Automatic Line Identification feature automatically provides the location of the E9-1-1 caller to the PSAP.

NRIC best practice 7-7-0566 addresses 9-1-1/E9-1-1 communications services and specifically identifies the need for diversity in equipment and lines used to provide 9-1-1/E9-1-1 communications services. The Bureau reminds service providers of this best practice and two others that could help prevent the type of major 9-1-1/E9-1-1 outages we have recently observed.

8-7-0566: Network Operators and Service Providers should consider placing and *maintaining* 9-1-1 circuits over diverse interoffice transport facilities (e.g., geographically diverse facility routes, automatically invoked standby routing, diverse digital cross-connect system services, self-healing fiber ring topologies, or any combination thereof).⁶ (Emphasis added.)

8-8-0575: Network Operators and Service Providers should deploy Diverse Automatic Location Identification systems used in Public Safety (e.g., Automatic Location Identification and Mobile Positioning Center systems) in a redundant, geographically diverse fashion (i.e., two identical ALI/MPC data base systems with mirrored data located in geographically diverse locations).⁷

8-7-0532: Diversity Audit - Network Operators should periodically audit the physical and logical diversity called for by network design and take appropriate measures as needed.⁸

The need to maintain diversity in 9-1-1/E9-1-1 service connections was also recognized by the Alliance for Telecommunications Industry Solutions (ATIS) in its National Diversity Assurance Initiative,⁹ which found that maintaining physical diversity requires periodic audits. In arriving at this conclusion, ATIS established ten diverse pairs of circuits and found that only four were still physically diverse one year later.

All NRIC best practices are available on the Commission's website in a searchable database at <https://www.fcc.gov/nors/outage/bestpractice/BestPractice.cfm>.

For further information, contact Jeffery Goldthorp, Associate Chief for Cybersecurity and Communications Reliability, Public Safety and Homeland Security Bureau, (202) 418-1096, jeffery.goldthorp@fcc.gov or John Healy, Assistant Chief, Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau, (202) 418-2448, john.healy@fcc.gov.

⁶ Available at <https://www.fcc.gov/nors/outage/bestpractice/ProcessBestPractice.cfm?RequestTimeout=500> (last visited May 31, 2012).

⁷ *Id.*

⁸ *Id.*

⁹ Alliance for Telecommunications Solutions (ATIS), National Diversity Assurance Initiative Final Report, February 2006, available at http://transition.fcc.gov/bureaus/pshs/docs/clearinghouse/ATIS_NDAI_Final_Report_2006.pdf (last visited May 31, 2012).



Exhibit C: FCC Rules and Regulations for VoIP 9-1-1

This section contains the FCC Rules and Regulations for VoIP 9-1-1.





This Page was Intentionally Left Blank



Federal Communications Commission

FCC 05-116

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matters of)	
)	
IP-Enabled Services)	WC Docket No. 04-36
)	
E911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

**FIRST REPORT AND ORDER
AND
NOTICE OF PROPOSED RULEMAKING**

Adopted: May 19, 2005

Released: June 3, 2005

**Comment Date: [45 days after publication in the Federal Register]
Reply Comment Date: [75 days after publication in the Federal Register]**

By the Commission: Chairman Martin, and Commissioners Abernathy, Copps and Adelstein issuing separate statements.

TABLE OF CONTENTS

	Paragraph
I. INTRODUCTION.....	1
II. BACKGROUND.....	6
A. History of 911 Service	6
B. 911 Technical and Operational Issues	11
C. The IP-Enabled Services Notice	19
D. The Vonage Order	20
E. NENA Standards Development.....	21
III. DISCUSSION.....	22
A. Scope	23
B. Authority	26
C. Requirements.....	36
D. 911 Funding.....	52
E. Liability.....	54
IV. NOTICE OF PROPOSED RULEMAKING.....	56
V. PROCEDURAL MATTERS	64
VI. ORDERING CLAUSES	73
APPENDIX A – LIST OF COMMENTERS	
APPENDIX B – FINAL RULES	
APPENDIX C – REGULATORY FLEXIBILITY ANALYSES	

Federal Communications Commission

FCC 05-116

I. INTRODUCTION

1. In this Order, we adopt rules requiring providers of interconnected voice over Internet Protocol (VoIP) service to supply enhanced 911 (E911) capabilities to their customers.¹ Interconnected VoIP providers may satisfy this requirement by interconnecting indirectly through a third party such as a competitive LEC, interconnecting directly with the Wireline E911 Network, or through any other solution that allows a provider to offer E911 service. The characteristics of interconnected VoIP services have posed challenges for 911/E911 and threaten to compromise public safety.² Thus, we require providers of interconnected VoIP service to provide E911 services to all of their customers as a standard feature of the service, rather than as an optional enhancement. We further require them to provide E911 from wherever the customer is using the service, whether at home or away from home.

2. We adopt an immediate E911 requirement that applies to all interconnected VoIP services. In some cases, this requirement relies on the customer to self-report his or her location. We intend in a future order to adopt an advanced E911 solution for interconnected VoIP that must include a method for determining a user's location without assistance from the user as well as firm implementation deadlines for that solution. To this end, we seek comment in the Notice of Proposed Rulemaking (*NPRM*) on possible additional solutions including technical options and possible timelines for implementation.

3. In many ways, our action today is a necessary and logical follow-up to the *Vonage Order* issued late last year.³ In that order, the Commission determined that Vonage's DigitalVoice service – an interconnected VoIP service – cannot be separated into interstate and intrastate communications and that this Commission has the responsibility and obligation to decide whether certain regulations apply to

¹ The term “interconnected” refers to the ability of the user generally to receive calls from and terminate calls to the public switched telephone network (PSTN), including commercial mobile radio service (CMRS) networks. See *infra* Part III.A.

² In this Order, we act on the E911 issues before the other issues pending in the *IP-Enabled Services* proceeding because of the urgent need to address public safety issues related to interconnected VoIP. For example, we are aware of a recent incident in Texas in which it was reported that a 911 call was not completed when an interconnected VoIP user dialed 911 to seek emergency assistance during a home invasion burglary. See, e.g., Attorney General of Texas, *Texas Attorney General Abbott Takes Legal Action to Protect Internet Phone Customers*, News Release (Mar. 22, 2005) <<http://www.oag.state.tx.us/oagnews/release.php?id=850&PHPSESSID=251eucngncvriholvs370jo3>>; Paul Davidson, *Net-based 911 Fight Puts Lives on Line: Regulatory Issues Among Obstacles*, USA Today (Mar. 1, 2005). In another incident, it was reported that a Connecticut woman was not able to reach an emergency dispatcher by dialing 911 using her interconnected VoIP service when her infant son needed emergency medical attention. See Connecticut Attorney General, *Attorney General, DCP Sue Broadband Phone Company for Misrepresenting Its 9-1-1 Emergency Capabilities*, Press Release (May 3, 2005) <<http://www.cslib.org/attygenl/mainlinks/tabindex4.htm>>; Marian Gail Brown, *Dialing Up Panic with 911*, Connecticut Post (May 2, 2005); see also Alicia A. Caldwell, *Pair Crusades for Better Access to 911 from High-Tech Phones*, Orlando Sentinel (May 7, 2005) (describing an incident in which a Florida mother reportedly was not able to reach an emergency dispatcher by dialing 911 using her interconnected VoIP service to get emergency medical assistance for her infant daughter); NASUCA Comments at 49-50.

³ See *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211, Memorandum Opinion and Order, 19 FCC Rcd 22404, 22405, para. 2 (2004) (*Vonage Order*), *appeal pending*, *National Ass'n of State Util. Consumer Advocates v. FCC*, No. 05-71238 (9th Cir. filed Feb. 22, 2005); *id.* at 22432, para. 44 (“[W]e intend to address the 911 issue as soon as possible, perhaps even separately.”).

Federal Communications Commission

FCC 05-116

DigitalVoice and other IP-enabled services having similar capabilities.⁴ The *Vonage Order* also made clear that questions regarding what regulatory obligations apply to providers of such services would be addressed in the pending *IP-Enabled Services* proceeding.⁵ Today, in accord with that statement, we take critical steps to advance the goal of public safety by imposing E911 obligations on certain VoIP providers, steps we believe will have support in the public safety community and the industry.⁶

4. The IP-enabled services marketplace is the latest new frontier of our nation's communications landscape. As such, new entrants and existing stakeholders are rushing to bring IP-enabled facilities and services to this market, relying on new technologies to provide a quickly evolving list of service features and functionalities. Although the Commission is committed to allowing these services to evolve without undue regulation in accord with our nation's policies for Internet services, we are, at the same time, aware of our obligation to promote "safety of life and property"⁷ and to "encourage and facilitate the prompt deployment throughout the United States of a seamless, ubiquitous, and reliable end-to-end infrastructure"⁸ for public safety. Congress has also established 911 as the national emergency number to enable all citizens to reach emergency services directly and efficiently, irrespective of whether a citizen uses wireline or wireless technology when calling for help by dialing 911.⁹ As the Commission previously has stated,¹⁰ and as commenters generally recognize, 911 service is critical to our nation's

⁴ See *Vonage Order*, 19 FCC Rcd at 22405, 22424, paras. 1, 32.

⁵ On March 10, 2004, the Commission released a Notice of Proposed Rulemaking to examine issues relating to services and applications making use of Internet Protocol (IP), including but not limited to VoIP services (collectively, "IP-enabled services"). See *IP-Enabled Services*, WC Docket No. 04-36, Notice of Proposed Rulemaking, 19 FCC Rcd 4863, 4864, para. 1 n.1 (2004) (*Notice*) (defining the term "IP-enabled services"). Comments were filed by May 28, 2004 and reply comments were filed by July 14, 2004. See *Pleading Cycle Established for Comments in IP-Enabled Services Rulemaking Proceeding*, WC Docket No. 04-36, Public Notice, 19 FCC Rcd 5589 (2004); *Wireline Competition Bureau Extends Reply Comment Deadlines for IP-Enabled Services Rulemaking and SBC's "IP Platform Services" Forbearance Petition*, WC Docket Nos. 04-29, 04-36, Public Notice, 19 FCC Rcd 10474 (2004); see also Appendix A (List of Commenters). In the *Notice*, the Commission sought comment on, among other things, the potential applicability of "basic 911," "enhanced 911," and related critical infrastructure regulation to VoIP and other IP-enabled services. See *Notice*, 19 FCC Rcd at 4898-99, para. 53. The remaining issues raised in the *Notice* will be addressed in the pending *IP-Enabled Services* proceeding.

⁶ See, e.g., *Vonage Comments* at 37 ("Vonage understands that it is in the public interest to provide customers access to emergency services, and believes that the continued development of these services is an important national priority.").

⁷ See 47 U.S.C. § 151.

⁸ Wireless Communications and Public Safety Act of 1999, Pub. L. No. 106-81, 113 Stat. 1286, § 2(b) (1999) (911 Act).

⁹ See 911 Act § 3 (codified at 47 U.S.C. § 251(e)).

¹⁰ See, e.g., *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, RM-8143, 11 FCC Rcd 18676, 18679, para. 5 (1996) (*E911 First Report and Order*) ("E911 saves lives and property by helping emergency services personnel do their jobs more quickly and efficiently."); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPCS) Memorandum of Understanding and Arrangements; Petition of the National Telecommunications and Information Administration to Amend Part 25 of the Commission's Rules to Establish Emissions Limits for Mobile and Portable Earth Stations Operating in the 1610-1660.5 MHz Band*, CC Docket No. 94-102, IB Docket No. 99-67, Report and Order and Second Further Notice of Proposed Rulemaking, 18 FCC Rcd 25340, 25340, para. 1

Federal Communications Commission

FCC 05-116

ability to respond to a host of crises.¹¹ Efforts by federal, state, and local government, along with the significant efforts by wireline and wireless service providers, have resulted in the nearly ubiquitous deployment of this life-saving service.¹²

5. Our decisions in this Order simply extend our longstanding and continuing commitment to a nationwide communications system that promotes the safety and welfare of all Americans. We believe that it is critically important to impose E911 obligations on interconnected VoIP providers and to set firm but realistic target deadlines for implementation of those requirements. At the same time, however, we allow the providers flexibility to adopt a technological solution that works best for them. In this Order, we take the necessary steps to promote cooperative efforts by state and local governments, public safety answering point (PSAP) administrators, 911 systems service providers, and interconnected VoIP providers that will lead to improved emergency services. Accordingly, today we adopt a balanced approach that takes into consideration the expectations of consumers, the need to strengthen Americans' ability to access public safety in times of crisis, and the needs of entities offering these innovative services.

II. BACKGROUND

A. History of 911 Service

6. Since AT&T first made the digits "9-1-1" available nationally for wireline access to emergency services in 1965,¹³ the American public increasingly has come to depend on 911 service; the National Emergency Number Association (NENA) estimates that as of February 2005, some form of 911 service was available to nearly 99 percent of the population in 96 percent of the counties in the United States,¹⁴ and 200 million calls are made to 911 in the United States each year.¹⁵ It should therefore come as no

(2003) (*E911 Scope Order*) ("As many citizens, elected representatives, and public safety personnel recognize, 911 service is critical to our Nation's ability to respond to a host of crises.").

¹¹ See, e.g., AARP Comments at 2; APCO Comments at 4; Arizona Commission Comments at 13-14; Avaya Comments at 17; BRETSA Comments at 1; Cisco Comments at 11; CUB Comments at 28; FERUP Comments at 14; Missouri Commission Comments at 10; NASUCA Comments at 47; NENA Comments at 3; New Jersey Ratepayer Advocate Comments at 17; NCL Comments at 4; CWA Comments at 21; King County Comments at 6; Qwest Comments at 42; Texas Coalition of Cities Comments at 4; USTA Comments at 40; Utah Commission Comments at 7-8; Cingular Reply at 15; Florida Commission Reply at 22; IAC Reply at 7-8; NASUCA Reply at 43-44; NENA Reply at 2; New Jersey Ratepayer Advocate Reply at 12; NATOA *et al.* Reply at 14-15.

¹² See *E911 Scope Order*, 18 FCC Rcd at 25340, para. 1.

¹³ See *Revision of the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, Notice of Proposed Rulemaking, 9 FCC Rcd 6170, 6172, para. 3 (1994) (*E911 NPRM*); *Implementation of the 911 Act; The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, WT Docket No. 01-110, CC Docket No. 92-105, Fourth Report and Order and Third Notice of Proposed Rulemaking, and Notice of Proposed Rulemaking, 15 FCC Rcd 17079, 17084, para. 9 (2000) (*N11 Codes Fourth Report and Order*) (citing *E911 First Report and Order*, 11 FCC Rcd at 18678, paras. 1-2).

¹⁴ See National Emergency Number Association, *911 Fast Facts* (visited Apr. 25, 2005) <http://www.nena.org/911_facts/911fastfacts.htm> (NENA 911 Fast Facts).

¹⁵ See *id.*

Federal Communications Commission

FCC 05-116

surprise that the American public has developed certain expectations with respect to the availability of 911 and E911 emergency services via certain classes of communications devices.¹⁶

7. The availability of this critical service is due largely to the efforts of state and local authorities and telecommunications carriers, who have used the 911 abbreviated dialing code to provide access to increasingly advanced and effective emergency service capabilities.¹⁷ Indeed, absent appropriate action by, and funding for, states and localities, there can be no effective 911 service. Responsibility for establishing and designating PSAPs or appropriate default answering points, purchasing customer premises equipment (CPE), retaining and training PSAP personnel, purchasing 911 network services, and implementing a cost recovery mechanism to fund all of the foregoing, among other things, falls squarely on the shoulders of states and localities.

8. At the same time, however, new communications technologies have posed technical and operational challenges to the 911 system, necessitating the adoption of a uniform national approach to ensure that the quality and reliability of 911 service is not damaged by the introduction of such communications technologies. For example, following the introduction of CMRS in the United States, the Commission in 1996 established rules requiring CMRS carriers to implement basic 911 and E911 services.¹⁸ Virtually all CMRS carriers and wireline local exchange carriers (LECs) now provide at least basic 911 service.¹⁹

¹⁶ See generally Dale N. Hatfield, *A Report on Technical and Operational Issues Impacting the Provision of Wireless Enhanced 911 Services* <http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513296239> (Hatfield Report). Indeed, one of the criteria the Commission identified in the *E911 Scope Order* as relevant to determining whether particular entities should be subject to some form of 911/E911 regulation was whether customers using the service or device have a reasonable expectation of access to 911 and E911 services. See *E911 Scope Order*, 18 FCC Rcd at 25347, paras. 18-19. Numerous commenters in this proceeding also noted the expectations that Americans have developed with respect to the availability of 911 service. See, e.g., Alcatel Comments at 18-19; APCO Comments at 4, 7; Arizona Commission Comments at 13-14; CenturyTel Comments at 24; Cox Comments at 19; King County E911 Program Comments at 2; SBC Comments at 60; FCC Intergovernmental Advisory Committee Comments at 7; NENA Reply at 1. But see EFF Comments at 5 (questioning the Commission's ability to assess consumer expectations accurately and noting that consumer expectations change over time).

¹⁷ See *N11 Codes Fourth Report and Order*, 15 FCC Rcd at 17084, para. 9 (citing *E911 First Report and Order*, 11 FCC Rcd 18676, paras. 1-2); see also, e.g., Letter from Gino P. Menchini, Commissioner, New York City Department of Information Technology and Telecommunications, and Inspector Charles F. Dowd, Commanding Officer, Communications Division/NYC E-911, New York City Police Department, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 (filed Apr. 22, 2005) (New York City Apr. 22, 2005 *Ex Parte* Letter).

¹⁸ The basic 911 rules require covered carriers to deliver all 911 calls to the appropriate PSAP or a designated answering point. See 47 C.F.R. §§ 20.18(b), 64.3001. Basic 911 requirements, however, do not address what information the PSAP should receive from that call; rather they are designed to ensure the appropriate delivery of 911 calls. See *Notice*, 19 FCC Rcd at 4898, para. 52; *E911 First Report and Order*, 11 FCC Rcd at 18679, 20862-69, paras. 4, 29-46. The Commission therefore adopted enhanced 911 rules requiring covered wireless carriers to be capable of delivering the calling party's call back number and the calling party's location information to requesting PSAPs. See 47 C.F.R. § 20.18; *E911 First Report and Order*, 11 FCC Rcd at 18689-722, paras. 54-91; *infra* note 41.

¹⁹ See Federal Communications Commission, *Basic 911 Carrier Transition Reports* (last modified Nov. 24, 2004) <<http://www.fcc.gov/911/basic/reports/>>. Although there are no Commission requirements that wireline LECs provide E911 service, some states have laws imposing such requirements. See, e.g., N.J. Stat. Ann. § 52:17C-4

Federal Communications Commission

FCC 05-116

9. Congress adopted the 911 Act to promote and enhance public safety through the use of wireless communications services.²⁰ More broadly, the 911 Act directed the Commission to designate 911 as the universal emergency assistance number for wireless and wireline calls,²¹ which the Commission accomplished in August 1999.²² The 911 Act further requires the Commission to “consult and cooperate with state and local officials” in its role of encouraging and supporting the deployment of “comprehensive end-to-end emergency communications infrastructure and programs.”²³ The Commission continues to meet Congress’ mandate,²⁴ and states and localities continue to make progress towards meeting Congress’ goal.²⁵

10. As the Commission has previously noted, the emergence of IP as a means of transmitting voice and data and providing other services via wireless, cable, and wireline infrastructure has significant implications for meeting the nation’s critical infrastructure and 911 communications needs.²⁶ Intrado has estimated that while the number of residential 911 calls placed over VoIP services (VoIP 911 calls) will account for less than two percent of all residential 911 calls for the period 2004-2006, the number of residential VoIP 911 calls will rise from 370,000 in 2004 to 3.5 million in 2006.²⁷ This nearly tenfold increase in expected VoIP 911 calls dictates swift action on our part. Through this Order, we fulfill our role to ensure that the increasingly widespread deployment of a new communications technology does not damage the ability of states and localities to provide reliable and high-quality 911 service to all citizens.

B. 911 Technical and Operational Issues

11. 911 service features, and the ability of PSAPs to make use of them, vary from location to location and network to network. 911 service generally, however, falls into two categories – basic and enhanced.

12. **Basic 911.** Basic 911 service is a forwarding arrangement in which calls dialed to 911 are transmitted from the service provider’s switch to a single geographically appropriate PSAP or public

(2005); Me. Rev. Stat. Ann. tit. 25, § 2933 (2005). Wireline LECs provide some level of enhanced 911 service (*i.e.*, at least a call back number) for callers located in 93% of counties with 911 coverage. *See* NENA 911 Fast Facts.

²⁰ *See* H.R. Rep. No. 106-25 at 1.

²¹ *See* 911 Act § 3(a) (codified at 47 U.S.C. § 251(e)(3)).

²² *See N11 Codes Fourth Report and Order*, 15 FCC Rcd at 17083-85, paras. 8-14.

²³ 911 Act § 3(b).

²⁴ *See, e.g., Implementation of the 911 Act; The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, CC Docket No. 92-105, WT Docket No. 00-110, Fifth Report and Order, First Report and Order and Memorandum Opinion and Order on Reconsideration, 16 FCC Rcd 22264 (2001) (*N11 Codes Fifth Report and Order*); Federal Communications Commission, *State 911 Deployment Plans* (last modified Nov. 24, 2004) <<http://www.fcc.gov/911/stateplans/>>; Federal Communications Commission, *Wireless E911 Coordination Initiative* (last modified Apr. 23, 2004) <<http://wireless.fcc.gov/outreach/e911/>>.

²⁵ *See, e.g.,* Federal Communications Commission, *Enhanced 911 Reports* (last modified Nov. 24, 2004) <<http://www.fcc.gov/911/enhanced/reports/>> (providing access to carrier generated reports regarding wireless E911 deployment).

²⁶ *See Notice*, 19 FCC Rcd at 4897-98, para. 51.

²⁷ *See* Intrado Inc., *VoIP 9-1-1 Frequently Asked Questions* (visited Apr. 20, 2005) <<http://www.intrado.com/main/home/news/features/voipfaq.jsp>>.

Federal Communications Commission

FCC 05-116

safety agency, usually over dedicated emergency trunks.²⁸ Basic 911 networks are not capable of processing the caller's location, but simply forward all 911 calls to the appropriate PSAP or public safety agency.²⁹ Nor does basic 911 provide PSAP call takers with the caller's location information or, in some cases, a call back number.³⁰ Although some emergency systems provide only basic 911 service, most systems have implemented E911 service.³¹

13. **E911.** E911 systems route 911 calls through the use of a Selective Router to a geographically appropriate PSAP based on the caller's location.³² E911 also provides the call taker with the caller's call back number, referred to as Automatic Numbering Information (ANI),³³ and, in many cases, location information – a capability referred to as Automatic Location Identification (ALI). Both wireline and wireless carriers provide E911 services in many localities.

14. **Wireline E911.** The core of the existing wireline E911 network is a dedicated, redundant, highly reliable wireline network (Wireline E911 Network), which is interconnected with but largely separate from the PSTN.³⁴ The Wireline E911 Network generally has been implemented, operated, and maintained by a subset of incumbent LECs, and generally is paid for by PSAPs through tariffs.³⁵

²⁸ See *E911 NPRM*, 9 FCC Rcd at 6171, para. 5.

²⁹ See Hatfield Report at 3. This limitation of basic 911 service can be problematic when a single end office serves a geographic area that encompasses multiple political jurisdictions; call takers not only must determine the caller's location but also determine which jurisdiction's first responders should be dispatched. See *id.* at 4-5.

³⁰ See Hatfield Report at 3-4.

³¹ See NENA 911 Fast Facts.

³² See Hatfield Report at 5. Thus, unlike normal phone calls, 911 calls are routed based on the calling number (which is linked to a particular geographic area and political jurisdiction), not the called number. See *id.*; see also *E911 First Report and Order*, 11 FCC Rcd at 18679, para. 5. The Selective Router is described in greater detail in para. 15 *infra*.

³³ The use of the term "ANI" is not intended as a reference to billing number presentation provided as part of Feature Group B or D local exchange services. Although the number presented to a PSAP on a wireline E911 call may be derived from Feature Group B or D services, the number presented to a PSAP on a wireless or VoIP call may be generated by several other means. Thus, the term ANI merely identifies a call back number associated with the caller. The term does not reflect a specific service or technology. See 47 C.F.R. § 20.3.

³⁴ See Hatfield Report at 5; Letter from Cindy Schonhaut, Director, Federal Regulatory Affairs, Level 3 Communications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 2 (filed Apr. 7, 2005) (Level 3 Apr. 7, 2005 *Ex Parte* Letter). Our description of the Wireline E911 Network is intended to be illustrative, not definitive. As the Commission has noted previously, there are a variety of situations existing in the more than 6,000 PSAPs across the nation, including differences in state laws and regulations governing the provision of 911 services, the configuration of wireless systems, the technical sophistication of existing 911 network components, and existing agreements between carriers and PSAPs. See, e.g., Letter from Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, to Marlys R. Davis, E911 Program Manager, Department of Information and Administrative Services, King County, Washington, CC Docket No. 94-102 at 3 (dated May 7, 2001) (*King County Letter*), *pet. recon. denied*, *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Request of King County, Washington*, CC Docket No. 94-102, Order on Reconsideration, 17 FCC Rcd 14789, 14790, para. 3 (2002) (*King County Reconsideration Order*).

³⁵ Incumbent LECs own and operate most of the Selective Routers, ALI Databases, the trunks to carry 911 calls, and sometimes the CPE upon which a PSAP's 911 system is based. The service between the incumbent LEC and PSAP is contractual in nature and paid for by the PSAP typically through a special tariff filed with the state public utility

Federal Communications Commission

FCC 05-116

Network implementations vary from carrier to carrier and jurisdiction to jurisdiction, but usually are based on a 25-year-old architecture and implemented with legacy components that place significant limitations on the functions that can be performed over the network.³⁶

15. In a typical implementation, the Wireline E911 Network includes the Selective Router, which receives 911 calls from competitive and incumbent LEC central offices over dedicated trunks.³⁷ The Selective Router, after querying an incumbent LEC-maintained Selective Router Database (SRDB) to determine which PSAP serves the caller's geographic area, forwards the calls to the PSAP that has been designated to serve the caller's area, along with the caller's phone number (ANI). The PSAP then forwards the caller's ANI to an incumbent LEC maintained Automatic Location Information database (ALI Database),³⁸ which returns the caller's physical address (that has previously been verified by comparison to a separate database known as the Master Street Address Guide (MSAG)).³⁹ The Wireline E911 Network thus consists of: the Selective Router; the trunk line(s) between the Selective Router and the PSAP; the ALI Database; the SRDB; the trunk line(s) between the ALI database and the PSAP; and the MSAG.⁴⁰

16. **Wireless E911.** Under the Commission's wireless E911 rules, wireless carriers are obligated to "provide the telephone number of the originator of a 911 call" (*i.e.*, ANI) and information regarding the caller's location (*i.e.*, ALI) to any PSAP, which has requested that such information be delivered with 911 calls.⁴¹

17. The mobile nature of wireless technology and service presents significant obstacles to making E911 effective – in particular the provision to PSAPs of accurate ALI.⁴² Specifically, the mobility of wireless subscribers renders the use of permanent street addresses as a location indicator useless, and in

commission. *See, e.g., Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, 14 FCC Rcd 20850, 20886-87, paras. 92, 94 (1999) (*E911 Second Memorandum Opinion and Order*); *E911 First Report and Order*, 11 FCC Rcd at 18710, para. 66. States and localities have developed cost recovery mechanisms to fund PSAPs. *See infra* Part III.D.

³⁶ *See* Hatfield Report at 14.

³⁷ The Selective Router also is known as a E911 Control Office or E911 Tandem. *See id.* at 5. The presence of and functionality provided by the Selective Router is the key characteristic that distinguishes basic 911 from E911 service. *See id.*

³⁸ The SRDB and the ALI Database may be the same database.

³⁹ The ALI Database may also return additional information, such as the name of the individual who is billed for telephone service at that address.

⁴⁰ *See King County Letter* at 3-6; *King County Reconsideration Order*, 17 FCC Rcd at 14792-96, paras. 8-16; Hatfield Report at 3-5.

⁴¹ The Commission's wireless E911 requirements are comprised of two phases. Pursuant to the Phase I rules, wireless carriers are required to provide a call back number for the handset placing the 911 call and report the location of the cell site or base station that received the call. The Phase I rules required compliance by April 1, 1998, or within six months of a PSAP request, whichever is later. *See* 47 C.F.R. § 20.18(d). Under the Phase II rules, wireless carriers are required to provide more accurate 911 call location information. *See* 47 C.F.R. § 20.18(e). The degree of location accuracy required under the Phase II rules varies, depending on whether the carrier utilizes a network-based or handset-based solution. *See* 47 C.F.R. § 20.18(h).

⁴² *See E911 First Report and Order*, 11 FCC Rcd at 18680, para. 7.

fact may require the provision of real-time location updates to the PSAP.⁴³ Wireless carriers therefore have developed various techniques to provision ANI and ALI to the PSAP that involve enhancements and/or “add-ons” to the existing Wireline E911 Network.⁴⁴ Many of these techniques involve the use of “pseudo-ANI” or “p-ANI”: a “number, consisting of the same number of digits as ANI, that is not a North American Numbering Plan telephone directory number and may be used in place of ANI to convey special meaning” to the Selective Router, PSAP, and other elements of the 911 system.⁴⁵ For example, Selective Routers that have been programmed to handle p-ANI will be able to properly route 911 calls from any wireless subscriber to a geographically appropriate PSAP, even if the caller has a NPA-NXX number⁴⁶ not associated with his or her location.⁴⁷ PSAPs that are equipped to handle p-ANI can distinguish wireless from wireline calls, and can use the p-ANI to query the ALI Database for non-traditional location information.⁴⁸ Forms of p-ANI known as “Emergency Services Routing Key” (ESRK), “Emergency Services Query Key” (ESQK), and “Emergency Services Routing Digits” currently are used to cause the Wireline E911 Network to properly handle and process E911 calls placed by CMRS subscribers.⁴⁹

18. Development and implementation of these enhancements required significant cooperative efforts from wireless and wireline providers, manufacturers, third-party providers, state and local governments, public safety authorities, and consumer interest groups.⁵⁰ The Commission ultimately held, however, that in the absence of an agreement to the contrary, the appropriate demarcation point for allocating responsibilities and costs between wireless carriers and PSAPs for such enhancements is the input to the Selective Router.⁵¹ Thus, a wireless carrier is responsible for all hardware and software components and functionalities that precede the Selective Router, including the trunk from the carrier’s Mobile Switching Center to the Selective Router, and the particular databases, interface devices, and trunks lines that may be needed to deliver E911 data to the PSAP.⁵² The PSAP is responsible for any costs associated with the Selective Router itself, any required upgrades to the Selective Router, the ALI Database and any upgrades

⁴³ See Hatfield Report at 9.

⁴⁴ See *E911 Second Memorandum Opinion and Order*, 14 FCC Rcd at 20881-86, paras. 75-92. For a detailed description of the E911 implementations utilized by wireless carriers, see Hatfield Report at 9-11. See also NENA, NENA Generic E9-1-1 Requirements Technical Information Document, Issue 1 at 7 (July 23, 2004) <<http://www.nena9-1-1.org/9-1-1TechStandards/TechInfoDocs/E9-1-1%20Requirements%2008-502u.pdf>> (NENA TID).

⁴⁵ See 47 C.F.R. § 20.3. The special meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the system originating the call, intermediate systems handling and routing the call, and the destination system. See *id.*

⁴⁶ Telephone numbers consist of ten digits in the form NPA-NXX-XXXX. The first three digits, or the “NPA,” refer to the area code. The second three digits, or the “NXX,” refer to the central office code. See 47 C.F.R. §§ 52.7(a), (c).

⁴⁷ See *King County Reconsideration Order*, 17 FCC Rcd at 14792-93, para 8 n.17; Hatfield Report at 9-11; NENA TID at 4-5.

⁴⁸ See *King County Reconsideration Order*, 17 FCC Rcd at 14792-93, para 8 n.17; Hatfield Report at 9-11; NENA TID at 17-18, 19-20.

⁴⁹ See generally NENA TID.

⁵⁰ See *E911 Second Memorandum Opinion and Order*, 14 FCC Rcd at 20855, para. 10.

⁵¹ See *King County Reconsideration Order*, 17 FCC Rcd at 14790-91, para 4.

⁵² See *id.*

Federal Communications Commission

FCC 05-116

thereto, the SRDB and any upgrades thereto, the MSAG, the trunk from the Selective Router to the PSAP, and the PSAP CPE.⁵³

C. The IP-Enabled Services Notice

19. In the *Notice*, we asked, among other things, about the potential applicability of “basic 911,” “enhanced 911,” and related critical infrastructure regulation to VoIP and other IP-enabled services.⁵⁴ Specifically, after noting that the Commission previously found in the *E911 Scope Order* that it has statutory authority under sections 1, 4(i), and 251(e)(3) of the Communications Act of 1934, as amended (Act),⁵⁵ to determine what entities should be subject to the Commission’s 911 and E911 rules,⁵⁶ the Commission sought comment on whether it should exercise its regulatory authority in the context of IP-enabled services.⁵⁷ The Commission further sought comment on the appropriate criteria for determining whether and to what extent IP-enabled services should fall within the scope of its 911 and E911 regulatory framework,⁵⁸ and whether IP-enabled services are technically and operationally capable of meeting the Commission’s basic and/or E911 rules or of providing analogous functionalities that would meet the intent of the 911 Act and the Commission’s regulations.⁵⁹

D. The Vonage Order

20. On November 12, 2004, the Commission released the *Vonage Order*, in which it preempted an order of the Minnesota Public Utilities Commission (Minnesota Commission) that applied Minnesota’s traditional “telephone company” regulations to Vonage’s DigitalVoice service.⁶⁰ Vonage’s DigitalVoice

⁵³ See *id.*

⁵⁴ See *Notice*, 19 FCC Rcd at 4898-99, para. 53.

⁵⁵ 47 U.S.C. §§ 151, 154(i), 251(e)(3).

⁵⁶ See *Notice*, 19 FCC Rcd at 4898-99, para. 53 n.160 (citing *E911 Scope Order*, 18 FCC Rcd at 25345-46, paras. 13-15).

⁵⁷ See *id.* at 4898-99, 4900-01, paras. 53, 55-56.

⁵⁸ See *id.* at 4900-01, paras. 55-56. The *Notice* sets forth four criteria the Commission previously has used to determine whether particular entities should, in the public interest, be subject to some form of 911/E911 regulation: (1) the entity offers real-time, two-way switched voice service, interconnected with the public switched network, either on a stand-alone basis or packaged with other telecommunications services; (2) customers using the service or device have a reasonable expectation of access to 911 and E911 services; (3) the service competes with traditional CMRS or wireline local exchange service; and (4) it is technically and operationally feasible for the service or device to support E911. See *id.* at 4900, para. 55. The Commission first relied on these criteria in the *E911 Scope Order*, where the Commission made clear that factors other than the four listed criteria could also inform the Commission’s decision regarding what 911/E911 obligations should be imposed on a service provider. See *id.* (citing *E911 Scope Order*, 18 FCC Rcd at 25347, para. 19). In the *Notice*, the Commission sought comment on whether VoIP services, and other IP-enabled services, satisfy these four criteria. The Commission also sought comment on whether these four criteria provide the appropriate analytical framework for determining whether, and to what extent, IP-enabled services should fall within the scope of the Commission’s 911/E911 regulatory framework, and whether modifications to these criteria, or other criteria, would better serve the public interest in light of the variety of IP-enabled services and their very different functionalities. See *id.*

⁵⁹ See *Notice*, 19 FCC Rcd at 4898-900, paras. 53-54.

⁶⁰ See *Vonage Order*, 19 FCC Rcd at 22411, para. 14. DigitalVoice is an IP-enabled service that provides real-time, multidirectional voice functionality to its end users over any broadband connection. See *id.* at 22407, para. 7.

Federal Communications Commission

FCC 05-116

service is a portable service that is available anywhere the Vonage customer is able to obtain a broadband connection.⁶¹ Vonage does not supply that broadband connection.⁶² Vonage's DigitalVoice service assigns its users North American Numbering Plan (NANP) numbers and provides them the ability to place and receive calls to and from the PSTN.⁶³ As described more fully in that order, the Commission held that DigitalVoice cannot be separated into interstate and intrastate communications for compliance with Minnesota's requirements without negating valid federal policies and rules.⁶⁴ Thus, without classifying Vonage's service as either an information service or as a telecommunications service under the Act, the Commission preempted the Minnesota Commission's requirements and ruled that the Minnesota Commission "may not require Vonage to comply with its certification, tariffing or other related requirements as conditions to offering DigitalVoice in that State."⁶⁵ The Commission expressed no opinion with respect to the applicability to Vonage of Minnesota's general laws governing entities conducting business within the state.⁶⁶ Appeals of that order were filed before a number of United States Courts of Appeals.⁶⁷

E. NENA Standards Development

21. Consistent with the December 2003 agreement between NENA and the Voice on the Net (VON) Coalition, industry participants, state agencies and commissions, public safety officials and PSAPs, and the Association of Public-Safety Communications Officials - International, Inc. (APCO) have been working together under the auspices of NENA to develop solutions that will lead to VoIP subscribers receiving E911 functionality.⁶⁸ Specifically, NENA is expected to publish within the next few months an "I2" standard designed to allow VoIP providers to deliver 911 calls through the Wireline E911 Network with call back numbers and location information.⁶⁹ The Commission applauds NENA's leadership and

⁶¹ See *id.* at 22406, para. 5.

⁶² See *id.*

⁶³ See *id.* at 22407-08, paras. 8-9.

⁶⁴ See *id.* at 22411-12, para. 14.

⁶⁵ *Id.* at 22432, para. 46.

⁶⁶ See *id.* at 22405, para. 1.

⁶⁷ See, e.g., *California v. FCC*, No. 05-70007 (9th Cir. filed Jan. 3, 2005); *New York v. FCC*, No. 05-1060 (2d Cir. filed Jan. 7, 2005); *Pub. Util. Comm'n of Ohio v. FCC*, No. 05-3056 (6th Cir. filed Jan. 7, 2005); *Minnesota Pub. Util. Comm'n v. FCC*, No. 05-1069 (8th Cir. filed Jan. 6, 2005); *Nat'l Ass'n of State Util. Consumer Advocates v. FCC*, No. 05-1122 (8th Cir. filed Jan. 11, 2005). Each of these cases was consolidated in the United States Court of Appeals for the Ninth Circuit (Ninth Circuit) in *California v. FCC*. See *California v. FCC* (No. 05-70007). On April 15, 2005, however, the Ninth Circuit granted a motion by the state of California and the California Public Utility Commission for voluntary dismissal, and currently is considering a motion to transfer the remaining cases to the United States Court of Appeals for the Eighth Circuit. See Petitioners Joint Motion to Transfer Proceedings and Amend Briefing Schedule, *National Ass'n of State Util. Consumer Advocates v. FCC*, No. 05-71238 (9th Cir. filed Feb. 22, 2005).

⁶⁸ See VON Coalition and NENA, *Public Safety and Internet Leaders Connect on 911*, Press Release (Dec. 1, 2003) <http://www.von.org/usr_files/VOIP%20press%20release%20FINAL%20112803> (setting forth agreement for how two industry groups will work together as VoIP is deployed).

⁶⁹ See Letter from Cronan O'Connell, Vice President-Federal Regulatory, Qwest, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, at 2 (filed Apr. 11, 2005) (Qwest Apr. 11, 2005 *Ex Parte* Letter) ("I2 NENA Specifications targeted for completion in April/May 2005"); VON Coalition and NENA, *Answering the Call for*

industry's efforts in this regard, which will likely play a critical role in the provision of E911 services by interconnected VoIP service providers.

III. DISCUSSION

22. In this Order, we define “interconnected VoIP service” and require providers of this type of VoIP service to incorporate E911 service into all such offerings within the period of time specified below. We commit ourselves to swift and vigorous enforcement of the rules we adopt today. Because we have not decided whether interconnected VoIP services are telecommunications services or information services, we analyze the issues addressed in this Order primarily under our Title I ancillary jurisdiction to encompass both types of service. We decline to exempt providers of interconnected VoIP services from liability under state law related to their E911 services. Accompanying today's Order is an *NPRM* that addresses a number of issues raised by our decision today.

A. Scope

23. Our first task is to determine what IP-enabled services should be the focus of our concern. We begin by limiting our inquiry to VoIP services, for which some type of 911 capability is most relevant.⁷⁰ The Commission previously has determined that customers today lack any expectation that 911 will function for non-voice services like data services.⁷¹ The record clearly indicates, however, that consumers expect that VoIP services that are interconnected with the PSTN will function in some ways like a “regular telephone” service.⁷² At least regarding the ability to provide access to emergency services

9-1-1 Emergency Services in an Internet World at 7 (Jan. 2005)

<http://www.von.org/usr_files/911%20VON%20White%20Paper%201-12-05%20final.pdf> (VON/NENA Jan. 2005 White Paper) (stating that I2 specification will be available in the second quarter of 2005).

⁷⁰ Cf. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CC Docket Nos. 90-571, 98-67, CG Docket No. 03-123, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 19 FCC Rcd 12475, 12521-22, paras. 116-18 (2004) (granting extension of waiver exempting Video Relay Services providers from requirement automatically and immediately to transfer emergency calls to an appropriate PSAP); *Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CC Docket No. 98-67, Order on Reconsideration, 18 FCC Rcd 4761, 4766, para. 12 (2003) (“waiv[ing] the TRS mandatory minimum standard requiring emergency call handling for a five year period as applied to IP Relay providers”).

⁷¹ Cf. *E911 Scope Order*, 18 FCC Rcd at 25351, para. 28 (exempting from mobile satellite service 911 requirements any service that utilizes terrestrial temporary fixed earth station terminals which are designed only for data services). As the Commission stated in the context of mobile satellite service 911 obligations, we may revisit this exemption in the future should the technology or consumer expectations change. See *id.*

⁷² See, e.g., APT Comments at 6 (stating that “[c]onsumers have expectations that VOIP services are fundamentally equivalent to telephony services” and quoting a Vonage advertisement stating that VoIP service is “like the home phone service you have today” (citing Vonage, http://www.vonage.com/learn_tour.php (visited May 20, 2004))); Alcatel Comments at 18-19 (stating that customers have a reasonable expectation that 911/E911 services will be available for most VoIP services, and noting that voice functions provided as part of an Xbox video game service are a VoIP service for which such an expectation is not reasonable because a video game service is not a replacement for PSTN service); Nebraska Commission Comments at 6 (claiming that consumers would expect a service to offer similar protections as compared to traditional local exchange service if the service uses NANP numbers; utilizes the PSTN in either originating or terminating service; is advertised or used as telephone service or as a replacement service for POTS; and is functionally equivalent to traditional telephony); New Jersey Ratepayer Advocate Comments at 16, 22 (stating that consumers likely will expect to have rapid access to emergency services

Federal Communications Commission

FCC 05-116

by dialing 911, we find these expectations to be reasonable. If a VoIP service subscriber is able to receive calls from other VoIP service users *and* from telephones connected to the PSTN, and is able to place calls to other VoIP service users *and* to telephones connected to the PSTN, a customer reasonably could expect to be able to dial 911 using that service to access appropriate emergency services.⁷³ Thus, we believe that a service that enables a customer to do everything (or nearly everything⁷⁴) the customer could do using an analog telephone, and more, can at least reasonably be expected and required to route 911 calls to the appropriate destination.

24. The E911 rules the Commission adopts today apply to those VoIP services that can be used to receive telephone calls that originate on the PSTN and can be used to terminate calls to the PSTN – “interconnected VoIP services.” Although the Commission has not adopted a formal definition of “VoIP,” we use the term generally to include any IP-enabled services offering real-time, multidirectional voice functionality, including, but not limited to, services that mimic traditional telephony.⁷⁵ Thus, an interconnected VoIP service is one we define for purposes of the present Order as bearing the following characteristics: (1) the service enables real-time, two-way voice communications; (2) the service requires a broadband connection from the user’s location;⁷⁶ (3) the service requires IP-compatible CPE,⁷⁷ and

via 911 for VoIP services that are marketed and sold as a substitute for traditional telephone service – which we understand generally are interconnected VoIP services); SBC Comments at 58-61 (arguing that consumers would be more likely to expect that 911 service would work for interconnected real-time voice services than for strictly peer-to-peer services or data services); Time Warner Comments at 8; Letter from Glenn S. Richards, Counsel for VON Coalition, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 4 (filed May 12, 2005) (VON Coalition May 12, 2005 *Ex Parte* Letter); *cf.* EFF Comments at 3-4 (arguing that evaluating consumer expectations is difficult and that at a minimum the Commission should presume that services with no PSTN nexus should be exempt from traditional telecommunications regulation).

⁷³ See, e.g., King County Comments at 2 (“The service provider of any device that functions like a telephone and has the ability to connect to the Public Switched Telephone Network (PSTN) to deliver voice calls should be required to provide E911 service to their customers. The public expectation is that any device that can make voice phone calls can call 911.”).

⁷⁴ For example, some VoIP services that have full interconnection to the PSTN may not be line powered and so, unlike an analog telephone connected to the PSTN, may not work in a power outage. See, e.g., New Jersey Ratepayer Advocate Comments at 23 (stating that packet switched networks do not have the same built-in power source that circuit switched networks do, and thus are more susceptible to service outages); Sonic.net Comments at 3; Montana Commission Comments at 5; Letter from Kathleen Grillo, Vice President – Federal Regulatory, Verizon, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. 2 at 4 (filed Apr. 15, 2005) (Verizon Apr. 15, 2005 *Ex Parte* Letter) (stating in VoiceWing’s Terms of Service that a power or broadband service outage will prevent all service, including 911 service).

⁷⁵ See Notice, 19 FCC Rcd at 4866, para. 3 n.7.

⁷⁶ *Cf. Vonage Order*, 19 FCC Rcd at 22424, para. 32. While we recognize that some kinds of VoIP service can be supported over a dialup connection, we expect that most VoIP services will be used over a broadband connection. We seek comment in the *NPRM* on whether we should expand the scope of the present Order to include VoIP services that do not require a broadband connection. See *infra* Part IV.

⁷⁷ The term “IP-compatible CPE” refers to end-user equipment that processes, receives, or transmits IP packets. Users may in some cases attach conventional analog telephones to certain IP-compatible CPE in order to use an interconnected VoIP service. For example, IP-compatible CPE includes, but is not limited to, (1) terminal adapters, which contain an IP digital signal processing unit that performs digital-to-audio and audio-to-digital conversion and have a standard telephone jack connection for connecting to a conventional analog telephone; (2) a native IP telephone; or (3) a personal computer with a microphone and speakers, and software to perform the conversion (softphone). See *Vonage Order*, 19 FCC Rcd at 22407, para. 6; see also *Petition for Declaratory Ruling That*

Federal Communications Commission

FCC 05-116

(4) the service offering permits users generally to receive calls that originate on the PSTN *and* to terminate calls to the PSTN.⁷⁸ We make no findings today regarding whether a VoIP service that is

Pulver.com's Free World Dialup Is Neither Telecommunications Nor a Telecommunications Service, WC Docket No. 03-45, Memorandum Opinion and Order, 19 FCC Rcd 3307, 3308 n.2 (2004) (*Pulver Order*).

⁷⁸ Cf. *Vonage Order*, 19 FCC Rcd at 22407-08, paras. 8-9 (describing the origination and termination of Vonage DigitalVoice calls to and from the PSTN). The instant Order does not apply to providers of other IP-based services such as instant messaging or Internet gaming because although such services may contain a voice component, customers of these services cannot place calls to and receive calls from the PSTN. The rules we adopt today apply to interconnected VoIP services rather than the sale or use of IP-compatible CPE, such as an IP-PBX, that itself uses other telecommunications services or VoIP services to terminate traffic to and receive traffic from the PSTN. The rules we adopt in today's Order also apply only to providers that offer a single service that provides the functionality described above. *But see infra* para. 58 (tentatively concluding that separate service offerings that can be combined by the user should also be subject to our E911 requirements). Thus, the E911 requirements we impose in this Order apply to all VoIP services that are encompassed within the scope of the *Vonage Order*. In the *Vonage Order*, the Commission preempted certain state regulation of Vonage's "DigitalVoice" VoIP service, and indicated that the Commission would preempt similar state regulation of other types of IP-enabled services having basic characteristics similar to DigitalVoice. It is incumbent on this Commission to ensure that customers of these services are still able to obtain access to appropriate emergency services when dialing 911. We further note that imposing E911 regulation on interconnected VoIP service providers is consistent with the four criteria the Commission identified in the *E911 Scope Order* that have been used to determine whether particular entities should be subject to some form of 911/E911 regulation. *See supra* note 58 (citing *Notice*, 19 FCC Rcd at 4900, para. 55 (setting forth the four criteria)). In addition, the criteria we use to define the scope of the present Order are similar, though not identical, to proposals suggested by some commenters. For instance, NCTA proposes that the Commission impose certain requirements, such as 911 requirements, on VoIP services that: (1) use NANP resources; (2) receive calls from – or terminate them to – the PSTN; (3) represent a possible replacement for POTS; and (4) use IP transmission between the service provider and the end user customer, including use of an IP terminal adapter and/or IP-based telephone set. NCTA, *Balancing Responsibilities and Rights: A Regulatory Model for Facilities-Based VoIP Competition*, at 4, 22 (Feb. 2004) <http://www.ncta.com/PDF_files/VoIPWhitePaper.pdf> (NCTA VoIP White Paper). *See also* Level 3 Comments at 3, 25 (stating that VoIP providers should be required to provide "911 and E911 (where technically and operationally feasible) for those services that compete with traditional PSTN services and for which consumers have an expectation of such access"); SBC Comments at 58-61 (stating that it is most important to ensure that interconnected VoIP services offer 911 calling capabilities, as opposed to data-only services or services that are not interconnected to the PSTN); Time Warner Comments at 8, 13 (proposing that the scope of VoIP services subject to an E911 service obligation "be limited to those services that: (1) assign their subscribers NANP numbers; and (2) allow subscribers to receive calls from and terminate calls to the PSTN"); Letter from John T. Nakahata, Counsel for Microsoft, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 (filed May 8, 2005) (urging the Commission to limit the scope of the VoIP services that would be subject to an E911 mandate to "consumer real-time, two-way switched voice services offered for a fee that are interconnected with the PSTN, capable of both receiving calls from and terminating calls to the PSTN, and for which the service provider assigns the end users using the VoIP service a unique working North American Numbering Plan telephone number (other than numbers, such as toll-free numbers, that are used to reach a database that determines the destination telephone number)"); Letter from Henry Goldberg, Counsel for Skype, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (filed May 10, 2005) (Skype May 10, 2005 *Ex Parte* Letter) (urging the Commission to impose E911 obligations on interconnected VoIP providers that use NANPA phone numbers and "include or enable use of either traditional CPE or CPE that, like traditional CPE, is always on and offers a dial tone"); VON Coalition May 12, 2005 *Ex Parte* Letter, Attach. at 4.

Federal Communications Commission

FCC 05-116

interconnected with the PSTN should be classified as a telecommunications service or an information service under the Act.⁷⁹

25. While the rules we adopt today apply to providers of all interconnected VoIP services, we recognize that certain VoIP services pose significant E911 implementation challenges. For example, the mobility enabled by a VoIP service that can be used from any broadband connection creates challenges similar to those presented in the wireless context.⁸⁰ These “portable” VoIP service providers often have no reliable way to discern from where their customers are accessing the VoIP service.⁸¹ The Commission’s past experience with setting national rules for 911/E911 service is informative, and we expect that our adoption today of E911 service obligations for providers of interconnected VoIP service will speed the further creation and adoption of such services, similar to the manner in which the Commission’s adoption of E911 service obligations in the wireless context helped foster the widespread availability of E911 services for mobile wireless users, where it formerly was not possible for wireless carriers automatically to determine the precise geographic location of their customers.⁸² We recognize

⁷⁹ Cf. *Vonage Order*, 19 FCC Rcd 22414, para. 18 (declining to classify Vonage’s specific service as a telecommunications service or an information service under the Act).

⁸⁰ In general, providers of solely “fixed” VoIP services (*i.e.*, those that are not portable) face fewer technical obstacles to providing their customers with E911 service. See, *e.g.*, Letter from Bennett L. Ross, General Counsel-D.C., BellSouth D.C., Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1-2 (filed May 12, 2005) (BellSouth May 12, 2005 *Ex Parte* Letter) (comparing E911 challenges for fixed and nomadic services); see also VON Coalition May 12, 2005 *Ex Parte* Letter, Attach. at 4 (claiming that the most “workable” definition of fixed services is defining those VoIP services that are “incapable of being nomadic”). It appears that most fixed VoIP service providers already have deployed, or are in the process of deploying, E911 services very much like those provided to wireline telephone customers. See, *e.g.*, Letter from James L. Casserly, Counsel for Comcast, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (filed May 12, 2005) (“The VoIP service that Comcast is currently offering . . . is E911 capable. Comcast selectively routes its customers’ 911 calls to the appropriate PSAPs, and Automatic Location information associated with the customer’s service address is transmitted to the PSAPs along with the caller’s telephone number.”); NCTA Comments at 13-14 (listing various cable operators that already provide E911); Cablevision, *Optimum Voice Terms of Service, Part B* (visited May 9, 2005) <http://www.optimumvoice.com/index.jhtml?pageType=terms_of_service> (providing that “[e]nhanced 911 (E-911) is a feature of the Optimum Voice service that allows emergency operators to automatically know the telephone number and address of the dialing party”); Cox, *VoIP: Ready for Prime Time*, at 2 (visited May 9, 2005) <<http://www.cox.com/about/NewsRoom/files/VoIPreadyMay04.pdf>> (“Cox’s managed VoIP technology enables Enhanced 911 (E-911) service, while some Internet Telephony providers do not.”).

⁸¹ See *Vonage Order*, 19 FCC Rcd at 22406, para. 5; see also *Pulver Order*, 19 FCC Rcd at 3322, para. 22; Letter from James R. Hobson, Counsel for Greater Harris County (Texas) 9-1-1, Tarrant County (Texas) 9-1-1, and NENA to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 3 (Greater Harris County/Tarrant County/NENA Apr. 15, 2005 *Ex Parte* Letter) (“Since the application is separate from the transmission facility, it is highly unlikely the VoIP service provider knows where its subscriber is using the service at a given time.”); Letter from James K. Smith, Executive Director - Federal Regulatory, SBC Telecommunications, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 04-36, 04-29 and 03-211, Attach. at 19 (filed Oct. 8, 2004) (stating that it is “[i]nfeasible to locate [the] geographic end point on the IP side of an IP-PSTN communication” because “IP communications are routed to devices, not geographic locations”). The record demonstrates that there currently are no solutions that allow a provider of portable VoIP services to determine the location of an end user absent the end user affirmatively telling the service provider where he or she is. See Greater Harris County/Tarrant County/NENA Apr. 15, 2005 *Ex Parte* Letter, Attach. at 3 (“[T]he subscriber must play an active role in identifying his or her location for accurate 9-1-1 call routing and ALI purposes.”).

⁸² But see Letter from John T. Nakahata, Counsel to Level 3, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 6-7 (filed May 12, 2005) (Level 3 May 12, 2005 *Ex Parte* Letter).

Federal Communications Commission

FCC 05-116

and applaud the progress that has already been made to ensure that VoIP customers have E911 services.⁸³ We stress, however, that should the need arise, we stand ready to expand the scope or substance of the

⁸³ See *supra* note 80. For instance, some VoIP service providers have contracted with a third party such as a competitive LEC to indirectly interconnect with the Wireline E911 Network at the Selective Router. See, e.g., Letter from Glenn T. Reynolds, Vice President – Federal Regulatory, BellSouth Corporation to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 3. (BellSouth Apr. 19, 2005 *Ex Parte* Letter). In addition, a VoIP service provider has established direct interconnection with the Selective Router(s) in at least one state. See Letter from William B. Wilhelm, Jr., Counsel for Vonage, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. 1 (filed May 9, 2005) (Vonage May 9, 2005 *Ex Parte* Letter) (explaining that in Rhode Island Vonage routes calls directly to the Selective Router that services the Rhode Island PSAP). Further, several incumbent LECs are offering, or have announced their intent to offer, VoIP service providers direct interconnection to their Selective Routers through tariff, contract, or a combination thereof. See Letter from Cronan O’Connell, Vice President – Federal Regulatory, Qwest to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1, Attach. at 6, 8 (Qwest Apr. 12, 2005 *Ex Parte* Letter); Verizon, *Verizon Identifies Solution Enabling VoIP Companies to Connect to E911 Emergency Calling System*, Press Release (rel. Apr. 26, 2005) <<http://newscenter.verizon.com>>; Letter from Glenn T. Reynolds, Vice President – Federal Regulatory, BellSouth, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 (filed May 11, 2005) (setting forth BellSouth’s “commitment to expeditious development and provision of an additional product allowing VoIP providers to purchase direct connection to the E911 selective routers”); see also, e.g., Letter from Mary Boyd, Vice President Government & External Affairs, Intrado, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 7 (filed Apr. 4, 2005) (Intrado Apr. 4, 2005 *Ex Parte* Letter) (stating that VoIP service providers can use existing 911/E911 infrastructure for certain services); NENA Feb. 22, 2005 *Ex Parte* Comments at 7 (stating that competitive LECs and cable VoIP providers already have access to systems necessary to provide E911 service). We further understand that it is technically possible today for interconnected VoIP providers to deliver a 911 caller’s call back number and location to a geographically appropriate PSAP over the Wireline E911 Network utilizing location information provided by the caller. See, e.g., Letter from Jeffrey A. Citron, Chairman and CEO, Vonage Holdings Corp., to Christopher Rice, Executive Vice President, Network Planning & Engineering, SBC, WC Docket 04-36 at 1 (filed Mar. 30, 2005) (Vonage Mar. 30, 2005 *Ex Parte* Letter) (noting that Vonage has already deployed a VoIP E911 solution in Rhode Island and trialed a solution in Qwest’s King County territory); Intrado Apr. 4, 2005 *Ex Parte* Letter, Attach. at 5 (“Technology exists to enable full E9-1-1 for VoIP subscribers regardless of movement and [telephone number] assignment.”); Letter from William B. Wilhelm, Jr., Counsel for Vonage Holdings Corp., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1-2 (filed Apr. 7, 2005) (Vonage Apr. 7, 2005 *Ex Parte* Letter) (noting interim solution trial with Verizon in New York and 911 access made available by SBC to its VoIP affiliate); New York City Apr. 22, 2005 *Ex Parte* Letter (stating that New York is working with Vonage and others so that VoIP users will have access to the City’s 911 emergency response system); Verizon Apr. 15, 2005 *Ex Parte* Letter at 1 (noting that a Verizon VoIP 911 solution is being developed in New York City); Letter from Kathleen Grillo, Vice President, Federal Regulatory, Verizon to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 2-3 (filed May 11, 2005) (Verizon May 11, 2005 *Ex Parte* Letter) (detailing New York City solution); Qwest Apr. 12, 2005 *Ex Parte* Letter at 1, Attach. at 6-8 (discussing the Vonage/Qwest King County trial and Qwest’s PS/ALI offering); Letter from William B. Wilhelm, Jr., Counsel for Vonage Holdings Corp., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 2 (filed Apr. 18, 2005) (Vonage Apr. 18, 2005 *Ex Parte* Letter) (noting that “Qwest’s cooperation has shown that implementing the I2 solution is technically feasible”); Greater Harris County/Tarrant County/NENA Apr. 15, 2005 *Ex Parte* Letter, Attach. at 1, 5; Letter from Mary Boyd, Vice President Government & External Affairs, Intrado, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 10 (filed Apr. 19, 2005) (Intrado Apr. 19, 2005 *Ex Parte* Letter) (identifying two I2 solutions “operational today”); BellSouth Apr. 19, 2005 *Ex Parte* Letter at 1 (stating “there are numerous E911 solutions available today to any VoIP provider interested in providing such service to their end users”); Letter from Bruce A. White, Vice President and General Counsel, TeleCommunication Systems, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 25-28 (filed Apr. 22, 2005) (describing the TeleCommunication Systems, Inc. VoIP 911 offering currently being trialed in Kansas City) (TCS Apr. 22, 2005 *Ex Parte* Letter).

Federal Communications Commission

FCC 05-116

rules we adopt today if necessary to ensure that the public interest is fully protected. Indeed, the *NPRM* that accompanies today's Order seeks comment on whether further intervention is necessary in this area.⁸⁴

B. Authority

26. We conclude that we have authority under Title I of the Act to impose E911 requirements on interconnected VoIP providers, and commenters largely agree.⁸⁵ In addition, we conclude that we have authority to adopt these rules under our plenary numbering authority pursuant to section 251(e) of the Act.⁸⁶ We find that regardless of the regulatory classification, the Commission has ancillary jurisdiction to promote public safety by adopting E911 rules for interconnected VoIP services. This Order, however, in no way prejudices how the Commission might ultimately classify these services. To the extent that the Commission later finds these services to be telecommunications services, the Commission would have additional authority under Title II to adopt these rules.

27. Ancillary jurisdiction may be employed, in the Commission's discretion, when Title I of the Act gives the Commission subject matter jurisdiction over the service to be regulated⁸⁷ and the assertion of jurisdiction is "reasonably ancillary to the effective performance of [its] various responsibilities."⁸⁸ Both predicates for ancillary jurisdiction are satisfied here.

⁸⁴ See *infra* Part IV.

⁸⁵ See, e.g., AT&T Comments at 29; BellSouth Comments at 63; Comcast Comments at 15; Cox Comments at 22-25; NCTA Comments at 23-24; NENA Comments at 2; Net2Phone Comments at 8-9; New Jersey Ratepayer Advocate Comments at 18; SBC Comments at 57, 95-98; USCCB *et al.* Comments at 29-35; AT&T Reply at 19-21; Cingular Reply at 9-10. But see CompTel/Ascent Comments at 19; New York City Comments at 2-5; Sprint Comments at 27-29.

⁸⁶ 47 U.S.C. § 251(e).

⁸⁷ See *United States v. Southwestern Cable Co.*, 392 U.S. 157, 177-78 (1968) (*Southwestern Cable*). *Southwestern Cable*, the lead case on the ancillary jurisdiction doctrine, upheld certain regulations applied to cable television systems at a time before the Commission had an express congressional grant of regulatory authority over that medium. See *id.* at 170-71. In *Midwest Video I*, the Supreme Court expanded upon its holding in *Southwestern Cable*. The plurality stated that "the critical question in this case is whether the Commission has reasonably determined that its origination rule will 'further the achievement of long-established regulatory goals in the field of television broadcasting by increasing the number of outlets for community self-expression and augmenting the public's choice of programs and types of services . . .'" *United States v. Midwest Video Corp.*, 406 U.S. 649, 667-68 (1972) (*Midwest Video I*) (quoting *Amendment of Part 74, Subpart K, of the Commission's Rules and Regulations Relative to Community Antenna Television Systems; and Inquiry into the Development of Communications Technology and Services to Formulate Regulatory Policy and Rulemaking and/or Legislative Proposals*, Docket No. 18397, First Report and Order, 20 FCC 2d 201, 202 (1969) (*CATV First Report and Order*)). The Court later restricted the scope of *Midwest Video I* by finding that if the basis for jurisdiction over cable is that the authority is ancillary to the regulation of broadcasting, the cable regulation cannot be antithetical to a basic regulatory parameter established for broadcast. See *FCC v. Midwest Video Corp.*, 440 U.S. 689, 700 (1979) (*Midwest Video II*); see also *American Library Ass'n v. FCC*, No. 04-1037, slip op. (D.C. Cir. May 6, 2005) (holding that the Commission lacked authority to impose broadcast content redistribution rules on equipment manufacturers using ancillary jurisdiction because the equipment at issue was not subject to the Commission's subject matter jurisdiction over wire and radio communications).

⁸⁸ *Southwestern Cable*, 392 U.S. at 178.

Federal Communications Commission

FCC 05-116

28. First, based on sections 1 and 2(a) of the Act,⁸⁹ coupled with the definitions set forth in section 3(33) (“radio communication”) and section 3(52) (“wire communication”),⁹⁰ we find that interconnected VoIP is covered by the Commission’s general jurisdictional grant. Specifically, section 1 states that the Commission is created “[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges,” and that the agency “shall execute and enforce the provisions of th[e] Act.”⁹¹ Section 2(a), in turn, confers on the Commission regulatory authority over all interstate communication by wire or radio.⁹² In the *Notice*, the Commission adopted no formal definition of “VoIP” but used the term generally to include “any IP-enabled services offering real-time, multidirectional voice functionality, including, but not limited to, services that mimic traditional telephony.”⁹³ Recently, in the *Vonage Order*, the Commission found that Vonage’s DigitalVoice service – an interconnected VoIP service – is subject to the Commission’s interstate jurisdiction.⁹⁴ Consistent with that conclusion, we find that interconnected VoIP services are covered by the statutory definitions of “wire communication” and/or “radio communication” because they involve “transmission of [voice] by aid of wire, cable, or other like connection . . .” and/or “transmission by radio . . .” of voice. Therefore, these services come within the scope of the Commission’s subject matter jurisdiction granted in section 2(a) of the Act.

29. Second, our analysis requires us to evaluate whether imposing a E911 requirement is reasonably ancillary to the effective performance of the Commission’s various responsibilities. Based on the record in this matter, we find that the requisite nexus exists. The Act charges the Commission with responsibility for making available “a rapid, efficient, Nation-wide, and world-wide wire and radio communication service . . . for the purpose of *promoting safety of life and property* through the use of wire and radio communication.”⁹⁵ In light of this statutory mandate, promoting an effective nationwide

⁸⁹ 47 U.S.C. §§ 151, 152(a).

⁹⁰ Section 3(33) of the Act defines the term “radio communication” or “communication by radio” to mean “the transmission by radio of writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission.” 47 U.S.C. § 153(33). Section 3(52) of the Act defines the term “wire communication” or “communication by wire” to mean “the transmission of writing, signs, signals, pictures, and sounds of all kinds by aid of wire, cable, or other like connection between the points of origin and reception of such transmission, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission.” 47 U.S.C. § 153(52).

⁹¹ 47 U.S.C. § 151.

⁹² See 47 U.S.C. § 152(a) (stating that the provisions of the Act “shall apply to all interstate and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States, and to all persons engaged within the United States in such communication or such transmission of energy by radio. . .”).

⁹³ *Notice*, 19 FCC Rcd at 4866, para. 3 n.7.

⁹⁴ See *Vonage Order*, 19 FCC Rcd at 22413-14, para. 18. In addition, the Commission adopted an order declaring that pulver.com’s Free World Dialup VoIP service is an information service under the Act and is subject to federal jurisdiction. See *Pulver Order*, 19 FCC Rcd at 3311, para. 8.

⁹⁵ 47 U.S.C. § 151 (emphasis added). Our actions today are not in conflict or otherwise inconsistent with any other provision of the Act. We acknowledge that section 230 of the Act provides that “[i]t is the policy of the United States - to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation.” 47 U.S.C. § 230(b)(2). We do not, however, believe

Federal Communications Commission

FCC 05-116

911/E911 emergency access system has become one of the Commission's primary public safety responsibilities under the Act. As the Commission has recognized, "[i]t is difficult to identify a nationwide wire or radio communication service more immediately associated with promoting safety of life and property than 911."⁹⁶ Indeed, the Commission has previously relied on Title I to satisfy both prongs of the standard for asserting ancillary jurisdiction: (1) subject matter jurisdiction; and (2) the statutory goal furthered by the regulation. For example, in *Rural Telephone Coalition v. FCC*, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) upheld the Commission's assertion of ancillary jurisdiction to establish a funding mechanism to support universal service in the absence of specific statutory authority as ancillary to its responsibilities under section 1 of the Act to "further the objective of making communications service available to all Americans at reasonable charges."⁹⁷ Thus, we conclude that as more consumers begin to rely on interconnected VoIP services for their communications needs, the action we take here ensures that the Commission continues to "further the achievement of long-established regulatory goals"⁹⁸ to "promot[e] safety of life and property."⁹⁹

that this policy statement precludes us from adopting E911 rules for interconnected VoIP providers here. We note that the Commission's discussion of section 230 in the *Vonage Order* as cautioning against regulation was limited to "traditional common carrier economic regulations." *Vonage Order*, 19 FCC Rcd at 22426, para. 35.

In addition, while we acknowledge that there are generally intrastate components to interconnected VoIP service and E911 service, we reject any argument that 911/E911 services are purely intrastate and therefore the Commission has no jurisdiction in this area. The Commission has long maintained a federal role in wireline and wireless 911/E911 issues. *See generally, e.g., E911 Scope Order*, 18 FCC Rcd 25340; *N11 Codes Fifth Report and Order*, 16 FCC Rcd 22264; *E911 First Report and Order*, 11 FCC Rcd 18676; *Amendment of Part 63 of the Commission's Rules to Provide for Notification by Common Carriers of Service Disruptions*, CC Docket No. 91-273, Second Report and Order, 9 FCC Rcd 3911, 3925, para. 35 (1994) (*Part 63 Notification Order*) ("We reject suggestions that the reliability and efficiency of 911 systems are not of Commission interest."). The Commission's assertion of federal jurisdiction over 911/E911 matters has since been ratified twice by Congress. *See* 911 Act § 2(a)(4) (finding that "improved public safety remains an important public health objective of Federal, State, and local governments and substantially facilitates interstate and foreign commerce"). *See generally* 911 Act; Ensuring Needed Help Arrives Near Callers Employing 911 Act of 2004, Pub. Law 108-494 (2004) (codified at 47 U.S.C. § 901 nt.) (ENHANCE 911 Act of 2004). Indeed, similar to the Commission's conclusions in the wireless 911/E911 context, we identify various inseparable, nationwide aspects of E911 operations for interconnected VoIP services, including: (1) ubiquitous E911 operational compatibility; (2) avoiding state-by-state technical and operational requirements that would burden equipment manufacturers and providers; and (3) avoiding confusion by end users who attempt to contact emergency services while using the interconnected VoIP service away from their primary locations. *See E911 First Report and Order*, 11 FCC Rcd at 18729-30, para. 104.

⁹⁶ *E911 NPRM*, 9 FCC Rcd at 6171, para. 7; *see Part 63 Notification Order*, 9 FCC Rcd at 3925, para. 35 ("The reliability of 911 service is integrally related to our responsibilities under Section 1 of the Act, which include 'promoting safety of life and property through the use of wire and radio communication.'"); *see also Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; E911 Phase II Compliance Deadlines for Tier III Carriers*, CC Docket No. 94-102, Order, FCC 05-79 (rel. Apr. 1, 2005); Federal Communications Commission, *FCC Amended Report to Congress on the Deployment of E-911 Phase II Services by Tier III Service Providers* at 2, 11 (Apr. 1, 2005); *E911 Scope Order*, 18 FCC Rcd at 25346, paras. 13, 16; *E911 First Report and Order*, 11 FCC Rcd at 18681, para. 8.

⁹⁷ *Rural Tel. Coalition v. FCC*, 838 F.2d 1307, 1315 (D.C. Cir. 1988).

⁹⁸ *Midwest Video I*, 406 U.S. at 667-68 (quoting *CATV First Report and Order*, 20 FCC 2d at 202).

⁹⁹ 47 U.S.C. § 151.

Federal Communications Commission

FCC 05-116

30. Our actions today are consistent with, and a necessary extension of, our prior exercises of authority to ensure public safety. Since 1996, the Commission has acted to impose 911/E911 rules on providers of new technologies.¹⁰⁰ Since that time, the Commission has affirmed and expanded on those efforts by exercising jurisdiction over other services to impose 911/E911 requirements, relying primarily on its Title I authority.¹⁰¹ That exercise of authority has been ratified, not rebuked, by Congress.¹⁰²

31. Further, we note that our actions here are consistent with other provisions of the Act. For example, we are guided by section 706,¹⁰³ which directs the Commission (and state commissions with jurisdiction over telecommunications services) to encourage the deployment of advanced telecommunications capability to all Americans by using measures that “promote competition in the local telecommunications market” and removing “barriers to infrastructure investment.”¹⁰⁴ Internet-based services such as interconnected VoIP are commonly accessed via broadband facilities (*i.e.*, advanced telecommunications capabilities under the 1996 Act).¹⁰⁵ The uniform availability of E911 services may spur consumer demand for interconnected VoIP services, in turn driving demand for broadband connections, and consequently encouraging more broadband investment and deployment consistent with the goals of section 706.¹⁰⁶ Indeed, the Commission’s most recent *Fourth Section 706 Report to Congress* recognizes the nexus between VoIP services and accomplishing the goals of section 706.¹⁰⁷

32. Moreover, as stated above, in recognition of the critical role 911/E911 services play in achieving the Act’s goal of promoting safety of life and property, Congress passed the 911 Act, which among other things made 911 the universal emergency telephone number for both wireline and wireless telephone service for the nation.¹⁰⁸ In the 911 Act, Congress made a number of findings regarding wireline and wireless 911 services, including that “improved public safety remains an important public health objective of Federal, State, and local governments and substantially facilitates interstate and foreign commerce,”

¹⁰⁰ See generally *E911 First Report and Order*, 11 FCC Rcd 18676; *E911 Scope Order*, 18 FCC Rcd 25340.

¹⁰¹ See *E911 Scope Order*, 18 FCC Rcd at 25345-46, paras. 12-16.

¹⁰² See generally 911 Act; ENHANCE 911 Act of 2004.

¹⁰³ 47 U.S.C. § 157 nt. (incorporating section 706 of the Telecommunications Act of 1996, Pub. Law No. 104-104, 110 Stat. 56 (1996) (1996 Act)).

¹⁰⁴ 47 U.S.C. § 157 nt.; see also, *e.g.*, 47 U.S.C. § 154(o) (requiring the Commission, “[f]or the purpose of obtaining maximum effectiveness from the use of radio and wire communications in connection with safety of life and property,” to investigate and study “methods of obtaining the cooperation and coordination of these systems”); 47 U.S.C. § 271(c)(2)(B)(vii) (requiring the Commission, in order to grant a Bell operating company (BOC) interLATA authority, to find that the BOC is providing nondiscriminatory access to 911 and E911 services).

¹⁰⁵ See 47 U.S.C. § 157 nt. (c)(1) (defining “advanced telecommunications capability”).

¹⁰⁶ Cf. Letter from Donna N. Lampert, Counsel for AOL, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (filed May 11, 2005) (AOL May 11, 2005 *Ex Parte* Letter) (stating that AOL has a “strong concern that VoIP providers with inferior emergency services reduce consumer confidence in VoIP, negatively affecting AOL”).

¹⁰⁷ See *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Fourth Report to Congress, 19 FCC Rcd 20540, 20578 (2004) (“[S]ubscribership to broadband services will increase in the future as new applications that require broadband access, *such as VoIP*, are introduced into the marketplace, and consumers become more aware of such applications.”) (emphasis added).

¹⁰⁸ See 911 Act § 3(a). Cf. ENHANCE 911 Act of 2004, § 102(4) (“[E]nhanced 911 is a high national priority and it requires Federal leadership, working in cooperation with State and local governments and with the numerous organizations dedicated to delivering emergency communications services.”).

Federal Communications Commission

FCC 05-116

and that “emerging technologies can be a critical component of the end-to-end communications infrastructure connecting the public with emergency [services].”¹⁰⁹ Thus, we believe that our action here to impose E911 obligations on interconnected VoIP providers is consistent with Congress’ public safety policy objectives.

33. Finally, as an additional and separate source of authority for the requirements we impose on providers of interconnected VoIP service in this Order, we rely on the plenary numbering authority over U.S. NANP numbers Congress granted this Commission in section 251(e) of the Act and,¹¹⁰ in particular, Congress’ direction to use its plenary numbering authority to designate 911 as the universal emergency telephone number within the United States, which “shall apply to both wireline and wireless telephone service.”¹¹¹ We exercise our authority under section 251(e) of the Act because interconnected VoIP providers use NANP numbers to provide their services.

34. When the Commission initially implemented the 911 Act, it took actions similar to those we take today under its numbering authority. For instance, in the order implementing the 911 Act, the Commission exercised federal jurisdiction over the establishment of the deadlines by when all carriers had to provide 911 functionality, and adopted various deadlines depending on such things as whether a local community had established a PSAP.¹¹² The Commission also required carriers to implement certain switching and routing changes to their networks. Specifically, the Commission required all carriers to “implement a permissive dialing period, during which emergency calls will be routed to the appropriate emergency response point using either 911 or the seven- or ten-digit number.”¹¹³ In order to achieve this, carriers had to “prepare and modify switches to ‘translate’ the three-digit 911 dialed emergency calls at the appropriate network points to the seven- or ten-digit emergency number in use by those PSAPs, and,

¹⁰⁹ 47 U.S.C. § 615(a)(3).

¹¹⁰ 47 U.S.C. § 251(e)(1) (providing that “[t]he Commission shall have exclusive jurisdiction over those portions of the North American Numbering Plan that pertain to the United States.”). The Commission has been granted explicit authority to “delegat[e] to State commissions or other entities all or any portion of such jurisdiction.” *Id.* The Commission has declared that it has retained its “authority to set policy with respect to all facets of numbering administration in the United States.” *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, Area Code Relief Plan for Dallas and Houston, Ordered by the Public Utility Commission of Texas, Administration of the North American Numbering Plan, Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois*, CC Docket No. 96-98, CC Docket No. 95-185, NSD File No. 96-8, CC Docket No. 92-237, IAD File No. 94-102, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19512, para. 268 (1996) (explaining that by retaining exclusive jurisdiction over numbering policy the Commission preserves its ability to act flexibly and expeditiously). However, the Commission has delegated to others the authority to address technical and operational issues, such as the delegation to state commissions of numbering authority to address the technical and operational issues associated with the implementation of 811. *See Use of N11 Codes and Other Abbreviated Dialing Arrangements*, CC Docket No. 92-105, Sixth Report and Order, FCC 05-59, para. 35 (rel. Mar. 14, 2005).

¹¹¹ *See* 47 U.S.C. § 251(e)(3).

¹¹² *See N11 Codes Fifth Report and Order*, 16 FCC Rcd 22266-82, paras. 4-45.

¹¹³ *Id.* at 22271, para. 16.

subsequently, route the calls to them.”¹¹⁴ The Commission also recognized that the transition to 911 in general required more network changes than required by translation.¹¹⁵

35. The Commission’s authority to require network changes to provide the E911 features that have long been central to the nation’s 911 infrastructure¹¹⁶ is included within Congress’ directive to the Commission to require the establishment of 911 as a “universal emergency telephone number . . . for reporting an emergency to appropriate authorities and requesting assistance.”¹¹⁷

C. Requirements

36. In this Order, we adopt an immediate E911 solution that applies to all interconnected VoIP services. We find that this requirement most appropriately discharges the Commission’s statutory obligation to promote an effective nationwide 911/E911 emergency access system by recognizing the needs of the public safety community to get call back and location information and balancing those needs against existing technological limitations of interconnected VoIP providers.¹¹⁸ By requiring interconnected VoIP providers to adopt E911 solutions as a top priority, we hope to minimize the likelihood of situations like the recent incidents discussed above.¹¹⁹ With regard to portable interconnected VoIP services, however, we intend to adopt in a future order an advanced E911 solution for interconnected VoIP that must include a method for determining a user’s location without assistance from the user as well as firm implementation deadlines for that solution. To this end, we seek comment in the *NPRM* on possible additional solutions including technical options and possible timelines for implementation.

37. **Enhanced 911 Service.** We require that, within 120 days of the effective date of this Order, an interconnected VoIP provider must transmit all 911 calls, as well as a call back number and the caller’s “Registered Location” for each call,¹²⁰ to the PSAP, designated statewide default answering point, or appropriate local emergency authority that serves the caller’s Registered Location and that has been designated for telecommunications carriers under section 64.3001 of the Commission’s rules.¹²¹ These calls must be routed through the use of ANI and, if necessary, pseudo-ANI,¹²² via the dedicated Wireline

¹¹⁴ *Id.* at 22272, para. 19.

¹¹⁵ *See id.* at 22272, para. 20.

¹¹⁶ *See, e.g., E911 First Report and Order*, 11 FCC Rcd at 18679, para. 5 (explaining that in the previous decade most PSAPs had been upgraded to receive call back and location information to permit more efficient and speedy response by emergency service personnel and that, at the time, 85% of 911 services included some form of enhanced 911).

¹¹⁷ 47 U.S.C. § 251(e)(3).

¹¹⁸ *See supra* para. 25. Indeed, the Commission similarly imposed difficult but achievable requirements on CMRS providers in the name of public safety. *See supra* paras. 16-18.

¹¹⁹ *See supra* note 2 (describing incidents in Texas, Connecticut, and Florida in which users of interconnected VoIP services were reported to be unable to reach emergency dispatchers by dialing 911).

¹²⁰ The term “Registered Location” is defined *infra*, para. 46.

¹²¹ 47 C.F.R. § 64.3001; *see also N11 Codes Fifth Report and Order*, 16 FCC Rcd 22269-77, paras. 10-31.

¹²² The terms “ANI” and “pseudo-ANI” as used herein have the same meanings as those set forth in section 20.3 of the Commission’s rules. 47 C.F.R. § 20.3.

Federal Communications Commission

FCC 05-116

E911 Network,¹²³ and the Registered Location must be available from or through the ALI Database. As explained in paragraph 42 *infra*, however, an interconnected VoIP provider need only provide such call back and location information as a PSAP, designated statewide default answering point, or appropriate local emergency authority is capable of receiving and utilizing. While 120 days is an aggressively short amount of time in which to comply with these requirements, the threat to public safety if we delay further is too great and demands near immediate action.

38. Interconnected VoIP providers may satisfy this requirement by interconnecting indirectly through a third party such as a competitive LEC, interconnecting directly with the Wireline E911 Network, or through any other solution that allows a provider to offer E911 service as described above. As an example of the first type of arrangement, Level 3 offers a wholesale product that allows certain interconnected VoIP providers to provide E911 service to their customers.¹²⁴ 8x8, Inc. recently announced that it is utilizing Level 3's service to provide E911 service to its Packet8 service subscribers in 2,024 rate centers covering 43 U.S. states.¹²⁵ Likewise, Intrado has indicated that it is prepared to operate as a competitive LEC in a number of states to provide indirect interconnection to interconnected VoIP providers,¹²⁶ and Pac-West Telecom is offering a similar service in "virtually 100%" of the state of California.¹²⁷ We note that the Commission currently requires LECs to provide access to 911 databases and interconnection to 911 facilities to all telecommunications carriers, pursuant to sections 251(a) and (c) and section 271(c)(2)(B)(vii) of the Act.¹²⁸ We expect that this would include all the elements

¹²³ The term Wireline E911 Network is defined *supra*, para. 14.

¹²⁴ See Level 3 May 12, 2005 *Ex Parte* Letter at 2 (describing product as suitable for providers of fixed interconnected VoIP services that utilize only "native" telephone numbers); Level 3, *E-911: Enhanced 911 for VoIP* (visited Apr. 26, 2005) <http://www.level3.com/userimages/dotcom/pdf/Level_3_E-911_Fact_Sheet.pdf> (stating that Level 3 offers certain types of VoIP providers the ability to provide full E-911 service for approximately 60% of the U.S. households with plans to support 70-80% later in 2005).

¹²⁵ See 8x8, Inc., *Packet8 E911 'Real' Emergency Phone Service Now Available in Over 2,000 U.S. Rate Centers*, Press Release (rel. May 12, 2005) <http://www.8x8.com/index.php?s=press_releases&item=40>; Level 3, *8x8 Teams with Level 3 to Enhance Residential VoIP Services*, Press Release (rel. June 14, 2004) <<http://www.level3.com/press/5013.html>>.

¹²⁶ See Letter from Mary Boyd, Vice President Government & External Affairs, Intrado, to Marlene Dortch, Secretary, FCC, WC Docket 04-36, Attach. at 1, 4-5 (filed Apr. 25, 2005) (Intrado Apr. 25, 2005 *Ex Parte* Letter). Intrado currently provides an array of E911 services to many major VoIP providers, but does not typically provide interconnection. See *id.*; Intrado Apr. 4, 2005 *Ex Parte* Letter, Attach. at 3.

¹²⁷ See Pac-West Telecomm, Inc., *Pac-West Telecomm Provides E911 Capabilities to VoIP Providers*, Press Release (rel. May 16, 2005) <http://www.pacwest.com/investor/investor_releases.cfm?ticker=PACW&script=415&layout=6&item_id=710492>.

¹²⁸ See 47 U.S.C. § 251(a)(1) (requiring all telecommunications carriers "to interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers"); 47 U.S.C. § 251(c) (requiring incumbent LECs, other than those exempted by section 251(f), to make available unbundled network elements to requesting telecommunications carriers); 47 C.F.R. § 51.319(f) ("An incumbent LEC shall provide a requesting telecommunications carrier with nondiscriminatory access to 911 and E911 databases on an unbundled basis, in accordance with section 251(c)(3) of the Act . . ."); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, 17332, para. 557 (2003) ("[B]ecause of the unique nature of 911 and

Federal Communications Commission

FCC 05-116

necessary for telecommunications carriers to provide 911/E911 solutions that are consistent with the requirements of this Order, including NENA's I2 or wireless E911-like solutions.

39. At the same time, the record indicates that incumbent LECs are increasingly offering E911 solutions that allow VoIP providers to interconnect directly to the Wireline E911 Network through tariff, contract, or a combination thereof. For example, Qwest has tariffed E911 offerings that are currently available to VoIP providers and can be coupled with third party service offerings to enable the provision of E911 service to portable interconnected VoIP services, including those that allow their end users to use non-native NPA-NXX numbers.¹²⁹ Verizon is developing an E911 solution for interconnected VoIP providers that is comparable to the solution it offers for wireless E911.¹³⁰ Verizon has announced that it will offer this solution in New York City beginning in summer 2005 and will roll it out in other locations if the New York City model succeeds.¹³¹ BellSouth currently offers tariffed services similar to those that Qwest uses to provide its VoIP E911 solution and recently announced that it is offering interconnected VoIP providers access to 911 facilities equivalent to that which it offers CMRS carriers.¹³² SBC has

E911 services and the public safety issues inherent in ensuring nondiscriminatory access to such databases, we conclude that . . . competitive carriers must continue to obtain unbundled access to those databases to ensure that their customers have access to emergency services.”); 47 U.S.C. § 271(c)(2)(B)(vii)(1) (requiring BOCs to provide nondiscriminatory access to 911 and E911 services to other telecommunications carriers); *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as Amended, to Provide In-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, Memorandum Opinion and Order, 12 FCC Rcd 20543, 20679, para. 256 (1997) (“[S]ection 271 requires a BOC to provide competitors access to its 911 and E911 services in the same manner that a BOC obtains such access, i.e., at parity.”); *id.* (“For facilities-based carriers, nondiscriminatory access to 911 and E911 service also includes the provision of unbundled access to [a BOC’s] 911 database and 911 interconnection, including the provision of dedicated trunks from the requesting carrier’s switching facilities to the 911 control office . . .”). Of course, if we find interconnected VoIP to be a telecommunications service, or if a provider of interconnected VoIP holds itself out as a telecommunications carrier and complies with appropriate federal and state requirements, access under these provisions would be available to those providers as well.

¹²⁹ See Qwest Apr. 12, 2005 *Ex Parte* Letter at 1 (describing Qwest’s PS/ALI offering and how such offering can be bundled with a third party ALI database interface to provide E911 service to nomadic VoIP customers); Letter from Cronan O’Connell, Vice President-Federal Regulatory, Qwest to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (filed May 12, 2005) (Qwest May 12, 2005 *Ex Parte* Letter). The Qwest’s E911 offering for interconnected VoIP is essentially the E911 solution that Qwest developed for Multi-Line Telephone Systems, and is sold out of Qwest’s retail tariffs. See Qwest Apr. 12, 2005 *Ex Parte* Letter, Attach. at 6-7. At least one provider of interconnected VoIP services has found Qwest’s offering sufficient. See Letter from Jeffery A. Citron, Chairman and CEO, Vonage Holdings Corp., to Richard C. Notebaert, Qwest Communications (dated Apr. 13, 2005) in Vonage Apr. 18, 2005 *Ex Parte* Letter (“With the access Qwest has agreed to provide, Vonage will be able to route emergency service calls placed by its customers directly to public safety operators. . .”).

¹³⁰ See Verizon Apr. 15, 2005 *Ex Parte* Letter at 1; Verizon May 11, 2005 *Ex Parte* Letter at 2-3.

¹³¹ See Verizon, *Verizon Identifies Solution Enabling VoIP Companies to Connect to E911 Emergency Calling System*, Press Release (rel. Apr. 26, 2005) <<http://newscenter.verizon.com>>; see also New York City Apr. 22, 2005 *Ex Parte* Letter at 1; Verizon May 11, 2005 *Ex Parte* Letter at 2-3.

¹³² See BellSouth Apr. 19, 2005 *Ex Parte* Letter at 1; BellSouth May 12, 2005 *Ex Parte* Letter at 3-4 (stating that “[u]sing [BellSouth’s CMRS 911] offering as the baseline, BellSouth is offering equivalent 9-1-1 infrastructure network access to VoIP providers”); Letter from Bennett L. Ross, General Counsel-D.C., BellSouth D.C., Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (filed May 16, 2005) (BellSouth May 16, 2005 *Ex Parte* Letter) (stating that BellSouth’s offering to interconnected VoIP providers “provides the same access as that which BellSouth currently provides to CMRS carriers”).

Federal Communications Commission

FCC 05-116

offered to negotiate commercial agreements with VoIP providers for direct connection to Selective Routers and ALI databases, comparable to the E911 access that SBC provides to competitive LECs.¹³³ SBC further has established a new commercial offering that “will enable VoIP providers to offer customers who use their service at a fixed location, such as their home” full E911 service and has stated that it is “willing to develop a wireless-like VOIP 911 capability for VOIP providers” pending receipt of necessary technical information.¹³⁴

40. We are requiring that all interconnected VoIP 911 calls be routed through the dedicated Wireline E911 Network because of the importance of protecting consumers who have embraced this new technology. We recognize that compliance with this obligation is necessarily dependent on the ability of the interconnected VoIP providers to have access to trunks and selective routers via competitive LECs that have negotiated access with the incumbent LECs, through direct connections to the incumbent LECs, or through third-party providers. We expect and strongly encourage all parties involved to work together to develop and deploy VoIP E911 solutions and we point out that incumbent LECs, as common carriers, are subject to sections 201 and 202 of the Act. The Commission will closely monitor these efforts within the industry and will not hesitate to take further action should that be necessary.

41. By requiring that all 911 calls be routed via the dedicated Wireline E911 Network, we are requiring interconnected VoIP service providers to provide E911 service only in those areas where Selective Routers are utilized.¹³⁵ We expect that few VoIP 911 calls will be placed in areas that are not interconnected with a dedicated Wireline E911 Network.¹³⁶ We further note that nothing in this Order prevents interconnected VoIP providers from entering into mutually acceptable 911 call termination arrangements with PSAPs that are not interconnected with a dedicated Wireline E911 Network. In the attached *NPRM*, we seek comment on whether the Commission need take specific action with respect to such calls.¹³⁷

42. **Service Level Obligation.** For the purposes of these requirements, the phrase “all 911 calls” is defined as “any voice communication initiated by an interconnected VoIP user dialing 911.”¹³⁸ We

¹³³ See Letter from Christopher T. Rice, Executive Vice President, Network Planning & Engineering, SBC, to Jeffrey A. Citron, Chairman & CEO, Vonage (dated Apr. 18, 2005) (SBC/Vonage Apr. 18, 2005 Letter) in Letter from James K. Smith, Executive Director – Federal Regulatory, SBC Services, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 10 (SBC Apr. 26, 2005 *Ex Parte* Letter) (explaining that SBC currently permits VoIP providers to purchase a tariffed interconnection service called TIPToP and offers access to its Selective Routers and 911 databases pursuant to an optional ancillary agreement).

¹³⁴ See Letter from James K. Smith, Executive Director - Federal Regulatory, SBC Services, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1, Attach. at 1 (filed May 12, 2004) (SBC May 12, 2005 *Ex Parte* Letter).

¹³⁵ See *supra* note 37 (identifying selective routing capability as the key characteristic distinguishing basic 911 and E911).

¹³⁶ We note that NENA estimates that 93% of counties with wireline 911 service have E911 service. See NENA 911 Fast Facts.

¹³⁷ See *infra* Part IV.

¹³⁸ We note that end users may not be able to initiate a voice communication, by dialing 911 or otherwise, where their broadband connection has failed or they have lost electrical power. Cf. AOL May 11, 2005 *Ex Parte* Letter at 2; Letter from Jennifer L. Phurrough, Counsel for EarthLink, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 1 (EarthLink May 12, 2005 *Ex Parte* Letter).

Federal Communications Commission

FCC 05-116

recognize that not all PSAPs will immediately be capable of receiving and utilizing the call back number and Registered Location information associated with the E911 requirements outlined above.¹³⁹ By way of example, NENA estimates that approximately 26.6 percent of all PSAPs are not currently capable of receiving and utilizing wireless E911 Phase I data.¹⁴⁰ We therefore hold that the E911 requirements set forth above shall be applicable when an interconnected VoIP provider provides service to a Registered Location only to the extent that the PSAP, designated statewide default answering point, or appropriate local emergency authority designated to serve that Registered Location is capable of receiving and utilizing the data, such as ALI or ANI, associated with those requirements. Even in those areas where the PSAP is not capable of receiving or processing location or call back information, however, we conclude that interconnected VoIP providers must transmit all 911 calls to the appropriate PSAP via the Wireline E911 Network. To be clear, this means that interconnected VoIP providers are *always* required to transmit all 911 calls to the appropriate PSAP, designated statewide default answering point, or appropriate local emergency authority utilizing the Selective Router, the trunk line(s) between the Selective Router and the PSAP, and such other elements of the Wireline E911 Network¹⁴¹ as are necessary in those areas where Selective Routers are utilized.¹⁴²

43. We further hold that the obligation to determine what type of information, such as ALI or ANI, each PSAP is capable of receiving and utilizing rests with the provider of interconnected VoIP services. There is no limit to the number of entities that may engage in the provision of interconnected VoIP services in a given geographic area. It would be unreasonable to require PSAPs to attempt to inform every provider of interconnected VoIP services when the PSAP is prepared to receive and utilize the information associated with E911 service.

44. We decline at this time to adopt performance standards regarding how much time may elapse after an end user updates the Registered Location before the provider has taken such actions as are necessary to provide that end user with the level of E911 service specified in this Order.¹⁴³ We request

¹³⁹ The term “Registered Location” is defined *infra*, para. 46.

¹⁴⁰ See NENA 911 Fast Facts.

¹⁴¹ The Wireline E911 Network is described *supra*, paras. 14-15.

¹⁴² We emphasize that interconnected VoIP providers may not fulfill their E911 obligations by routing 911 calls to 10-digit NPA-NXX numbers (so called “administrative numbers”) of PSAPs, designated statewide default answering points, or appropriate local emergency authorities where a Selective Router is utilized. Cf. NASUCA Comments at 52 (“Delivering 911 calls to the PSAP this way is better than not delivering them at all, but not much better”); New York City Apr. 22, 2005 *Ex Parte* Letter at 1 (stating “the routing by VOIP providers of 911-dialed calls to administrative desks at 911 calling centers is unacceptable and hazardous”); Letter from Gregory Ballentine, President, APCO International, to Kevin J. Martin, Chairman, FCC, WC Docket No 04-36 at 1 (filed Apr. 15, 2005) (APCO Apr. 15, 2005 *Ex Parte* Letter) (stating that while routing 911 calls to administrative numbers is “perhaps acceptable for some PSAPs, such an approach could endanger the public and disrupt already over-burdened PSAP operations” at others). Nothing in this Order, however, prevents interconnected VoIP providers from entering into mutually acceptable 911 call termination arrangements, with PSAPs, designated statewide default answering points, or appropriate local emergency authorities that are not interconnected with a Selective Router through a dedicated Wireline E911 Network. Cf. *id.* at 1.

¹⁴³ With a NENA I2 or wireless E911-like solution in place, an interconnected VoIP provider should be able to provide an end user’s updated location to a requesting PSAP in “real time.” See Intrado Apr. 19, 2005 *Ex Parte* Letter, Attach. at 11; Letter from William B. Wilhelm, Jr., Counsel for Vonage Holdings Corp. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 8 (Vonage May 13, 2005 *Ex Parte* Letter). We understand, however, that updating an end user’s location information in the ALI database can require between 24

Federal Communications Commission

FCC 05-116

comment, however, on whether such performance standards are necessary and, if so, what form they should take in the *NPRM* issued in conjunction with this Order.¹⁴⁴

45. We also require interconnected VoIP providers to take certain additional steps to minimize the scope of the 911 issues associated with their service and to facilitate their compliance with our new VoIP E911 rules, as explained below. First, we require interconnected VoIP providers to obtain, and facilitate updating of, customer location information. Second, we preclude interconnected VoIP providers from requiring subscribers to “opt-in” or allowing subscribers to “opt-out” of 911 services and expect that VoIP providers will notify their customers of the limitations of their 911 service offerings.

46. **Registered Location Requirement.** We recognize that it currently is not always technologically feasible for providers of interconnected VoIP services to automatically determine the location of their end users without end users’ active cooperation.¹⁴⁵ We therefore require providers of interconnected VoIP services to obtain location information from their customers.¹⁴⁶ Specifically, interconnected VoIP providers must obtain from each customer, prior to the initiation of service, the physical location at which the service will first be utilized.¹⁴⁷ Furthermore, providers of interconnected VoIP services that can be utilized from more than one physical location must provide their end users one or more methods of updating information regarding the user’s physical location. Although we decline to specify any particular method, we require that any method utilized allow an end user to update his or her Registered Location at will and in a timely manner, including at least one option that requires use only of the CPE necessary to access the interconnected VoIP service. We caution interconnected VoIP providers against charging customers to update their Registered Location, as this would discourage customers from doing so and therefore undermine this solution. The most recent location provided to an interconnected VoIP provider by a customer is the “Registered Location.”¹⁴⁸ Interconnected VoIP providers can comply with this requirement directly or by utilizing the services of a third party.

and 120 hours where a wireless E911-like solution is not in place. *See* Vonage May 9, 2005 *Ex Parte* Letter at 4 (24-48 hours); Qwest May 12, 2005 *Ex Parte* Letter at 2 (72 hours); Level 3 May 12, 2005 *Ex Parte* Letter at 2 (120 hours).

¹⁴⁴ *See infra* Part IV.

¹⁴⁵ *See, e.g.*, 8X8 Comments at 17, 25; Alcatel Comments at 18; AT&T Comments at n.18; Avaya Comments at 19; Dialpad *et al.* Comments at 15; Qwest Comments at n.47; Letter from Ronald W. Del Sesto, Jr., Counsel for Nuvio, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 2 (filed Apr. 1, 2005); Greater Harris County/Tarrant County/NENA Apr. 15, 2005 *Ex Parte* Letter, Attach. at 3; *see also* Vonage Order, 19 FCC Rcd at 22419-21, paras. 24-29 (explaining that VoIP providers have neither the means nor any service-driven reason to track the actual end points of communications).

¹⁴⁶ We emphasize that we are not requiring interconnected VoIP providers to automatically determine the location of their end users. Nothing in these rules, however, prevents an interconnected VoIP provider from automatically obtaining an accurate Registered Location if it is capable of doing so.

¹⁴⁷ Interconnected VoIP providers also must obtain from their existing customers, within 120 days of the effective date of this Order, the physical location at which the service is being utilized.

¹⁴⁸ We expect that customers of interconnected VoIP service providers will, in almost all cases, be able to provide their Registered Location in the form of a valid street address. We recognize, however, that wireless broadband technologies may increase the possibility that a user’s location is not associated with a street address, and request comment on whether some other solution is necessary in that circumstance. *See infra* Part IV.

47. **Customer Requirements.** In light of the recent incidents involving problems with 911 access from interconnected VoIP services,¹⁴⁹ it is clear that not all providers of interconnected VoIP are including E911 as a standard feature of their services.¹⁵⁰ We find that allowing customers of interconnected VoIP providers to opt-in to or, for that matter, opt-out of E911 service is fundamentally inconsistent with our obligation to “encourage and support efforts by States to deploy comprehensive end-to-end emergency communications infrastructure and programs.”¹⁵¹ Thus, interconnected VoIP providers must, as a condition of providing that service to a consumer, provide that consumer with E911 service as outlined in the requirements above.¹⁵²

48. Further, although many VoIP providers include explanations of the limitations of their 911-like service (or lack thereof) in the Frequently Asked Questions sections on their web sites or in their terms of service,¹⁵³ recent incidents make clear that consumers in many cases may not understand that the reasonable expectations they have developed with respect to the availability of 911/E911 service via wireless and traditional wireline telephones may not be met when they utilize interconnected VoIP services.¹⁵⁴ In order to ensure that consumers of interconnected VoIP services are aware of their interconnected VoIP service’s actual E911 capabilities, by the effective date of this Order, we require that all providers of interconnected VoIP service specifically advise every subscriber, both new and existing, prominently and in plain language, the circumstances under which E911 service may not be available

¹⁴⁹ See *supra* note 2 (describing incidents in Texas, Connecticut, and Florida in which users of interconnected VoIP services reportedly were unable to reach emergency dispatchers by dialing 911).

¹⁵⁰ Some interconnected VoIP providers do not provide any 911 or 911-like service. See, e.g., Net2Phone, *FAQs (Frequently Asked Questions)* (visited Apr. 25, 2005) <http://web.net2phone.com/consumer/voiceline/support_faq.asp#Doyouprovide911service> (Net2Phone FAQ). Other providers require their customers to affirmatively request, or “opt-in” to, the provider’s 911 or 911-like services. See, e.g., Packet8, *Feature Details* (visited Apr. 25, 2005) <<http://www.packet8.net/about/featuresdetails0604.asp#e911>> (Packet8 Feature Details); Vonage, *Vonage Lets You Dial 911* (visited Apr. 25, 2005) <<http://www.vonage.com/features.php?feature=911>> (Vonage 911 FAQ).

¹⁵¹ 911 Act § 3(b). The prospect that an individual might opt out of 911 service on his or her primary home communications system also raises serious public policy issues. See Citizens Utility Board Comments at 28.

¹⁵² Thus, interconnected VoIP providers must make E911 an included feature of their service, not an optional one. Cf., e.g., Packet8, *Feature Details* (visited Apr. 25, 2005) <<http://www.packet8.net/about/featuresdetails0604.asp#e911>>. We do not dictate how providers recover their costs for E911. See *infra* Part III.D.

¹⁵³ See, e.g., Net2Phone FAQ; Skype, *SkypeOut Frequently Asked Questions* (visited Apr. 25, 2005) <<http://www.skype.com/help/faq/skypeout.html#calling>>; Skype, *Terms of Service* (visited May 18, 2005) <http://www.skype.com/company/legal/terms/tos_voip.html>; Packet8 *Feature Details*; Packet8, *Terms and Conditions of Service*, (visited May 18, 2005) <http://www.packet8.net/about/service_terms.asp>; Vonage 911 FAQ; Vonage, *Terms of Service* (visited May 18, 2005) <http://www.vonage.com/features_terms_service.php?lid=footer_terms>; VoiceWing, *FAQs - Product Features* (visited Apr. 25, 2005) <<https://www2.verizon.com/CustomerHelp/CGI-BIN/SmartHelp.asp?St=221&E=0000000000000779354&K=9408&Sxi=4&dtree=257#622>>; VoiceWing, *Verizon VoiceWing Terms of Service* (visited May 18, 2005) <https://www2.verizon.com/ForYourHome/VOIP/Popup_PrintTos.aspx>.

¹⁵⁴ See *supra* note 2 (describing incidents in Texas, Connecticut, and Florida in which users of interconnected VoIP services were unable to reach emergency dispatchers by dialing 911); see also *supra* note 72 (highlighting consumer expectations that interconnected VoIP services will function in some ways like a “regular telephone” service, including with respect to E911 service).

Federal Communications Commission

FCC 05-116

through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service.¹⁵⁵ VoIP providers shall obtain and keep a record of affirmative acknowledgement by every subscriber, both new and existing, of having received and understood this advisory. In addition, in order to ensure to the extent possible that the advisory is available to all potential users of an interconnected VoIP service,¹⁵⁶ interconnected VoIP service providers shall distribute to all subscribers, both new and existing, warning stickers or other appropriate labels warning subscribers if E911 service may be limited or not available and instructing the subscriber to place them on and/or near the CPE used in conjunction with the interconnected VoIP service.

49. Additional customer education efforts may well be necessary for users of portable interconnected VoIP, for whom E911 service requires that they notify their service provider affirmatively of their location. For example, customers of portable interconnected VoIP services likely will need to be instructed on how to register their locations with their providers, the need to update that information promptly when they relocate, and how to confirm that the registration is effective.¹⁵⁷ In the attached *NPRM*, we seek comment on whether stronger Commission action is needed with respect to customer notification.¹⁵⁸

50. **Compliance Letter.** We require all interconnected VoIP providers to submit a letter to the Federal Communications Commission detailing their compliance with our rules no later than 120 days after the effective date of this Order. The letter and all other filings related to this Order should be filed with the Commission's Secretary in WC Docket No. 05-196 on a going-forward basis.

51. Because of the vital public safety interests at stake in this proceeding, we are committed to ensuring compliance with the rules we adopt in this Order. Failure to comply with these rules cannot and will not be tolerated, as noncompliance may have a direct effect on the lives of those customers who choose to obtain service from the interconnected VoIP providers covered by this Order. Interconnected VoIP providers who do not comply fully with the requirements set forth in this Order will be subject to swift enforcement action by the Commission, including substantial proposed forfeitures and, in appropriate cases, cease and desist orders and proceedings to revoke any Commission licenses held by the interconnected VoIP provider.

¹⁵⁵ Such circumstances include, but are not limited to, relocation of the end user's IP-compatible CPE, use by the end user of a non-native telephone number, broadband connection failure, loss of electrical power, and delays that may occur in making a Registered Location available in or through the ALI database. *See, e.g.*, AOL May 11, 2005 *Ex Parte* Letter at 2 (stating that VoIP service does not work during power outages without backup power capabilities or during broadband service interruptions); EarthLink May 12, 2005 *Ex Parte* Letter at 1 (same).

¹⁵⁶ Some users of an interconnected VoIP service will not be subscribers. Guests at a subscriber's premises, for example, may not know their host's phone service is provided via interconnected VoIP.

¹⁵⁷ *See supra* para. 46. We have seen examples of customer notification efforts. Verizon, for example, includes in the terms and conditions for its VoiceWing VoIP product a detailed description of the service's 911 capabilities and limitations. *See* Verizon Apr. 15, 2005 *Ex Parte* Letter, Attach. at 3-4. This description contains instructions for notifying Verizon when the customer uses the service at a new location, as well as an explanation of potential 911 service interruptions due to power outages or network congestion. *See id.*

¹⁵⁸ *See infra* para. 59.

D. 911 Funding

52. We believe that the requirements we establish today will significantly expand and improve interconnected VoIP 911 service while substantially reducing the threat to 911 funding that some VoIP services currently pose.¹⁵⁹ First, we recognize that while some state laws today may already require 911 funding contributions from providers of interconnected VoIP, interconnected VoIP providers may not be covered by existing state 911 funding mechanisms in other states.¹⁶⁰ But even in the latter circumstance, the record does not indicate that states are receiving no 911 funding contributions from interconnected VoIP providers. On the contrary, the record indicates that many interconnected VoIP providers currently are contributing to state 911 funding mechanisms.¹⁶¹ In addition, states have the option of collecting 911 charges from wholesale providers with whom interconnected VoIP providers contract to provide E911 service, rather than assessing those charges on the interconnected VoIP providers directly. For example, we have explained that interconnected VoIP providers often enlist a competitive LEC partner in order to obtain interconnection to the Wireline E911 Network, and we believe that as a result of this Order, many more will do so.¹⁶² In that situation, states may impose 911 funding obligations on the competitive LEC partners of interconnected VoIP providers, regardless of whether the VoIP providers themselves are under any obligation to contribute.¹⁶³ Similarly, states may be able to impose funding obligations on systems service providers, such as incumbent LECs, that provide direct interconnection to interconnected VoIP providers. We believe that the ability to assess 911 funds on interconnected VoIP providers indirectly should narrow any gap in 911 funding attributable to consumers switching to interconnected VoIP service.

53. Second, the record indicates that the network components that have been developed to make wireless E911 possible can also be used for VoIP E911, which should make the implementation process

¹⁵⁹ Some commenters have expressed concern about the effect of increased use of VoIP services on 911 funding. *See, e.g.*, APCO Comments at 9; BellSouth Comments at 52; BRETSA Comments at 4, 6; CUB Comments at 27; FERUP Comments at 15; Global Crossing Comments at 15; King Country Comments at 3-5; Missouri Commission Comments at 4; NARUC Comments at 8; NASUCA Comments at 55; NCL Comments at 5; NENA Comments at 8; Spokane County Comments at 1; Texas Coalition of Cities Comments at 3-4; TCSEC Comments at 3-5; AT&T Reply at 22; Intrado Reply at 2-3; NASUCA Reply at 50-51; New Jersey Ratepayer Advocate Reply at 24-25.

¹⁶⁰ *See, e.g.*, Letter from Robert M. Gurss, Director of Legal and Government Affairs, APCO, to Marlene Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. (filed May 10, 2005) (describing state funding mechanisms). States may be in the process of modifying their 911 funding requirements to cover interconnected VoIP providers. *See, e.g.*, H.F. No. 2103, 84th Leg. Sess., Reg. Sess. (Minn. 2005) (proposing to expand applicability of state 911/E911 law beyond telecommunications service providers to include “other entit[ies] determined by the commissioner to be capable of providing effective and efficient components of the 911 system”). We use the term “state” for purposes of this discussion, although we recognize that in many areas, local authorities are responsible for 911 funding.

¹⁶¹ According to NENA and the VON Coalition, 75% of signatories to the VON/NENA Agreement currently are paying into state and local 911 funds. *See* VON/NENA Jan. 2005 White Paper at 10.

¹⁶² *See supra* para. 38.

¹⁶³ Because 911 contribution obligations are typically assessed on a per-line basis, states may need to explore other means of collecting an appropriate amount from competitive LECs on behalf of their interconnected VoIP partners, such as a per-subscriber basis. Similarly, if an interconnected VoIP provider interconnects directly with a systems service provider or PSAP, states may need to explore collecting amounts from these entities, which could pass the charges through to the interconnected VoIP provider.

simpler and far less expensive than the initial upgrades necessary for wireless E911.¹⁶⁴ For that reason, we do not expect the rules we adopt today to impose substantial implementation costs on PSAPs.¹⁶⁵ In short, we believe that the rules we adopt today will neither contribute to the diminishment of 911 funding nor require a substantial increase in 911 spending by state and local jurisdictions.

E. Liability

54. We decline to exempt providers of interconnected VoIP service from liability under state law related to their E911 services. Although the *Notice* did not directly address the issue, Intrado, among others, requests that the Commission insulate these VoIP providers from liability to the same extent that Congress insulated wireless carriers from liability related to the provision of 911/E911 service in the wireless context.¹⁶⁶ In the 911 Act, Congress gave wireless carriers providing 911 service liability protection equal to that available to wireline carriers for 911 calls.¹⁶⁷ Congress has enacted no similar protection for providers of interconnected VoIP service. As the Commission has said in an analogous

¹⁶⁴ See *supra* para. 17 & note 122 (explaining that wireless E911 requires that PSAPs be able to receive and process pseudo-ANI, and that interconnected VoIP providers may utilize pseudo-ANI to deliver non-traditional location information to the PSAP). For this reason, we do not require that a cost recovery mechanism be in place for PSAPs before a VoIP provider must comply with the E911 obligations we establish today. In this respect we deviate from the wireless E911 scheme, under which a PSAP must have a means of covering its costs of receiving and utilizing the data elements associated with wireless E911 calls before a wireless carrier is required to provide E911 pursuant to that PSAP's request. See 47 C.F.R. § 20.18(j); see also *E911 Second Memorandum Opinion and Order*, 14 FCC Rcd at 20860, para. 23. There is no need to specify a cost recovery mechanism for interconnected VoIP providers because their rates are not regulated, so they are fully able to recover their E911 costs by raising their rates. Cf. *E911 Second Memorandum Opinion and Order*, 14 FCC Rcd at 20854, para. 7 (eliminating a cost recovery mechanism requirement for wireless carriers' costs because wireless carriers' rates were unregulated, giving them full flexibility to recover their costs without a mandatory mechanism). To the extent that it becomes a concern, we believe that the demarcation point that the Commission established for wireless E911 cost allocation would be equally appropriate for VoIP. See *King County Letter*; *King County Reconsideration Order*, 17 FCC Rcd 14789.

¹⁶⁵ In fact, APCO's concerns about PSAP costs focused on the expense of responding to stopgap solutions, such as routing VoIP 911 calls to PSAPs' administrative numbers, and indicated a preference for a uniform VoIP E911 approach such as the one we adopt today. See APCO Apr. 15, 2005 *Ex Parte* Letter at 2 (stating that VoIP providers should be required to provide their customers with "full access to existing [E911] capability" rather than being permitted to route their calls to PSAPs' administrative numbers because PSAPs "lack the resources to be constantly upgrading and modifying their operations to be compatible with the latest technological fads").

¹⁶⁶ See Intrado Apr. 4, 2005 *Ex Parte* Letter, Attach. at 14 (seeking the Commission to provide VoIP service providers with the same liability protection that wireless carriers receive under 47 U.S.C. § 615a); AOL May 11, 2005 *Ex Parte* Letter at 2 (same); see also NCTA VoIP White Paper at 22 n.29 ("As with all service providers that offer 911/E911 capabilities, VoIP service providers should be protected by statutory and other limitations on liability pertaining to the provision of 911/E911 services."); Letter from Robert W. Quinn, Jr., Federal Government Affairs, Vice President, AT&T to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36 at 5 (seeking the Commission to provide VoIP providers with "liability immunity" if they comply with notice and disclosure obligations and/or E911); Level 3 May 12, 2005 *Ex Parte* Letter at 6 ("Without a clear liability limitation, retail and wholesale VoIP providers may be reluctant to work on solutions for these vexing issues.").

¹⁶⁷ See 47 U.S.C. § 615a; 911 Act § 4 (providing wireless carriers, wireless users and PSAPs in a State the same degree of liability protection related to 911/E911 service as local exchange carriers, users and PSAPs have under federal or state law with respect to local exchange service in that State); see also TCS Apr. 22, 2005 *Ex Parte* Letter, Attach. at 41 (stating that wireless and wireline carriers are insulated from liability except for gross negligence).

context, before we would consider taking any action to preempt liability under state law, the Commission would need to demonstrate that limiting liability is essential to achieving the goals of the Act.¹⁶⁸

55. No commenter has identified a source of authority for the Commission to limit liability in this way.¹⁶⁹ Limiting liability related to the use or provision of E911 services is not necessary to the creation or use of E911 services, and we are not persuaded that absent the liability protection sought by Intrado and others, interconnected VoIP providers will be unwilling or unable to provide E911 services. Rather, the record shows that some interconnected VoIP providers have already begun deploying E911 services.¹⁷⁰ In addition, to the extent individual interconnected VoIP providers believe they need this type of liability protection, they may seek to protect themselves from liability for negligence through their customer contracts and through their agreements with PSAPs, as some interconnected VoIP providers have done.¹⁷¹

IV. NOTICE OF PROPOSED RULEMAKING

56. In this *NPRM*, we seek comment on what additional steps the Commission should take to ensure that providers of VoIP services that interconnect with the nation's PSTN provide ubiquitous and reliable E911 service.¹⁷² The Order that accompanies this *NPRM* is this Commission's first step to ensure that the life-saving benefits of E911 service that wireline telephone and wireless telephone users have come to rely on also are extended to citizens who choose to communicate using interconnected VoIP services. Due to the existing state of technology, today's Order relies in some cases on users to provide the location information that will be delivered to PSAPs in an emergency, and thus is an immediate step toward a more advanced solution in which the user automatically can be located without assistance from the user. We seek comment on what the Commission can do to further the development of this new technology, and on issues raised by today's Order, including whether the Commission should expand the scope and requirements of this Order. Commenters should take note of the Commission's view that while a provider of VoIP service enjoys the opportunity to introduce new and exciting public interest benefits to

¹⁶⁸ See *E911 First Report and Order*, 11 FCC Rcd at 18728, para. 100; see also *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 04-102, Memorandum Opinion and Order, 12 FCC Rcd 22665, 22731-34, paras. 137-42 (1997). As the Commission noted in the *E911 First Report and Order*, the D.C. Circuit has struck down, as infringing on the jurisdiction of state courts, a Federal Energy Regulatory Commission (FERC) ruling that conditioned the granting of licenses for dams on a rule of strict liability for property damage caused by seismically-induced dam failure, and noted that FERC failed to show that the action was essential to achieving the goals of the Federal Power Act. See *E911 First Report and Order*, 11 FCC Rcd at 18728, para. 100 (citing *South Carolina Pub. Serv. Authority v. FERC*, 850 F.2d 788 (D.C. Cir. 1988)).

¹⁶⁹ See, e.g., TCS Apr. 22, 2005 *Ex Parte* Letter, Attach. (noting that VoIP service providers do not receive the same liability protection as wireline and wireless carriers).

¹⁷⁰ See, e.g., Letter from Glenn S. Richards, Counsel for VON Coalition, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 13-14 (filed Apr. 15, 2005) (listing progress various entities are making in providing emergency services to VoIP users today).

¹⁷¹ See Verizon Apr. 15, 2005 *Ex Parte* Letter, Attach. 2 at 9 (disclaiming liability in VoiceWing's Terms of Service for inability to access emergency service personnel through 911, E911, or otherwise); Letter from James K. Smith, Executive Director – Federal Regulatory, SBC Services, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 8, para. 15 (filed Apr. 12, 2005) (exempting the VoIP service provider from liability related to the provision of VoIP 911 service except for gross negligence, recklessness or intentional misconduct).

¹⁷² We hereby incorporate the comments and *ex parte* presentations in WC Docket No. 04-36 into this docket. Commenters need not resubmit material previously filed in that proceeding.

the communications marketplace, and to profit from those offerings, that opportunity brings with it the responsibility to ensure that public safety is protected.

57. As the Commission previously has discussed, one of the central customer benefits of portable interconnected VoIP services is the lack of geographic restrictions.¹⁷³ However, because portable interconnected VoIP services may be offered independent of geography, currently there is no way for portable VoIP providers reliably and automatically to provide location information to PSAPs for these services without the customer's active cooperation. What can the Commission do to facilitate the development of techniques for automatically identifying the geographic location of users of this type of VoIP service? What role should the Commission play to further the evolution of E911 service and E911 systems that do not depend on a customer providing his or her location information? A number of possible methods have been proposed to automatically identify the location of a VoIP user, including gathering location information through the use of: an access jack inventory; a wireless access point inventory; access point mapping and triangulation; HDTV signal triangulation; and various GPS-based solutions.¹⁷⁴ What role would be most productive for the Commission to play in facilitating the adoption of one or more of these possible solutions, or facilitating some other solution, to automatically identify a VoIP service customer's location? Are any of these solutions more promising than others? Are there any reasons why certain of these solutions are unworkable? What other solutions could be used to provide location information automatically in the VoIP service context? Should the Commission require all terminal adapters or other equipment used in the provision of interconnected VoIP service sold as of June 1, 2006 to be capable of providing location information automatically, whether embedded in other equipment or sold to customers as a separate device? Under what authority could the Commission take such actions?

58. We also seek comment on issues raised by our decision today to impose E911 service obligations on providers of interconnected VoIP services. The scope of today's Order is limited to providers of interconnected VoIP services. We seek comment on whether the Commission should extend these obligations, or similar obligations, to providers of other VoIP services that are not covered by the rules adopted today. For instance, what E911 obligations, if any, should apply to VoIP services that are not fully interconnected to the PSTN? Specifically, should E911 obligations apply to VoIP services that enable users to terminate calls to the PSTN but do not permit users to receive calls that originate on the PSTN? Should E911 obligations apply to the converse situation in which a VoIP service enables users to receive calls from the PSTN but does not permit the user to make calls terminating to the PSTN?¹⁷⁵ We tentatively conclude that a provider of a VoIP service offering that permits users generally to receive calls that originate on the PSTN and separately makes available a different offering that permits users generally to terminate calls to the PSTN should be subject to the rules we adopt in today's Order if a user can combine those separate offerings or can use them simultaneously or in immediate succession. Are there any other services upon which the Commission should impose E911 obligations, including any IP-based voice services that do not require a broadband connection?

59. Does the Commission need to adopt regulations in addition to those imposed by today's Order to ensure that interconnected VoIP service customers obtain the required level of E911 services? It is our expectation that end-user updates of Registered Location information will take place immediately. If this

¹⁷³ See *Vonage Order*, 19 FCC Rcd 22420, 22422, paras. 25, 29.

¹⁷⁴ See *Intrado Apr. 19, 2005 Ex Parte Letter*, Attach. at 14.

¹⁷⁵ See *supra* para. 24.

is not feasible, what performance standards should the Commission adopt regarding the length of time between when an end user updates Registered Location information and when the service provider takes the actions necessary to enable E911 from that new location? How should such requirements be structured? How should providers of interconnected VoIP service satisfy the requirements we adopt today in cases in which a subscriber's Registered Location is not associated with a street address? What requirements, if any, should we impose on providers of interconnected VoIP service in geographic areas served by PSAPs that are not connected to a Selective Router? How should the use of wireless broadband connections such as Wi-Fi or WiMax impact the applicability of the obligations we adopt today? Would providers of wireless interconnected VoIP service be more appropriately subject to our existing 911/E911 rules for CMRS? Should the Commission require VoIP service providers to create redundant systems for providing E911 services, such as requiring redundant trunks to each Selective Router and/or requiring that multiple Selective Routers be able to route calls to each PSAP? We also seek comment on whether the Commission should impose additional or more restrictive customer notification requirements relating to E911 on VoIP providers, and on the sufficiency of our customer acknowledgement requirements.

60. Should the Commission impose reporting obligations on VoIP service providers other than the compliance letter we impose in today's Order? Are there other ways for the Commission to monitor implementation of its E911 rules without imposing reporting requirements? We note that the Commission has imposed progress reporting requirements in the past for implementation and enforcement of 911/E911 transition deadlines for wireless¹⁷⁶ and wireline providers.¹⁷⁷ Should the Commission require interconnected VoIP providers to report what progress they are making in developing ways to locate automatically a user who dials 911? Should the Commission require reporting of any other information by interconnected VoIP providers? If the Commission adopts additional reporting requirements, what are the appropriate deadlines for such progress reports? Under what authority could the Commission take such actions?

61. We seek comment on what role states can and should play to help implement the E911 rules we adopt today. We recognize the historic and important role of states and localities in public safety matters. State and local governments have filled an especially important role in creating and regulating 911/E911 operations – a role states have shouldered even in the context of wireless services.¹⁷⁸ Should state and local governments play a role similar to the roles they play in implementing the Commission's wireless 911/E911 rules? Should the Commission take any action to facilitate the states' ability to collect 911 fees from interconnected VoIP providers, either directly or indirectly? How can the Commission and the states work together to ensure the public's safety?

62. Should the Commission adopt any customer privacy protections related to provision of E911 service by interconnected VoIP service providers? The E911 rules we adopt today when fully implemented will require interconnected VoIP service providers to transmit a customer's Registered Location to an appropriate PSAP, which necessarily requires providers of such services to maintain a list of their customers' Registered Location, and makes that information available to public safety professionals and others when the customer dials 911. Wireline and wireless telecommunications carriers

¹⁷⁶ See, e.g., 47 C.F.R. § 20.18(i) (requiring certain wireless licensees to “report to the Commission their plans for implementing Phase II enhanced 911 service, including the location-determination technology they plan to employ and the procedure they intend to use to verify conformance with the Phase II accuracy requirements” and to update those plans within thirty days of the adoption of any change).

¹⁷⁷ See *N11 Codes Fifth Report and Order*, 16 FCC Rcd at 22281-82, paras. 42-45.

¹⁷⁸ See, e.g., *id.* at 22283-85, paras. 48-52; see also *supra* para. 7 & note 35.

Federal Communications Commission

FCC 05-116

are already subject to privacy requirements.¹⁷⁹ Should the Commission adopt similar privacy protections in the context of interconnected VoIP service? Under what authority could we adopt such rules?

63. Finally, we seek comment on whether persons with disabilities can use interconnected VoIP service and other VoIP services to directly call a PSAP via a TTY in light of the requirement in Title II of the Americans with Disabilities Act (ADA) that PSAPs be directly accessible by TTYs.¹⁸⁰ Furthermore, as we noted in the *Notice*, the Commission in 1999 released a Notice of Inquiry raising specific questions regarding the application of the disability accessibility provisions found in sections 251(a)(2) and 255 of the Act in the context of “IP telephony” and “computer-based equipment that replicates telecommunications functionality.”¹⁸¹ That Notice sought comment on the extent to which Internet telephony was impairing access to communications services among people with disabilities, the efforts that manufacturers were taking to render new technologies accessible, and the degree to which these technologies should be subjected to the same disability access requirements as traditional telephony facilities.¹⁸² We ask commenters to refresh the record in that proceeding in light of today’s Order by filing comments in this docket. Are there any steps that the Commission needs to take to ensure that people with disabilities who desire to use interconnected VoIP service obtain access to E911 services? What is the basis of the Commission’s authority to impose any obligations that commenters feel are warranted?

V. PROCEDURAL MATTERS

A. *Ex Parte* Presentations

64. This matter shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules.¹⁸³ Persons making oral *ex parte* presentations are reminded that memoranda

¹⁷⁹ Section 222 of the Act prevents telecommunications carriers from disclosing customer proprietary network information (CPNI), including customer location information, without customer approval. *See* 47 U.S.C. § 222(c)(1). The Act excludes from the definition of CPNI a customer’s address that is listed in a directory. *See* 47 U.S.C. § 222(h)(3). We also note that Congress in the 911 Act provided certain privacy protections related to wireless carriers’ ability automatically to obtain and transmit precise customer location information, and exceptions from those rules for the provision of E911 service. *See* 911 Act § 5 (amending section 222 by, *inter alia*, adding new sections 47 U.S.C. § 222(d)(4), (f) (concerning wireless location information) and 47 U.S.C. § 222(g) (concerning subscriber information)). Also, in redesignating former section 47 U.S.C. § 222(f) as section 47 U.S.C. § 222(h), the 911 Act amended an existing definition and added new definitions. *See* 47 U.S.C. § 222(h)(1)(A), (4)-(7). We note that section 222 applies to telecommunications carriers. Interconnected VoIP service providers to date have not been classified as telecommunications carriers under the Act.

¹⁸⁰ *See* 42 U.S.C. §§ 12131-12134. Pursuant to the ADA requirements, telephone emergency services, including 911 services, are required to provide direct access to individuals who use telecommunication devices for the deaf (TDDs, or as now commonly called, TTYs) and computer modems, without relying on outside relay services or third party services. *See* 28 C.F.R. § 35.162; *see also* 28 C.F.R. § 35.160(a) (providing that a public entity shall “take appropriate steps to ensure that communications with applicants, participants, and members of the public with disabilities are as effective as communications with others”); 28 C.F.R. § 35.161 (stating that “[w]here a public entity communicates by telephone with applicants and beneficiaries, TDD’s or equally effective telecommunication systems shall be used to communicate with individuals with impaired hearing or speech”).

¹⁸¹ *Disability Access Order*, 16 FCC Rcd at 6483-84, para. 175; *see generally id.* at 6483-6486, paras. 173-85.

¹⁸² *See id.*, 16 FCC Rcd at 6484-86, paras. 179-85.

¹⁸³ 47 C.F.R. §§ 1.200 *et seq.*

Federal Communications Commission

FCC 05-116

summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented is generally required.¹⁸⁴ Other requirements pertaining to oral and written presentations are set forth in section 1.1206(b) of the Commission's rules.

B. Comment Filing Procedures

65. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. **All filings related to this Order and the Notice of Proposed Rulemaking should refer to WC Docket No. 05-196.** We hereby incorporate the comments and *ex parte* presentations in WC Docket No. 04-36 into WC Docket No. 05-196. Commenters need not resubmit material previously filed in that proceeding. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the website for submitting comments.
 - For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.
- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

¹⁸⁴ *See* 47 C.F.R. § 1.1206(b)(2).

Federal Communications Commission**FCC 05-116**

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12th Street, SW, Washington DC 20554.

66. All filings must be addressed to the Commission's Secretary, Marlene H. Dortch, Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554. Parties should also send a copy of their filings to Janice Myles, Competition Policy Division, Wireline Competition Bureau, Federal Communications Commission, Room 5-C140, 445 12th Street, SW, Washington, D.C. 20554, or by e-mail to janice.myles@fcc.gov. Parties shall also serve one copy with the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, 445 12th Street, SW, Room CY-B402, Washington, D.C. 20554, (202) 488-5300, or via e-mail to fcc@bcpiweb.com.

67. Documents in WC Docket Nos. 04-36 and 05-196 are available for public inspection and copying during business hours at the FCC Reference Information Center, Portals II, 445 12th St. SW, Room CY-A257, Washington, DC 20554. The documents may also be purchased from BCPI, telephone (202) 488-5300, facsimile (202) 488-5563, TTY (202) 488-5562, e-mail fcc@bcpiweb.com.

C. Accessible Formats

68. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0531 (voice), (202) 418-7365 (TTY).

D. Regulatory Flexibility Analyses

69. As required by the Regulatory Flexibility Act of 1980, *see* 5 U.S.C. § 604, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the possible significant economic impact on small entities of the policies and rules addressed in this document. The FRFA is set forth in Appendix C.

70. As required by the Regulatory Flexibility Act of 1980, *see* 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules addressed in this document. The IRFA is set forth in Appendix C. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in response to this Notice of Proposed Rulemaking as set forth in paragraph 65, and have a separate and distinct heading designating them as responses to the IRFA.

E. Paperwork Reduction Act Analysis

71. This document contains new information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new information collection requirements contained in this proceeding.

Federal Communications Commission

FCC 05-116

F. Congressional Review Act

72. The Commission will send a copy of this Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act (CRA), *see* 5 U.S.C. § 801(a)(1)(A).

VI. ORDERING CLAUSES

73. Accordingly, IT IS ORDERED that pursuant to sections 1, 4(i), 4(j), 251(e) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j), 251(e), 303(r), the Report and Order in WC Docket No. 04-36 IS ADOPTED, and that Part 9 of the Commission's Rules, 47 C.F.R. Part 9, is added as set forth in Appendix B. The Order shall become effective 30 days after publication in the Federal Register subject to OMB approval for new information collection requirements.¹⁸⁵ Accordingly, subject to such OMB approval: (i) the customer notification requirements set forth in paragraphs 48 and 49 of the Order shall become effective upon the effective date of the Order; (ii) the compliance letter described in paragraph 50 of the Order must be submitted to the Commission no later than 120 days after the effective date of the Order; and (iii) all other requirements shall become effective 120 days after the effective date of the Order.

74. IT IS FURTHER ORDERED that pursuant to the authority contained in sections 1, 4(i), 4(j), 251(e), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j), 251(e), 303(r), the Notice of Proposed Rulemaking in WC Docket No. 05-196 IS ADOPTED.

75. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this First Report and Order and Notice of Proposed Rulemaking, including the Final Regulatory Flexibility Analysis and the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

¹⁸⁵ In light of the importance of these rules, the Commission is seeking emergency approval from OMB. The Commission will issue a public notice announcing the date upon which the information collection requirements set forth in this Order shall become effective following receipt of such emergency approval.

APPENDIX A LIST OF COMMENTERS

Comments in WC Docket No. 04-36

<u>Comments</u>	<u>Abbreviation</u>
8X8, Inc.	8X8
AARP	AARP
ACN Communications Services, Inc.	ACN
Ad Hoc Telecommunications Users Committee	Ad Hoc
Alcatel North America	Alcatel
Alliance for Public Technology	APT
America's Rural Consortium	ARC
American Foundation for the Blind	AFB
American Public Communications Council	APCC
Amherst, Massachusetts Cable Advisory Committee	Amherst CAC
Arizona Corporation Commission	Arizona Commission
Artic Slope Telephone Association Cooperative, Inc. Cellular Mobile Systems of St. Cloud, LLC d/b/a Cellular 2000 Comanche County Telephone, Inc. DeKalb Telephone Cooperative, Inc. d/b/a DTC Communications Grand River Mutual Telephone Corporation Interstate 35 Telephone Company KanOkla Telephone Association, Inc. Siskiyou Telephone Company Uintah Basin Telecommunications Association, Inc. Vermont Telephone Company, Inc. Wheat State Telephone, Inc.	Artic Slope <i>et al.</i>
Association for Communications Technology Professionals in Higher Education	ACUTA
Association for Local Telecommunications Services	ALTS
Association of Public-Safety Communications Officials-International, Inc.	APCO
AT&T Corporation	AT&T
Attorney General of the State of New York	New York Attorney General
Avaya, Inc.	Avaya
BellSouth Corporation	BellSouth
Bend Broadband Cebridge Connections, Inc. Insight Communications Company, Inc. Susquehanna Communication	Bend Broadband <i>et al.</i>
Boulder Regional Emergency Telephone Service Authority	BRETSA
BT Americas Inc.	BT A
Cablevision Systems Corp.	Cablevision
Callipso Corporation	Callipso
Cbeyond Communications, LLC GlobalCom, Inc. MPower Communications, Corp.	Cbeyond <i>et al.</i>

CenturyTel, Inc.	CenturyTel
Charter Communications	Charter
Cheyenne River Sioux Tribe Telephone Authority	Cheyenne Telephone Authority
Cisco Systems, Inc.	Cisco
Citizens Utility Board	CUB
City and County of San Francisco	San Francisco
City of New York	New York City
Comcast Corporation	Comcast
Communication Service for the Deaf, Inc.	CSD
Communications Workers of America	CWA
CompTel/ASCENT	CompTel
Computer & Communications Industry Association	CCIA
Computing Technology Industry Association	CompTIA
Consumer Electronics Association	CEA
Covad Communications	Covad
Cox Communications, Inc.	Cox
CTIA-The Wireless Association	CTIA
Department of Homeland Security	DHS
DialPad Communication, Inc. ICG Communications, Inc. Qovia, Inc. VoicePulse, Inc.	Dialpad <i>et al.</i>
DJE Teleconsulting, LLC	DJE
Donald Clark Jackson	Jackson
EarthLink, Inc.	EarthLink
EDUCAUSE	EDUCAUSE
Electronic Frontier Foundation	EFF
Enterprise Communications Association	ECA
Federation for Economically Rational Utility Policy	FERUP
Francois D. Menard	Menard
Frontier and Citizens Telephone Companies	Frontier/Citizens
General Communications, Inc.	GCI
Global Crossing North America, Inc.	Global Crossing
GVNW Consulting, Inc.	GVNW
ICORE, Inc.	ICORE
IEEE-USA	IEEE-USA
Illinois Commerce Commission	Illinois Commerce Commission
Inclusive Technologies	Inclusive Technologies
Independent Telephone & Telecommunications Alliance	ITTA
Information Technology Association of America	ITAA
Information Technology Industry Council	ITIC
Interstate Telcom Consulting, Inc.	ITCI
Ionary Consulting	Ionary
Iowa Utilities Board	Iowa Commission
King County E911 Program	King County
Level 3 Communications LLC	Level 3
Lucent Technologies Inc.	Lucent Technologies
Maine Public Utilities Commissioners	Maine Commissioners
MCI	MCI
Microsoft Corporation	Microsoft

Minnesota Public Utilities Commission	Minnesota Commission
Montana Public Service Commission	Montana Commission
Motorola, Inc.	Motorola
National Association of Regulatory Utility Commission	NARUC
National Association of State Utility Consumer Advocates	NASUCA
National Association of Telecommunications Officers and Advisors National League of Cities National Association of Counties U.S. Conference of Mayors National Association of Towns and Townships Texas Coalition of Cities for Utility Issues Washington Association of Telecommunications Officers and Advisors Greater Metro Telecommunications Consortium Mr. Hood Cable Regulatory Commission Metropolitan Washington Council of Governments Rainier Communications Commission City of Philadelphia City of Tacoma, Washington Montgomery County, Maryland	NATOA <i>et al.</i>
National Cable & Telecommunications Association	NCTA
National Consumers League	NCL
National Emergency Number Association	NENA
National Exchange Carrier Association, Inc.	NECA
National Governors Association	NGA
National Grange	National Grange
National Telecommunications Cooperative Association	NTCA
Nebraska Public Service Commission	Nebraska Commission
Nebraska Rural Independent Companies	Nebraska Rural Independent Companies
Net2Phone, Inc.	Net2Phone
New Jersey Board of Public Utilities	New Jersey Commission
New Jersey Division of the Ratepayer Advocate	New Jersey Ratepayer Advocate
New York State Department of Public Service	New York Commission
nexVortex, Inc.	nexVortex
Nortel Networks	Nortel
Nuvio Corporation	Nuvio
Office of Advocacy, U.S. Small Business Administration	SBA
Office of the Attorney General of Texas	Texas Attorney General
Office of the People's Counsel for the District of Columbia	D.C. Counsel
Ohio Public Utilities Commission	Ohio Commission
Omnitor	Omnitor
Organization for the Promotion and Advancement of Small Telecommunications Companies	OPASTCO
Pac-West Telecomm, Inc.	Pac-West
People of the State of California and the California Public Utilities Commission	California Commission
Public Service Commission of the State of Missouri	Missouri Commission
Pulver.com	pulver.com

Qwest Communications International Inc.	Qwest
Rehabilitation Engineering Research Center on Telecommunications Access	RERCTA
Rural Independent Competitive Alliance	RICA
SBC Communications, Inc.	SBC
Self Help for Hard of Hearing People	SHHHP
Skype, Inc.	Skype
Sonic.net, Inc.	Sonic.net
SPI Solutions, Inc.	SPI Solutions
Spokane County 911 Communications	Spokane County 911
Sprint Corporation	Sprint
TCA, Inc. – Telecom Consulting Associates	TCA
Telecommunications for the Deaf, Inc	TDI
Telecommunications Industry Association	TIA
Tellme Networks, Inc	Tellme Networks
Tennessee Regulatory Authority	TRA
Texas Coalition of Cities for Utility Issues	TCCFUI
Texas Commission on State Emergency Communications.	TCSEC
Texas Department of Information Resources	Texas DIR
Time Warner Inc.	Time Warner
Time Warner Telecom	TWTC
TracFone Wireless, Inc.	TracFone
UniPoint Enhanced Services Inc. d/b/a PointOne	PointOne
United States Conference of Catholic Bishops Alliance for Community Media Appalachian People's Actions Coalition Center for Digital Democracy Consumer Action Edgemont Neighborhood Coalition Migrant Legal Action Program	USCCB <i>et al.</i>
United States Department of Justice	DOJ
United States Telecom Association	USTA
United Telecom Council The United Power Line Council	UTC <i>et al.</i>
USA Datanet Corporation	USAD Datanet
Utah Division of Public Utilities	Utah Commission
Valor Telecommunications of Texas, L.P. and Iowa Telecommunications Services, Inc.	Valor <i>et al.</i>
VeriSign, Inc.	VeriSign
Verizon Telephone Company	Verizon
Vermont Public Service Board	Vermont
Virgin Mobile USA, LLC	Virgin Mobile
Virginia State Corporation Commission	Virginia Commission
Voice on the Net Coalition	VON Coalition
Vonage Holdings Corp	Vonage
Western Telecommunications Alliance	WTA
WilTel Communications, LLC	WilTel
Wisconsin Electric Power Company Wisconsin Gas	Wisconsin Electric <i>et al.</i>
Yellow Pages Integrated Media Association	YPIMA

Z-Tel Communications, Inc.	Z-Tel
----------------------------	-------

Reply Comments in WC Docket No. 04-36

<u>Reply Comments</u>	<u>Abbreviation</u>
8X8, Inc.	8X8
Ad Hoc Telecom Manufacturer Coalition	Ad Hoc Telecom Manufacturers Coalition
Ad Hoc Telecommunications Users Committee	Ad Hoc
Adam D. Thierer, Director of Telecommunications Studies, Cato Institute	Thierer
Alcatel North America	Alcatel
Alliance for Public Technology et al.	APT <i>et al.</i>
American Cable Association	ACA
American Electric Power Service Corporation Duke Energy Corporation Xcel Energy Inc.	American Electric Power <i>et al.</i>
Association for Local Telecommunications Services	ALTS
AT&T Corp.	AT&T
Avaya Inc.	Avaya
BellSouth Corporation	BellSouth
Broadband Service Providers Association	BSPA
Cablevision Systems Corp.	Cablevision
Callipso Corporation	Callipso
Central Station Alarm Association	CSAA
Cingular Wireless LLC	Cingular
Cisco Systems, Inc.	Cisco
City and County of San Francisco	San Francisco
Comcast Corporation	Comcast
CompTel/Ascent	CompTel
Consumer Electronics Association	CEA
Consumer Federation of America Consumers Union	CFA <i>et al.</i>
Covad Communications	Covad
CTC Communications Corp.	CTS
CTIA-The Wireless Association	CTIA
Donald Clark Jackson	Jackson
EarthLink, Inc.	EarthLink
Educause	Educause
Enterprise Communications Association	ECA
Ericsson Inc.	Ericsson
Florida Public Service Commission	Florida Commission
Francois D. Menard	Menard
General Communication (GCI)	GCI
Global Crossing North America, Inc.	Global Crossing
Independent Telephone & Telecommunications Alliance	ITTA
Information Technology Association of America	Information Technology Association of America
Intergovernmental Advisory Committee	IAC
Intrado Inc.	Intrado

Knology, Inc.	Knology
Level 3 Communications LLC	Level 3
Massachusetts Office of the Attorney General	Massachusetts Attorney General
MCI	MCI
Montana Public Service Commission	Montana Commission
Motorola, Inc.	Motorola
National Association of State Utility Consumer Advocates	NASUCA
National Association of Telecommunications Officers and Advisors National League of Cities National Association of Counties U.S. Conference of Mayors National Association of Towns and Townships Texas Coalition of Cities for Utility Issues Washington Association of Telecommunications Officers and Advisors Greater Metro Telecommunications Consortium Mr. Hood Cable Regulatory Commission Metropolitan Washington Council of Governments Rainier Communications Commission City of Philadelphia City of Tacoma, Washington Montgomery County, Maryland	NATOA <i>et al.</i>
National Cable & Telecommunications Association	NCTA
National Emergency Number Association	NENA
National Exchange Carrier Association, Inc.	NECA
Nebraska Public Service Commission	Nebraska Commission
Nebraska Rural Independent Companies	Nebraska Rural Independent Companies
Net2Phone, Inc.	Net2Phone
New Jersey Division of the Ratepayer Advocate	New Jersey Ratepayer Advocate
New York State Department of Public Service	New York Commission
Nextel Communications, Inc.	Nextel
Nuvio Corporation	Nuvio
Office of the People's Counsel for the District of Columbia	D.C. Counsel
Organization for the Promotion and Advancement of Small Telecommunications Companies	OPASTCO
Pac-West Telecomm, Inc.	Pac-West
Pennsylvania Public Utility Commission	Pennsylvania Commission
Public Service Commission of Wisconsin	Wisconsin Commission
Qwest Communications International Inc.	Qwest
Regulatory Studies Program (RSP) of the Mercatus Center at George Mason University	Mercatus Center
Rehabilitation Engineering Research Center on Telecommunications Access	RERCTA
RNKL, Inc. d/b/a RNK Telecom	RNK
Rural Independent Competitive Alliance	RICA
SBC Communications Inc.	SBC
Skype, Inc.	Skype
Southern Communications Services, Inc. d/b/a Southern	Southern LINC

LINC	
Sprint Corporation	Sprint
Telecommunications Industry Association	TIA
Tellme Networks, Inc.	Tellme Networks
Texas Statewide Telephone Cooperative, Inc.	Texas Statewide Telephone Cooperative
Time Warner Telecom, Inc.	Time Warner Telecom
T-Mobile USA, Inc.	T-Mobile
TracFone Wireless, Inc.	TracFone
United States Conference of Catholic Bishops Alliance for Community Media Appalachian Peoples' Action Coalition Center for Digital Democracy Consumer Action Edgemont Neighborhood Coalition Migrant Legal Action Program	USCCB <i>et al.</i>
United States Department of Justice	DOJ
United States Telecom Association	USTA
USA Datanet Corporation	USA Datanet
Utah Division of Public Utilities	Utah Commission
VeriSign, Inc.	VeriSign
Verizon Telephone Companies	Verizon
Voice on the Net Coalition	VON Coalition
Wisconsin Department of Public Instruction	Wisconsin Department of Public Instruction

**APPENDIX B
FINAL RULES**

Part 9 of Title 47 of the Code of Federal Regulations is added to read as follows:

PART 9 —INTERCONNECTED VOICE OVER INTERNET PROTOCOL SERVICES

Sec.

9.1 Purpose.

9.3 Definitions.

9.5 E911 Service

AUTHORITY: 47 U.S.C. 151, 154(i)-(j), 251(e), and 303(r) unless otherwise noted.

§ 9.1 Purpose

The purpose of these rules is to set forth the E911 service requirements and conditions applicable to interconnected Voice over Internet Protocol service providers.

§ 9.3 Definitions.

Appropriate local emergency authority. An emergency answering point that has not been officially designated as a Public Safety Answering Point (PSAP), but has the capability of receiving 911 calls and either dispatching emergency services personnel or, if necessary, relaying the call to another emergency service provider. An appropriate local emergency authority may include, but is not limited to, an existing local law enforcement authority, such as the police, county sheriff, local emergency medical services provider, or fire department.

ANI. Automatic Number Identification, as such term is defined in Section 20.3 of these rules.

Interconnected VoIP service. An interconnected Voice over Internet protocol (VoIP) service is a service that: (1) enables real-time, two-way voice communications; (2) requires a broadband connection from the user's location; (3) requires Internet protocol-compatible customer premises equipment (CPE); and (4) permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.

Pseudo Automatic Number Identification (Pseudo-ANI). A number, consisting of the same number of digits as ANI, that is not a North American Numbering Plan telephone directory number and may be used in place of an ANI to convey special meaning. The special meaning assigned to the pseudo-ANI is determined by agreements, as necessary, between the system originating the call, intermediate systems handling and routing the call, and the destination system.

PSAP. Public Safety Answering Point, as such term is defined in Section 20.3 of these rules.

Registered Location. The most recent information obtained by an interconnected VoIP service provider that identifies the physical location of an end user.

Statewide default answering point. An emergency answering point designated by the State to receive 911 calls for either the entire State or those portions of the State not otherwise served by a local PSAP.

Wireline E911 Network. A dedicated wireline network that (1) is interconnected with but largely separate from the public switched telephone network, (2) includes a selective router, and (3) is utilized to route emergency calls and related information to PSAPs, designated statewide default answering points, appropriate local emergency authorities or other emergency answering points.

§ 9.5 E911 Service.

(a) Scope of Section. The following requirements are only applicable to providers of interconnected VoIP services. Further, the following requirements apply only to 911 calls placed by users whose Registered Location is in a geographic area served by a Wireline E911 Network (which, as defined in Section 9.3, includes a selective router).

(b) E911 Service. As of [120 days after the effective date of the Order]:

(1) Interconnected VoIP service providers must, as a condition of providing service to a consumer, provide that consumer with E911 service as described in this section;

(2) Interconnected VoIP service providers must transmit all 911 calls, as well as ANI and the caller's Registered Location for each call, to the PSAP, designated statewide default answering point, or appropriate local emergency authority that serves the caller's Registered Location and that has been designated for telecommunications carriers pursuant to section 64.3001 of this chapter, provided that "all 911 calls" is defined as "any voice communication initiated by an interconnected VoIP user dialing 911;"

(3) All 911 calls must be routed through the use of ANI and, if necessary, pseudo-ANI, via the dedicated Wireline E911 Network; and

(4) The Registered Location must be available to the appropriate PSAP, designated statewide default answering point, or appropriate local emergency authority from or through the appropriate automatic location information (ALI) database.

(c) Service Level Obligation. Notwithstanding the provisions in paragraph (b) of this section, if a PSAP, designated statewide default answering point, or appropriate local emergency authority is not capable of receiving and processing either ANI or location information, an interconnected VoIP service provider need not provide such ANI or location information; however, nothing in this paragraph affects the obligation under paragraph (b) of an interconnected VoIP service provider to transmit via the Wireline E911 Network all 911 calls to the PSAP, designated statewide default answering point, or appropriate local emergency authority that serves the caller's Registered Location and that has been designated for telecommunications carriers pursuant to section 64.3001 of this chapter.

(d) Registered Location Requirement. As of [120 days after the effective date of the Order], interconnected VoIP service providers must:

(1) Obtain from each customer, prior to the initiation of service, the physical location at which the service will first be utilized; and

(2) Provide their end users one or more methods of updating their Registered Location, including at least one option that requires use only of the CPE necessary to access the interconnected VoIP service. Any method utilized must allow an end user to update the Registered Location at will and in a timely manner.

(e) Customer Notification. Each interconnected VoIP service provider shall:

(1) Specifically advise every subscriber, both new and existing, prominently and in plain language, of the circumstances under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service. Such circumstances include, but are not limited to, relocation of the end user's IP-compatible CPE, use by the end user of a non-native telephone number, broadband connection failure, loss of electrical power, and delays that may occur in making a Registered Location available in or through the ALI database;

(2) Obtain and keep a record of affirmative acknowledgement by every subscriber, both new and existing, of having received and understood the advisory described in subparagraph (1); and

(3) Distribute to its existing subscribers warning stickers or other appropriate labels warning subscribers if E911 service may be limited or not available and instructing the subscriber to place them on or near the equipment used in conjunction with the interconnected VoIP service. Each interconnected VoIP provider shall distribute such warning stickers or other appropriate labels to each new subscriber prior to the initiation of that subscriber's service.

(f) Compliance Letter. All interconnected VoIP providers must submit a letter to the Commission detailing their compliance with this section no later than [120 days after the effective date of this Order].

APPENDIX C REGULATORY FLEXIBILITY ANALYSES

I. FINAL REGULATORY FLEXIBILITY ANALYSIS

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice* in WC Docket 04-36.² The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA.³ We received comments specifically directed toward the IRFA from three commenters. These comments are discussed below. This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.⁴

A. Need for, and Objectives of, the Rules

2. Today's Order establishes rules requiring providers of interconnected VoIP – meaning VoIP service that allows a user generally to receive calls originating from and to terminate calls to the public switched telephone network (PSTN) – to provide enhanced 911 (E911) capabilities to their customers as a standard feature of service. The Order requires providers of interconnected VoIP service to provide E911 service no matter where the customer is using the service, whether at home or away.

3. The Order is in many ways a necessary and logical follow-up to the *Vonage Order* issued late last year. In that order, the Commission determined that Vonage's DigitalVoice service – an interconnected VoIP service – cannot be separated into interstate and intrastate communications and that this Commission has the responsibility and obligation to decide whether certain regulations apply to DigitalVoice and other IP-enabled services having similar capabilities. The *Vonage Order* also made clear that questions regarding what regulatory obligations apply to providers of such services would be addressed in the pending *IP-Enabled Services* proceeding. In accord with that statement, today's Order takes critical steps to advance the goal of public safety by imposing E911 obligations on certain VoIP providers.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

4. In this section, we respond to comments filed in response to the IRFA.⁵ To the extent we received comments raising general small business concerns during this proceeding, those comments are discussed throughout the Order.

5. We disagree with SBA and Menard that the Commission should postpone acting in this proceeding – thereby postponing imposing E911 obligations on interconnected VoIP service providers – and instead should reevaluate the economic impact and the compliance burdens on small entities and issue a further notice of proposed rulemaking in conjunction with a supplemental IRFA identifying and analyzing the economic impacts on small entities and less burdensome alternatives.⁶ We believe the

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-12, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² See *Notice*, 19 FCC Rcd at 4917, 4919-50, para. 91 & Appendix A.

³ *Id.*

⁴ See 5 U.S.C. § 604.

⁵ See SBA Comments; Menard Comments; Menard Reply Comments; Letter from Glenn S. Richards, Counsel for VON Coalition, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-36, Attach. at 7 (filed May 12, 2005) (VON Coalition May 12, 2005 *Ex Parte* Letter).

⁶ See SBA Comments at 2, 4, 6; Menard Comments; Menard Reply Comments at 4.

additional steps suggested by SBA and Menard are unnecessary because, as described below, small entities already have received sufficient notice of the issues addressed in today's Order and because the Commission, as requested by the VON Coalition, has considered the economic impact on small entities and what ways are feasible to minimize the burdens imposed on those entities, and, to the extent feasible, has implemented those less burdensome alternatives.⁷

6. The *Notice* specifically sought comment on what 911/E911 obligations should apply in the context of IP-enabled services, and discussed the criteria the Commission previously has used to determine the scope of its existing 911/E911 rules.⁸ The *Notice* asked whether it would be appropriate for the Commission to “impose a requirement that some or all IP-enabled voice services provide 911 functionality to consumers and [sought] comment on this proposal,” and also sought comment on whether the Commission should impose E911 obligations on IP-enabled services which would involve immediate costs versus imposing E911 obligations at a later time which would involve “costly and inefficient ‘retrofitting’ of embedded IP infrastructure.”⁹ The *Notice* also asked whether less burdensome alternatives would be preferable to imposing E911 obligations as direct regulation, including whether the promulgation of best practices or technical guidelines would adequately promote the provision of effective IP-based E911 services, and whether voluntary agreements among public safety trade associations, commercial IP-stakeholders, consumers, and state and local E911 coordinators and administrators would be preferable to direct regulation.¹⁰ The Commission also sought comment on ways it could provide for technological flexibility so that our rules allow for the development of new and innovative technologies.¹¹ While the *Notice* did not specify particular rules the Commission might adopt – and the IRFA therefore did not catalogue the effects that such particular rules might have on small businesses – the Commission provided notice to parties regarding the range of policy outcomes that might result from today's Order. A summary of the *Notice* was published in the Federal Register, and we believe that such publication constitutes appropriate notice to small businesses subject to this Commission's regulation.¹² We note that a number of small entities submitted comments in this proceeding.¹³ The comments of all entities that specifically addressed issues affecting small businesses, including different types of VoIP service providers, enabled the Commission to consider the concerns of small businesses throughout this Order. Moreover, in Part C, below, we attempt to estimate the number of small businesses that will be affected by the rules we adopt herein.¹⁴ Therefore, we believe that small

⁷ See VON Coalition May 12, 2005 *Ex Parte* Letter at 7.

⁸ See *Notice*, 19 FCC Rcd at 4898-01, paras. 53-57. We reject as inaccurate Menard's contention that nowhere in the *Notice* does the Commission seek comment on the appropriate grounds on which to differentiate among providers of IP-enabled services. Menard Comments at 4 (claiming that the Commission only seeks comment on how to distinguish IP-enabled services). The *Notice* specifically asks whether the Commission should “distinguish between classes of IP-enabled service providers based on the method by which they provide [911/E911] capabilities.” See *Notice*, 19 FCC Rcd at 4900, para. 54.

⁹ See *Notice*, 19 FCC Rcd at 4901, para. 57.

¹⁰ See *id.* at 4900-01, para. 56.

¹¹ See *id.* at 4901, para. 56.

¹² See 5 U.S.C. § 603(a); see also *Regulatory Requirements for IP-Enabled Services*, WC Docket No. 04-36, Notice of Proposed Rulemaking, 69 Fed. Reg. 16193-01 (Mar. 29, 2004).

¹³ See *supra* Appendix A.

¹⁴ The VON Coalition's May 12, 2005 *ex parte* filing contends that, before the Commission may adopt rules in the *IP-Enabled Services* proceeding, it “is obligated to contact SBA's Office of Size Standards to determine the appropriate size standard for VoIP providers.” VON Coalition May 12, 2005 *Ex Parte* Letter, Attach. at 7. This contention is incorrect. The Commission used the appropriate size standards for VoIP providers. In addition, the

entities were not prejudiced by any lack of specificity regarding what rules the Commission might adopt in this proceeding.

7. Moreover, we note that we have attempted to balance the economic interests of small businesses with the public's great interest in access to E911 services when using interconnected VoIP services. The Order discusses how E911 service is critical to our nation's ability to respond to a host of crises and that the public has come to rely on the life-saving benefits of such services in emergency situations.¹⁵ While the Commission sought comment on, and considered, ways that public safety could be protected through access to E911 services that are less burdensome to small businesses than the imposition of E911 obligations, the Commission concluded that it was important for *all* interconnected VoIP service providers to participate in protecting public safety. As SBA notes, many VoIP providers are likely to be small businesses.¹⁶ SBA claims that "[t]hese small providers are developing a nascent technology and are especially vulnerable to disproportionate regulatory costs."¹⁷ Nevertheless, as discussed in the Order, we believe it is reasonable to expect any business electing to interconnect with the PSTN to the extent required to provide interconnected VoIP service also to provide E911 service in order to protect the public interest.¹⁸ Small businesses may still offer VoIP service without being subject to the rules adopted in today's Order by electing not to provide an *interconnected* VoIP service.¹⁹ We therefore have provided alternatives for small entities.²⁰

8. We disagree with Menard's contention that the Commission did not meet its obligations under the RFA because it failed to list as a significant alternative to the proposed rulemaking imposing economic regulation on the underlying facilities of cable carriers.²¹ The rules we adopt today do apply to cable operators that provide interconnected VoIP service. Moreover, we reject the above contention as insufficient to achieve our goal of ensuring that users of interconnected VoIP service have access to E911, as well as rejecting it for the reasons already provided generally. As discussed in the Order, there currently is no way for portable VoIP providers reliably and automatically to provide location information to PSAPs without the customer's active cooperation.²² Not only is the provider of an interconnected VoIP service the entity actively involved in routing the calls of users of interconnected VoIP service, but it is the entity that has the relationship with the customer who currently plays an essential role in providing accurate location information; hence, it is reasonable to impose E911 rules on that interconnected VoIP service provider. In addition, although the Commission determined that it was necessary to impose E911 obligations on all providers of interconnected VoIP service in order to ensure the ubiquitous availability of E911 service for users of interconnected VoIP service, the Commission minimized the burdens of this regulation by, for example, by requiring straightforward reporting

Commission did not adopt any special exemptions from the rules adopted today based on small business size standards, and therefore we are not obligated to obtain prior SBA approval as suggested by the VON Coalition.

¹⁵ See, e.g., Order, *supra*, at paras. 4-5.

¹⁶ See SBA Comments at 4.

¹⁷ See *id.*

¹⁸ See Order, *supra*, at para. 23.

¹⁹ See *id.* at Section III.A.

²⁰ See 5 U.S.C. § 604(a)(5).

²¹ Menard Comments at 3. To the extent it is possible to interpret Menard's comments as suggesting that, in order to comply with section 603(c), the Commission must anticipate and discuss every theoretically possible alternative to the proposed rules that might accomplish the stated objectives and minimize any significant economic impact on small entities, we find that suggestion to be an unreasonable interpretation of the statute. 5 U.S.C. § 603(c).

²² See, e.g., Order, *supra*, at para. 46.

requirements and by setting reasonable timetables for implementation of the rules adopted today.²³ The Commission minimized the burdens of this regulation by not mandating any particular technical solution; interconnected VoIP providers may connect directly to the Wireline E911 Network, connect indirectly through a third party, such as a competitive local exchange carrier, or through any other solution that allows a provider to offer E911 service.²⁴

9. We also disagree with Menard's contention that the Commission inappropriately failed to "weigh the impact on non-affiliated regional Internet Service Providers of the consequence for the removal of all forms of economic regulation for broadband services provided by incumbent carriers."²⁵ Today's Order does not remove "all forms of economic regulation for broadband services provided by incumbent carriers," and would be an inappropriate forum for reconsideration of any such decision the Commission has made in other proceedings.²⁶ The Commission reached its decision today in full awareness and consideration of the Commission's other rules and to that extent satisfied Menard's request and SBA's request to consider how the requirements imposed in today's Order overlap with other requirements imposed on small entities.²⁷

10. Finally, we reject claims that the present proceeding is not the appropriate docket in which to address what E911 obligations should be imposed on providers of interconnected VoIP service. The Commission provided proper notice that these issues would be addressed in this proceeding, and in the *Vonage Order* made clear that questions regarding what regulatory obligations apply to providers of a type of interconnected VoIP service would be addressed in this proceeding.²⁸ Therefore, we do not accede to the preferences of some small businesses that the Commission resolve various other proceedings, including proceedings involving E911 requirements, prior to addressing issues in the *IP-Enabled Services* docket.²⁹ We reject Menard's claim that the Commission is using the present rulemaking as a way of by-passing its statutory obligations under section 10 of the Telecommunications Act of 1996 (section 10) because that statutory section is not applicable to the present situation.³⁰ Section 10 sets forth the Commission's obligation to forbear from existing regulation to a telecommunications carrier or a telecommunications service, or class of telecommunications carriers or telecommunications services, if certain criteria are satisfied.³¹ Prior to today's Order, the Commission had not imposed E911 obligations on interconnected VoIP service providers. In addition, the Commission to date has not classified interconnected VoIP service as a telecommunications service.

²³ See 5 U.S.C. § 603(c); Order, *supra*, at paras. 37, 50.

²⁴ See Order, *supra*, at para. 38.

²⁵ Menard Comments at 4.

²⁶ See *id.*

²⁷ See SBA Comments at 5 (noting that the Commission is considering in this and other proceedings such issues as disability access, intercarrier compensation and universal service obligations).

²⁸ See *Vonage Order*, 19 FCC Rcd at 22405, para. 2; see also *id.* at 22432, para. 44 (noting that the Commission might address 911 issues in the *IP-Enabled Services* proceeding "as soon as possible, perhaps even separately").

²⁹ SBA Comments at 5.

³⁰ 47 U.S.C. § 160.

³¹ See 47 U.S.C. § 160.

C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

11. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules.³² The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”³³ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.³⁴ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).³⁵

12. *Small Businesses.* Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.³⁶

13. *Small Organizations.* Nationwide, there are approximately 1.6 million small organizations.³⁷

14. *Small Governmental Jurisdictions.* The term “small governmental jurisdiction” is defined as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”³⁸ As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.³⁹ This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

1. Telecommunications Service Entities

a. Wireline Carriers and Service Providers

15. We have included small incumbent local exchange carriers in this present RFA analysis. As noted above, a “small business” under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a telephone communications business having 1,500 or fewer employees), and “is not dominant in its field of operation.”⁴⁰ The SBA’s Office of Advocacy contends that, for RFA purposes, small incumbent local exchange carriers are not dominant in their field of operation because any such

³² 5 U.S.C. §§ 603(b)(3), 604(a)(3).

³³ 5 U.S.C. § 601(6).

³⁴ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register.”

³⁵ 15 U.S.C. § 632.

³⁶ See SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

³⁷ Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

³⁸ 5 U.S.C. § 601(5).

³⁹ U.S. Census Bureau, Statistical Abstract of the United States: 2000, Section 9, pages 299-300, Tables 490 and 492.

⁴⁰ *Id.* § 632.

dominance is not “national” in scope.⁴¹ We have therefore included small incumbent local exchange carriers in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

16. *Incumbent Local Exchange Carriers (LECs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁴² According to Commission data,⁴³ 1,310 carriers have reported that they are engaged in the provision of incumbent local exchange services. Of these 1,310 carriers, an estimated 1,025 have 1,500 or fewer employees and 285 have more than 1,500 employees. Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by our action. In addition, limited preliminary census data for 2002 indicate that the total number of wired communications carriers increased approximately 34 percent from 1997 to 2002.⁴⁴

17. *Competitive Local Exchange Carriers (CLECs), Competitive Access Providers (CAPs), “Shared-Tenant Service Providers,” and “Other Local Service Providers.”* Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁴⁵ According to Commission data,⁴⁶ 563 carriers have reported that they are engaged in the provision of either competitive access provider services or competitive local exchange carrier services. Of these 563 carriers, an estimated 472 have 1,500 or fewer employees and 91 have more than 1,500 employees. In addition, 14 carriers have reported that they are “Shared-Tenant Service Providers,” and all 14 are estimated to have 1,500 or fewer employees. In addition, 37 carriers have reported that they are “Other Local Service Providers.” Of the 37, an estimated 36 have 1,500 or fewer employees and one has more than 1,500 employees. Consequently, the Commission estimates that most providers of competitive local exchange service, competitive access providers, “Shared-Tenant Service Providers,” and “Other Local Service Providers” are small entities that may be affected by our action. In addition, limited preliminary census data for 2002

⁴¹ Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, FCC (May 27, 1999). The Small Business Act contains a definition of “small-business concern,” which the RFA incorporates into its own definition of “small business.” See 15 U.S.C. § 632(a) (Small Business Act); 5 U.S.C. § 601(3) (RFA). SBA regulations interpret “small business concern” to include the concept of dominance on a national basis. See 13 C.F.R. § 121.102(b).

⁴² 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

⁴³ FCC, Wireline Competition Bureau, Industry Analysis and Technology Division, “Trends in Telephone Service” at Table 5.3, page 5-5 (May 2004) (“Trends in Telephone Service”). This source uses data that are current as of October 22, 2003.

⁴⁴ See U.S. Census Bureau, 2002 Economic Census, Industry Series: “Information,” Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and 1997, NAICS code 513310 (issued Nov. 2004). The preliminary data indicate that the total number of “establishments” increased from 20,815 to 27,891. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of “firms,” because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.

⁴⁵ 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

⁴⁶ “Trends in Telephone Service” at Table 5.3.

indicate that the total number of wired communications carriers increased approximately 34 percent from 1997 to 2002.⁴⁷

18. *Local Resellers.* The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁴⁸ According to Commission data,⁴⁹ 127 carriers have reported that they are engaged in the provision of local resale services. Of these, an estimated 121 have 1,500 or fewer employees and six have more than 1,500 employees. Consequently, the Commission estimates that the majority of local resellers are small entities that may be affected by our action.

19. *Toll Resellers.* The SBA has developed a small business size standard for the category of Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁵⁰ According to Commission data,⁵¹ 645 carriers have reported that they are engaged in the provision of toll resale services. Of these, an estimated 619 have 1,500 or fewer employees and 35 have more than 1,500 employees. Consequently, the Commission estimates that the majority of toll resellers are small entities that may be affected by our action.

20. *Payphone Service Providers (PSPs).* Neither the Commission nor the SBA has developed a small business size standard specifically for payphone services providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁵² According to Commission data,⁵³ 613 carriers have reported that they are engaged in the provision of payphone services. Of these, an estimated 609 have 1,500 or fewer employees and four have more than 1,500 employees. Consequently, the Commission estimates that the majority of payphone service providers are small entities that may be affected by our action. In addition, limited preliminary census data for 2002 indicate that the total number of wired communications carriers increased approximately 34 percent from 1997 to 2002.⁵⁴

21. *Interexchange Carriers (IXCs).* Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁵⁵ According to Commission data,⁵⁶ 281 carriers have reported that they are engaged in the provision of interexchange service. Of these, an estimated 254 have 1,500 or fewer employees and 27 have more than 1,500 employees. Consequently, the Commission estimates that the majority of IXC are small entities that may be affected by our action. In addition,

⁴⁷ See *supra* note 44.

⁴⁸ 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

⁴⁹ “Trends in Telephone Service” at Table 5.3.

⁵⁰ 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

⁵¹ “Trends in Telephone Service” at Table 5.3.

⁵² 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

⁵³ “Trends in Telephone Service” at Table 5.3.

⁵⁴ See *supra* note 44.

⁵⁵ 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

⁵⁶ “Trends in Telephone Service” at Table 5.3.

limited preliminary census data for 2002 indicate that the total number of wired communications carriers increased approximately 34 percent from 1997 to 2002.⁵⁷

22. *Operator Service Providers (OSPs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for operator service providers. The appropriate size standard under SBA rules is for the category Wired Telecommunications Carriers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁵⁸ According to Commission data,⁵⁹ 21 carriers have reported that they are engaged in the provision of operator services. Of these, an estimated 20 have 1,500 or fewer employees and one has more than 1,500 employees. Consequently, the Commission estimates that the majority of OSPs are small entities that may be affected by our action. In addition, limited preliminary census data for 2002 indicate that the total number of wired communications carriers increased approximately 34 percent from 1997 to 2002.⁶⁰

23. *Prepaid Calling Card Providers*. Neither the Commission nor the SBA has developed a small business size standard specifically for prepaid calling card providers. The appropriate size standard under SBA rules is for the category Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁶¹ According to Commission data,⁶² 40 carriers have reported that they are engaged in the provision of prepaid calling cards. Of these, all are estimated to have 1,500 or fewer employees. Consequently, the Commission estimates that all or the majority of prepaid calling card providers are small entities that may be affected by our action.

24. *800 and 800-Like Service Subscribers*.⁶³ Neither the Commission nor the SBA has developed a small business size standard specifically for 800 and 800-like service (“toll free”) subscribers. The appropriate size standard under SBA rules is for the category Telecommunications Resellers. Under that size standard, such a business is small if it has 1,500 or fewer employees.⁶⁴ The most reliable source of information regarding the number of these service subscribers appears to be data the Commission collects on the 800, 888, and 877 numbers in use.⁶⁵ According to our data, at the end of January, 1999, the number of 800 numbers assigned was 7,692,955; the number of 888 numbers assigned was 7,706,393; and the number of 877 numbers assigned was 1,946,538. We do not have data specifying the number of these subscribers that are not independently owned and operated or have more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of toll free subscribers that would qualify as small businesses under the SBA size standard. Consequently, we estimate that there are 7,692,955 or fewer small entity 800 subscribers; 7,706,393 or fewer small entity 888 subscribers; and 1,946,538 or fewer small entity 877 subscribers.

⁵⁷ See *supra* note 44.

⁵⁸ 13 C.F.R. § 121.201, NAICS code 517110 (changed from 513310 in Oct. 2002).

⁵⁹ “Trends in Telephone Service” at Table 5.3.

⁶⁰ See *supra* note 44.

⁶¹ 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

⁶² “Trends in Telephone Service” at Table 5.3.

⁶³ We include all toll-free number subscribers in this category, including those for 888 numbers.

⁶⁴ 13 C.F.R. § 121.201, NAICS code 517310 (changed from 513330 in Oct. 2002).

⁶⁵ See FCC, Common Carrier Bureau, Industry Analysis Division, *Study on Telephone Trends*, Tables 21.2, 21.3, and 21.4 (Feb. 1999).

b. International Service Providers

25. The Commission has not developed a small business size standard specifically for providers of international service. The appropriate size standards under SBA rules are for the two broad categories of Satellite Telecommunications and Other Telecommunications. Under both categories, such a business is small if it has \$12.5 million or less in average annual receipts.⁶⁶ For the first category of Satellite Telecommunications, Census Bureau data for 1997 show that there were a total of 324 firms that operated for the entire year.⁶⁷ Of this total, 273 firms had annual receipts of under \$10 million, and an additional 24 firms had receipts of \$10 million to \$24,999,999. Thus, the majority of Satellite Telecommunications firms can be considered small.

26. The second category – Other Telecommunications – includes “establishments primarily engaged in ... providing satellite terminal stations and associated facilities operationally connected with one or more terrestrial communications systems and capable of transmitting telecommunications to or receiving telecommunications from satellite systems.”⁶⁸ According to Census Bureau data for 1997, there were 439 firms in this category that operated for the entire year.⁶⁹ Of this total, 424 firms had annual receipts of \$5 million to \$9,999,999 and an additional six firms had annual receipts of \$10 million to \$24,999,999. Thus, under this second size standard, the majority of firms can be considered small.

c. Wireless Telecommunications Service Providers

27. Below, for those services subject to auctions, we note that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Also, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated.

28. *Wireless Service Providers.* The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of “Paging”⁷⁰ and “Cellular and Other Wireless Telecommunications.”⁷¹ Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1,320 firms in this category, total, that operated for the entire year.⁷² Of this total, 1,303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.⁷³ Thus, under this category and associated small business size standard, the majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications, Census

⁶⁶ 13 C.F.R. § 121.201, NAICS codes 517410 and 517910 (changed from 513340 and 513390 in Oct. 2002).

⁶⁷ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 513340 (issued Oct. 2000).

⁶⁸ Office of Management and Budget, North American Industry Classification System 513 (1997) (NAICS code 513390, changed to 517910 in Oct. 2002).

⁶⁹ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 513390 (issued Oct. 2000).

⁷⁰ 13 C.F.R. § 121.201, NAICS code 513321 (changed to 517211 in October 2002).

⁷¹ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

⁷² U.S. Census Bureau, 1997 Economic Census, Subject Series: “Information,” Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513321 (issued October 2000).

⁷³ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1000 employees or more.”

Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.⁷⁴ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.⁷⁵ Thus, under this second category and size standard, the majority of firms can, again, be considered small. In addition, limited preliminary census data for 2002 indicate that the total number of paging providers decreased approximately 51 percent from 1997 to 2002.⁷⁶ In addition, limited preliminary census data for 2002 indicate that the total number of cellular and other wireless telecommunications carriers increased approximately 321 percent from 1997 to 2002.⁷⁷

29. *Cellular Licensees.* The SBA has developed a small business size standard for wireless firms within the broad economic census category “Cellular and Other Wireless Telecommunications.”⁷⁸ Under this SBA category, a wireless business is small if it has 1,500 or fewer employees. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.⁷⁹ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.⁸⁰ Thus, under this category and size standard, the great majority of firms can be considered small. Also, according to Commission data, 45 carriers reported that they were engaged in the provision of cellular service, Personal Communications Service (PCS), or Specialized Mobile Radio (SMR) Telephony services, which are placed together in the data.⁸¹ We have estimated that 245 of these are small, under the SBA small business size standard.⁸²

30. *Common Carrier Paging.* The SBA has developed a small business size standard for wireless firms within the broad economic census category, “Cellular and Other Wireless Telecommunications.”⁸³ Under this SBA category, a wireless business is small if it has 1,500 or fewer employees. For the census

⁷⁴ U.S. Census Bureau, 1997 Economic Census, Subject Series: “Information,” Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000).

⁷⁵ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1000 employees or more.”

⁷⁶ See U.S. Census Bureau, 2002 Economic Census, Industry Series: “Information,” Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and 1997, NAICS code 513321 (issued Nov. 2004). The preliminary data indicate that the total number of “establishments” decreased from 3,427 to 1,664. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of “firms,” because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.

⁷⁷ See U.S. Census Bureau, 2002 Economic Census, Industry Series: “Information,” Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and 1997, NAICS code 513322 (issued Nov. 2004). The preliminary data indicate that the total number of “establishments” increased from 2,959 to 9,511. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of “firms,” because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.

⁷⁸ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

⁷⁹ U.S. Census Bureau, 1997 Economic Census, Subject Series: “Information,” Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000).

⁸⁰ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1000 employees or more.”

⁸¹ “Trends in Telephone Service” at Table 5.3.

⁸² *Id.*

⁸³ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

category of Paging, Census Bureau data for 1997 show that there were 1,320 firms in this category, total, that operated for the entire year.⁸⁴ Of this total, 1,303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.⁸⁵ Thus, under this category and associated small business size standard, the majority of firms can be considered small. In the Paging *Third Report and Order*, we developed a small business size standard for “small businesses” and “very small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.⁸⁶ A “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years. Additionally, a “very small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years.⁸⁷ The SBA has approved these small business size standards.⁸⁸ An auction of Metropolitan Economic Area licenses commenced on February 24, 2000, and closed on March 2, 2000.⁸⁹ Of the 985 licenses auctioned, 440 were sold. Fifty-seven companies claiming small business status won. Also, according to Commission data, 346 carriers reported that they were engaged in the provision of paging and messaging services.⁹⁰ Of those, we estimate that 341 are small, under the SBA-approved small business size standard.⁹¹

31. *Wireless Communications Services.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission established small business size standards for the wireless communications services (WCS) auction. A “small business” is an entity with average gross revenues of \$40 million for each of the three preceding years, and a “very small business” is an entity with average gross revenues of \$15 million for each of the three preceding years. The SBA has approved these small business size standards.⁹² The Commission auctioned geographic area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as “very small business” entities, and one that qualified as a “small business” entity.

32. *Wireless Telephony.* Wireless telephony includes cellular, personal communications services (PCS), and specialized mobile radio (SMR) telephony carriers. As noted earlier, the SBA has developed a small business size standard for “Cellular and Other Wireless Telecommunications” services.⁹³ Under

⁸⁴ U.S. Census Bureau, 1997 Economic Census, Subject Series: “Information,” Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513321 (issued October 2000).

⁸⁵ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1000 employees or more.”

⁸⁶ *Amendment of Part 90 of the Commission’s Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Service*, PR Docket No. 89-552, Third Report and Order and Fifth Notice of Proposed Rulemaking, 12 FCC Rcd 10943, 11068-70, paras. 291-295, 62 FR 16004 (Apr. 3, 1997).

⁸⁷ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from A. Alvarez, Administrator, SBA (Dec. 2, 1998) (SBA Dec. 2, 1998 letter).

⁸⁸ *Revision of Part 22 and Part 90 of the Commission’s Rules to Facilitate Future Development of Paging Systems*, Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, paras. 98-107 (1999).

⁸⁹ *Id.* at 10085, para. 98.

⁹⁰ “Trends in Telephone Service” at Table 5.3.

⁹¹ *Id.*

⁹² SBA Dec. 2, 1998 letter.

⁹³ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

that SBA small business size standard, a business is small if it has 1,500 or fewer employees.⁹⁴ According to Commission data, 445 carriers reported that they were engaged in the provision of wireless telephony.⁹⁵ We have estimated that 245 of these are small under the SBA small business size standard.

33. *Broadband Personal Communications Service.* The broadband Personal Communications Service (PCS) spectrum is divided into six frequency blocks designated A through F, and the Commission has held auctions for each block. The Commission defined “small entity” for Blocks C and F as an entity that has average gross revenues of \$40 million or less in the three previous calendar years.⁹⁶ For Block F, an additional classification for “very small business” was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.⁹⁷ These standards defining “small entity” in the context of broadband PCS auctions have been approved by the SBA.⁹⁸ No small businesses, within the SBA-approved small business size standards bid successfully for licenses in Blocks A and B. There were 90 winning bidders that qualified as small entities in the Block C auctions. A total of 93 small and very small business bidders won approximately 40 percent of the 1,479 licenses for Blocks D, E, and F.⁹⁹ On March 23, 1999, the Commission re-auctioned 347 C, D, E, and F Block licenses. There were 48 small business winning bidders. On January 26, 2001, the Commission completed the auction of 422 C and F Broadband PCS licenses in Auction No. 35. Of the 35 winning bidders in this auction, 29 qualified as “small” or “very small” businesses. Subsequent events, concerning Auction 35, including judicial and agency determinations, resulted in a total of 163 C and F Block licenses being available for grant.

34. *Narrowband Personal Communications Services.* To date, two auctions of narrowband personal communications services (PCS) licenses have been conducted. For purposes of the two auctions that have already been held, “small businesses” were entities with average gross revenues for the prior three calendar years of \$40 million or less. Through these auctions, the Commission has awarded a total of 41 licenses, out of which 11 were obtained by small businesses. To ensure meaningful participation of small business entities in future auctions, the Commission has adopted a two-tiered small business size standard in the *Narrowband PCS Second Report and Order*.¹⁰⁰ A “small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$40 million. A “very small business” is an entity that, together with affiliates and controlling interests, has average gross revenues for the three preceding years of not more than \$15 million. The SBA has approved these small business size standards.¹⁰¹ In the future, the Commission will auction 459

⁹⁴ *Id.*

⁹⁵ “Trends in Telephone Service” at Table 5.3.

⁹⁶ *See Amendment of Parts 20 and 24 of the Commission’s Rules – Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap*, WT Docket No. 96-59, Report and Order, 11 FCC Rcd 7824, 61 FR 33859 (July 1, 1996) (*PCS Order*); *see also* 47 C.F.R. § 24.720(b).

⁹⁷ *See PCS Order*, 11 FCC Rcd 7824.

⁹⁸ *See, e.g., Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5332, 59 FR 37566 (July 22, 1994).

⁹⁹ FCC News, Broadband PCS, D, E and F Block Auction Closes, No. 71744 (rel. Jan. 14, 1997); *see also Amendment of the Commission’s Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licenses*, WT Docket No. 97-82, Second Report and Order, 12 FCC Rcd 16436, 62 FR 55348 (Oct. 24, 1997).

¹⁰⁰ *Amendment of the Commission’s Rules to Establish New Personal Communications Services, Narrowband PCS*, Docket No. ET 92-100, Docket No. PP 93-253, Second Report and Order and Second Further Notice of Proposed Rulemaking, 15 FCC Rcd 10456, 65 FR 35875 (June 6, 2000).

¹⁰¹ *See* SBA Dec. 2, 1998 letter.

licenses to serve Metropolitan Trading Areas (MTAs) and 408 response channel licenses. There is also one megahertz of narrowband PCS spectrum that has been held in reserve and that the Commission has not yet decided to release for licensing. The Commission cannot predict accurately the number of licenses that will be awarded to small entities in future auctions. However, four of the 16 winning bidders in the two previous narrowband PCS auctions were small businesses, as that term was defined. The Commission assumes, for purposes of this analysis, that a large portion of the remaining narrowband PCS licenses will be awarded to small entities. The Commission also assumes that at least some small businesses will acquire narrowband PCS licenses by means of the Commission's partitioning and disaggregation rules.

35. *220 MHz Radio Service – Phase I Licensees.* The 220 MHz service has both Phase I and Phase II licenses. Phase I licensing was conducted by lotteries in 1992 and 1993. There are approximately 1,515 such non-nationwide licensees and four nationwide licensees currently authorized to operate in the 220 MHz band. The Commission has not developed a small business size standard for small entities specifically applicable to such incumbent 220 MHz Phase I licensees. To estimate the number of such licensees that are small businesses, we apply the small business size standard under the SBA rules applicable to “Cellular and Other Wireless Telecommunications” companies. This category provides that a small business is a wireless company employing no more than 1,500 persons.¹⁰² For the census category Cellular and Other Wireless Telecommunications, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.¹⁰³ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.¹⁰⁴ Thus, under this second category and size standard, the majority of firms can, again, be considered small. Assuming this general ratio continues in the context of Phase I 220 MHz licensees, the Commission estimates that nearly all such licensees are small businesses under the SBA's small business size standard. In addition, limited preliminary census data for 2002 indicate that the total number of cellular and other wireless telecommunications carriers increased approximately 321 percent from 1997 to 2002.¹⁰⁵

36. *220 MHz Radio Service – Phase II Licensees.* The 220 MHz service has both Phase I and Phase II licenses. The Phase II 220 MHz service is a new service, and is subject to spectrum auctions. In the *220 MHz Third Report and Order*, we adopted a small business size standard for “small” and “very small” businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.¹⁰⁶ This small business size standard indicates that a “small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years.¹⁰⁷ A “very small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues that do not exceed \$3 million for

¹⁰² 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

¹⁰³ U.S. Census Bureau, 1997 Economic Census, Subject Series: “Information,” Table 5, Employment Size of Firms Subject to Federal Income Tax: 1997, NAICS code 513322 (issued October 2000).

¹⁰⁴ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1000 employees or more.”

¹⁰⁵ See U.S. Census Bureau, 2002 Economic Census, Industry Series: “Information,” Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and 1997, NAICS code 513322 (issued Nov. 2004). The preliminary data indicate that the total number of “establishments” increased from 2,959 to 9,511. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of “firms,” because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.

¹⁰⁶ *220 MHz Third Report and Order*, 12 FCC Rcd 10943, 11068-70, paras. 291-295 (1997).

¹⁰⁷ *Id.* at 11068, para. 291.

the preceding three years. The SBA has approved these small business size standards.¹⁰⁸ Auctions of Phase II licenses commenced on September 15, 1998, and closed on October 22, 1998.¹⁰⁹ In the first auction, 908 licenses were auctioned in three different-sized geographic areas: three nationwide licenses, 30 Regional Economic Area Group (EAG) Licenses, and 875 Economic Area (EA) Licenses. Of the 908 licenses auctioned, 693 were sold.¹¹⁰ Thirty-nine small businesses won licenses in the first 220 MHz auction. The second auction included 225 licenses: 216 EA licenses and 9 EAG licenses. Fourteen companies claiming small business status won 158 licenses.¹¹¹

37. *800 MHz and 900 MHz Specialized Mobile Radio Licenses.* The Commission awards “small entity” and “very small entity” bidding credits in auctions for Specialized Mobile Radio (SMR) geographic area licenses in the 800 MHz and 900 MHz bands to firms that had revenues of no more than \$15 million in each of the three previous calendar years, or that had revenues of no more than \$3 million in each of the previous calendar years, respectively.¹¹² These bidding credits apply to SMR providers in the 800 MHz and 900 MHz bands that either hold geographic area licenses or have obtained extended implementation authorizations. The Commission does not know how many firms provide 800 MHz or 900 MHz geographic area SMR service pursuant to extended implementation authorizations, nor how many of these providers have annual revenues of no more than \$15 million. One firm has over \$15 million in revenues. The Commission assumes, for purposes here, that all of the remaining existing extended implementation authorizations are held by small entities, as that term is defined by the SBA. The Commission has held auctions for geographic area licenses in the 800 MHz and 900 MHz SMR bands. There were 60 winning bidders that qualified as small or very small entities in the 900 MHz SMR auctions. Of the 1,020 licenses won in the 900 MHz auction, bidders qualifying as small or very small entities won 263 licenses. In the 800 MHz auction, 38 of the 524 licenses won were won by small and very small entities.

38. *700 MHz Guard Band Licensees.* In the *700 MHz Guard Band Order*, we adopted a small business size standard for “small businesses” and “very small businesses” for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.¹¹³ A “small business” as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years. Additionally, a “very small business” is an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years. An auction of 52 Major Economic Area (MEA) licenses commenced on September 6, 2000, and closed on September 21, 2000.¹¹⁴ Of the 104 licenses auctioned, 96 licenses were sold to nine bidders. Five of these bidders were small businesses that won a total of 26 licenses. A second auction of 700 MHz Guard Band licenses commenced on February 13,

¹⁰⁸ See Letter to D. Phythyon, Chief, Wireless Telecommunications Bureau, Federal Communications Commission, from A. Alvarez, Administrator, Small Business Administration (Jan. 6, 1998).

¹⁰⁹ See generally Public Notice, “220 MHz Service Auction Closes,” 14 FCC Rcd 605 (1998).

¹¹⁰ See, e.g., Public Notice, “FCC Announces It is Prepared to Grant 654 Phase II 220 MHz Licenses After Final Payment is Made,” 14 FCC Rcd 1085 (1999).

¹¹¹ Public Notice, “Phase II 220 MHz Service Spectrum Auction Closes,” 14 FCC Rcd 11218 (1999).

¹¹² 47 C.F.R. § 90.814(b)(1).

¹¹³ See *Service Rules for the 746-764 MHz Bands, and Revisions to part 27 of the Commission’s Rules*, WT Docket No. 99-168, Second Report and Order, 65 FR 17599 (Apr. 4, 2000).

¹¹⁴ See generally Public Notice, “220 MHz Service Auction Closes,” Report No. WT 98-36 (Oct. 23, 1998).

2001 and closed on February 21, 2001. All eight of the licenses auctioned were sold to three bidders. One of these bidders was a small business that won a total of two licenses.¹¹⁵

39. *Rural Radiotelephone Service.* The Commission has not adopted a size standard for small businesses specific to the Rural Radiotelephone Service.¹¹⁶ A significant subset of the Rural Radiotelephone Service is the Basic Exchange Telephone Radio System (BETRS).¹¹⁷ The Commission uses the SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.¹¹⁸ There are approximately 1,000 licensees in the Rural Radiotelephone Service, and the Commission estimates that there are 1,000 or fewer small entity licensees in the Rural Radiotelephone Service that may be affected by the rules and policies adopted herein.

40. *Air-Ground Radiotelephone Service.* The Commission has not adopted a small business size standard specific to the Air-Ground Radiotelephone Service.¹¹⁹ We will use SBA's small business size standard applicable to "Cellular and Other Wireless Telecommunications," *i.e.*, an entity employing no more than 1,500 persons.¹²⁰ There are approximately 100 licensees in the Air-Ground Radiotelephone Service, and we estimate that almost all of them qualify as small under the SBA small business size standard.

41. *Aviation and Marine Radio Services.* Small businesses in the aviation and marine radio services use a very high frequency (VHF) marine or aircraft radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar) or an emergency locator transmitter. The Commission has not developed a small business size standard specifically applicable to these small businesses. For purposes of this analysis, the Commission uses the SBA small business size standard for the category "Cellular and Other Telecommunications," which is 1,500 or fewer employees.¹²¹ Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees and 131,000 aircraft station licensees operate domestically and are not subject to the radio carriage requirements of any statute or treaty. For purposes of our evaluations in this analysis, we estimate that there are up to approximately 712,000 licensees that are small businesses (or individuals) under the SBA standard. In addition, between December 3, 1998 and December 14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$3 million dollars.¹²² There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

¹¹⁵ Public Notice, "700 MHz Guard Band Auction Closes," DA 01-478 (rel. Feb. 22, 2001).

¹¹⁶ The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

¹¹⁷ BETRS is defined in sections 22.757 and 22.759 of the Commission's Rules, 47 C.F.R. §§ 22.757 and 22.759.

¹¹⁸ 13 C.F.R. § 121.201, NAICS code 517212.

¹¹⁹ The service is defined in section 22.99 of the Commission's Rules, 47 C.F.R. § 22.99.

¹²⁰ 13 C.F.R. § 121.201, NAICS codes 517212.

¹²¹ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

¹²² *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

42. *Fixed Microwave Services.* Fixed microwave services include common carrier,¹²³ private operational-fixed,¹²⁴ and broadcast auxiliary radio services.¹²⁵ At present, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not created a size standard for a small business specifically with respect to fixed microwave services. For purposes of this analysis, the Commission uses the SBA small business size standard for the category “Cellular and Other Telecommunications,” which is 1,500 or fewer employees.¹²⁶ The Commission does not have data specifying the number of these licensees that have more than 1,500 employees, and thus is unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA’s small business size standard. Consequently, the Commission estimates that there are up to 22,015 common carrier fixed licensees and up to 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services that may be small and may be affected by the rules and policies adopted herein. We noted, however, that the common carrier microwave fixed licensee category includes some large entities.

43. *Offshore Radiotelephone Service.* This service operates on several UHF television broadcast channels that are not used for television broadcasting in the coastal areas of states bordering the Gulf of Mexico.¹²⁷ There are presently approximately 55 licensees in this service. We are unable to estimate at this time the number of licensees that would qualify as small under the SBA’s small business size standard for “Cellular and Other Wireless Telecommunications” services.¹²⁸ Under that SBA small business size standard, a business is small if it has 1,500 or fewer employees.¹²⁹

44. *39 GHz Service.* The Commission created a special small business size standard for 39 GHz licenses – an entity that has average gross revenues of \$40 million or less in the three previous calendar years.¹³⁰ An additional size standard for “very small business” is: an entity that, together with affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.¹³¹ The SBA has approved these small business size standards.¹³² The auction of the 2,173 39 GHz licenses

¹²³ See 47 C.F.R. §§ 101 *et seq.* (formerly, Part 21 of the Commission’s Rules) for common carrier fixed microwave services (except Multipoint Distribution Service).

¹²⁴ Persons eligible under parts 80 and 90 of the Commission’s Rules can use Private Operational-Fixed Microwave services. See 47 C.F.R. Parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee’s commercial, industrial, or safety operations.

¹²⁵ Auxiliary Microwave Service is governed by Part 74 of Title 47 of the Commission’s rules. See 47 C.F.R. Part 74. This service is available to licensees of broadcast stations and to broadcast and cable network entities. Broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile television pickups, which relay signals from a remote location back to the studio.

¹²⁶ 13 C.F.R. § 121.201, NAICS code 517212.

¹²⁷ This service is governed by Subpart I of Part 22 of the Commission’s rules. See 47 C.F.R. §§ 22.1001-22.1037.

¹²⁸ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

¹²⁹ *Id.*

¹³⁰ See *Amendment of the Commission’s Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands*, ET Docket No. 95-183, Report and Order, 63 Fed. Reg. 6079 (Feb. 6, 1998).

¹³¹ *Id.*

¹³² See Letter to Kathleen O’Brien Ham, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Aida Alvarez, Administrator, SBA (Feb. 4, 1998).

began on April 12, 2000 and closed on May 8, 2000. The 18 bidders who claimed small business status won 849 licenses. Consequently, the Commission estimates that 18 or fewer 39 GHz licensees are small entities that may be affected by the rules and policies adopted herein.

45. *Multipoint Distribution Service, Multichannel Multipoint Distribution Service, and ITFS.* Multichannel Multipoint Distribution Service (MMDS) systems, often referred to as “wireless cable,” transmit video programming to subscribers using the microwave frequencies of the Multipoint Distribution Service (MDS) and Instructional Television Fixed Service (ITFS).¹³³ In connection with the 1996 MDS auction, the Commission established a small business size standard as an entity that had annual average gross revenues of less than \$40 million in the previous three calendar years.¹³⁴ The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. In addition, the SBA has developed a small business size standard for Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in annual receipts.¹³⁵ According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.¹³⁶ Of this total, 1,180 firms had annual receipts of under \$10 million and an additional 52 firms had receipts of \$10 million or more but less than \$25 million. Consequently, we estimate that the majority of providers in this service category are small businesses that may be affected by the rules and policies adopted herein. This SBA small business size standard also appears applicable to ITFS. There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in this analysis as small entities.¹³⁷ Thus, we tentatively conclude that at least 1,932 licensees are small businesses.

46. *Local Multipoint Distribution Service.* Local Multipoint Distribution Service (LMDS) is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.¹³⁸ The auction of the 1,030 Local Multipoint Distribution Service (LMDS) licenses began on February 18, 1998 and closed on March 25, 1998. The Commission established a small business size standard for LMDS licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.¹³⁹ An additional small business size standard for “very small business” was added as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding three calendar years.¹⁴⁰ The SBA has approved these small business size standards in the

¹³³ *Amendment of Parts 21 and 74 of the Commission’s Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, MM Docket No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

¹³⁴ 47 C.F.R. § 21.961(b)(1).

¹³⁵ 13 C.F.R. § 121.201, NAICS code 513220 (changed to 517510 in October 2002).

¹³⁶ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization)”, Table 4, NAICS code 513220 (issued October 2000).

¹³⁷ In addition, the term “small entity” within SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

¹³⁸ *See Local Multipoint Distribution Service*, Second Report and Order, 12 FCC Rcd 12545 (1997).

¹³⁹ *Id.*

¹⁴⁰ *See id.*

context of LMDS auctions.¹⁴¹ There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses consists of the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers.

47. *218-219 MHz Service.* The first auction of 218-219 MHz spectrum resulted in 170 entities winning licenses for 594 Metropolitan Statistical Area (MSA) licenses. Of the 594 licenses, 557 were won by entities qualifying as a small business. For that auction, the small business size standard was an entity that, together with its affiliates, has no more than a \$6 million net worth and, after federal income taxes (excluding any carry over losses), has no more than \$2 million in annual profits each year for the previous two years.¹⁴² In the *218-219 MHz Report and Order and Memorandum Opinion and Order*, we established a small business size standard for a “small business” as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and their affiliates, has average annual gross revenues not to exceed \$15 million for the preceding three years.¹⁴³ A “very small business” is defined as an entity that, together with its affiliates and persons or entities that hold interests in such an entity and its affiliates, has average annual gross revenues not to exceed \$3 million for the preceding three years.¹⁴⁴ We cannot estimate, however, the number of licenses that will be won by entities qualifying as small or very small businesses under our rules in future auctions of 218-219 MHz spectrum.

48. *24 GHz – Incumbent Licensees.* This analysis may affect incumbent licensees who were relocated to the 24 GHz band from the 18 GHz band, and applicants who wish to provide services in the 24 GHz band. The applicable SBA small business size standard is that of “Cellular and Other Wireless Telecommunications” companies. This category provides that such a company is small if it employs no more than 1,500 persons.¹⁴⁵ According to Census Bureau data for 1997, there were 977 firms in this category, total, that operated for the entire year.¹⁴⁶ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.¹⁴⁷ Thus, under this size standard, the great majority of firms can be considered small. These broader census data notwithstanding, we believe that there are only two licensees in the 24 GHz band that were relocated from the 18 GHz band, Teligent¹⁴⁸ and TRW, Inc. It is our understanding that Teligent and its related

¹⁴¹ See Letter to Dan Phythyon, Chief, Wireless Telecommunications Bureau, FCC, from Aida Alvarez, Administrator, SBA (Jan. 6, 1998).

¹⁴² *Implementation of Section 309(j) of the Communications Act – Competitive Bidding*, PP Docket No. 93-253, Fourth Report and Order, 59 Fed. Reg. 24947 (May 13, 1994).

¹⁴³ *Amendment of Part 95 of the Commission’s Rules to Provide Regulatory Flexibility in the 218-219 MHz Service*, WT Docket No. 98-169, Report and Order and Memorandum Opinion and Order, 64 Fed. Reg. 59656 (Nov. 3, 1999).

¹⁴⁴ *Amendment of Part 95 of the Commission’s Rules to Provide Regulatory Flexibility in the 218-219 MHz Service*, WT Docket No. 98-169, Report and Order and Memorandum Opinion and Order, 64 Fed. Reg. 59656 (Nov. 3, 1999).

¹⁴⁵ 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

¹⁴⁶ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Employment Size of Firms Subject to Federal Income Tax: 1997,” Table 5, NAICS code 513322 (issued Oct. 2000).

¹⁴⁷ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1,000 employees or more.”

¹⁴⁸ Teligent acquired the DEMS licenses of FirstMark, the only licensee other than TRW in the 24 GHz band whose license has been modified to require relocation to the 24 GHz band.

companies have less than 1,500 employees, though this may change in the future. TRW is not a small entity. Thus, only one incumbent licensee in the 24 GHz band is a small business entity.

49. *24 GHz – Future Licensees.* With respect to new applicants in the 24 GHz band, the small business size standard for “small business” is an entity that, together with controlling interests and affiliates, has average annual gross revenues for the three preceding years not in excess of \$15 million.¹⁴⁹ “Very small business” in the 24 GHz band is an entity that, together with controlling interests and affiliates, has average gross revenues not exceeding \$3 million for the preceding three years.¹⁵⁰ The SBA has approved these small business size standards.¹⁵¹ These size standards will apply to the future auction, if held.

2. Cable and OVS Operators

50. *Cable and Other Program Distribution.* This category includes cable systems operators, closed circuit television services, direct broadcast satellite services, multipoint distribution systems, satellite master antenna systems, and subscription television services. The SBA has developed small business size standard for this census category, which includes all such companies generating \$12.5 million or less in revenue annually.¹⁵² According to Census Bureau data for 1997, there were a total of 1,311 firms in this category, total, that had operated for the entire year.¹⁵³ Of this total, 1,180 firms had annual receipts of under \$10 million and an additional 52 firms had receipts of \$10 million or more but less than \$25 million. Consequently, the Commission estimates that the majority of providers in this service category are small businesses that may be affected by the rules and policies adopted herein.

51. *Cable System Operators (Rate Regulation Standard).* The Commission has developed its own small business size standard for cable system operators, for purposes of rate regulation. Under the Commission’s rules, a “small cable company” is one serving fewer than 400,000 subscribers nationwide.¹⁵⁴ The most recent estimates indicate that there were 1,439 cable operators who qualified as small cable system operators at the end of 1995.¹⁵⁵ Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, the Commission estimates that there are now fewer than 1,439 small entity cable system operators that may be affected by the rules and policies adopted herein.

¹⁴⁹ *Amendments to Parts 1,2, 87 and 101 of the Commission’s Rules to License Fixed Services at 24 GHz*, Report and Order, 15 FCC Rcd 16934, 16967 (2000); see also 47 C.F.R. § 101.538(a)(2).

¹⁵⁰ *Amendments to Parts 1,2, 87 and 101 of the Commission’s Rules to License Fixed Services at 24 GHz*, Report and Order, 15 FCC Rcd 16934, 16967 (2000); see also 47 C.F.R. § 101.538(a)(1).

¹⁵¹ See Letter to Margaret W. Wiener, Deputy Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC, from Gary M. Jackson, Assistant Administrator, SBA (July 28, 2000).

¹⁵² 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 513220 (changed to 517510 in October 2002).

¹⁵³ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 513220 (issued October 2000).

¹⁵⁴ 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determination that a small cable system operator is one with annual revenues of \$100 million or less. *Implementation of Sections of the 1992 Cable Act: Rate Regulation*, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393 (1995), 60 FR 10534 (Feb. 27, 1995).

¹⁵⁵ Paul Kagan Associates, Inc., *Cable TV Investor*, February 29, 1996 (based on figures for December 30, 1995).

52. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”¹⁵⁶ The Commission has determined that there are 67,700,000 subscribers in the United States.¹⁵⁷ Therefore, an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.¹⁵⁸ Based on available data, the Commission estimates that the number of cable operators serving 677,000 subscribers or fewer, totals 1,450.¹⁵⁹ The Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million,¹⁶⁰ and therefore are unable, at this time, to estimate more accurately the number of cable system operators that would qualify as small cable operators under the size standard contained in the Communications Act of 1934.

53. *Open Video Services*. Open Video Service (OVS) systems provide subscription services.¹⁶¹ The SBA has created a small business size standard for Cable and Other Program Distribution.¹⁶² This standard provides that a small entity is one with \$12.5 million or less in annual receipts. The Commission has certified approximately 25 OVS operators to serve 75 areas, and some of these are currently providing service.¹⁶³ Affiliates of Residential Communications Network, Inc. (RCN) received approval to operate OVS systems in New York City, Boston, Washington, D.C., and other areas. RCN has sufficient revenues to assure that they do not qualify as a small business entity. Little financial information is available for the other entities that are authorized to provide OVS and are not yet operational. Given that some entities authorized to provide OVS service have not yet begun to generate revenues, the Commission concludes that up to 24 OVS operators (those remaining) might qualify as small businesses that may be affected by the rules and policies adopted herein.

3. Internet Service Providers

54. *Internet Service Providers*. The SBA has developed a small business size standard for Internet Service Providers (ISPs). ISPs “provide clients access to the Internet and generally provide related services such as web hosting, web page designing, and hardware or software consulting related to Internet connectivity.”¹⁶⁴ Under the SBA size standard, such a business is small if it has average annual receipts

¹⁵⁶ 47 U.S.C. § 543(m)(2).

¹⁵⁷ See *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice DA 01-158 (Jan. 24, 2001).

¹⁵⁸ 47 C.F.R. § 76.901(f).

¹⁵⁹ See *FCC Announces New Subscriber Count for the Definition of Small Cable Operators*, Public Notice, DA 01-0158 (rel. Jan. 24, 2001).

¹⁶⁰ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission’s rules. See 47 C.F.R. § 76.909(b).

¹⁶¹ See 47 U.S.C. § 573.

¹⁶² 13 C.F.R. § 121.201, NAICS code 513220 (changed to 517510 in October 2002).

¹⁶³ See <<http://www.fcc.gov/csb/ovs/csovsceer.html>> (current as of March 2002).

¹⁶⁴ U.S. Census Bureau, “2002 NAICS Definitions: 518111 Internet Service Providers” (Feb. 2004) <www.census.gov>.

of \$21 million or less.¹⁶⁵ According to Census Bureau data for 1997, there were 2,751 firms in this category that operated for the entire year.¹⁶⁶ Of these, 2,659 firms had annual receipts of under \$10 million, and an additional 67 firms had receipts of between \$10 million and \$24, 999,999. Consequently, we estimate that the majority of these firms are small entities that may be affected by our action. In addition, limited preliminary census data for 2002 indicate that the total number of internet service providers increased approximately five percent from 1997 to 2002.¹⁶⁷

4. Other Internet-Related Entities

55. *Web Search Portals.* Our action pertains to VoIP services, which could be provided by entities that provide other services such as email, online gaming, web browsing, video conferencing, instant messaging, and other, similar IP-enabled services. The Commission has not adopted a size standard for entities that create or provide these types of services or applications. However, the census bureau has identified firms that “operate web sites that use a search engine to generate and maintain extensive databases of Internet addresses and content in an easily searchable format. Web search portals often provide additional Internet services, such as e-mail, connections to other web sites, auctions, news, and other limited content, and serve as a home base for Internet users.”¹⁶⁸ The SBA has developed a small business size standard for this category; that size standard is \$6 million or less in average annual receipts.¹⁶⁹ According to Census Bureau data for 1997, there were 195 firms in this category that operated for the entire year.¹⁷⁰ Of these, 172 had annual receipts of under \$5 million, and an additional nine firms had receipts of between \$5 million and \$9,999,999. Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

56. *Data Processing, Hosting, and Related Services.* Entities in this category “primarily ... provid[e] infrastructure for hosting or data processing services.”¹⁷¹ The SBA has developed a small business size standard for this category; that size standard is \$21 million or less in average annual receipts.¹⁷² According to Census Bureau data for 1997, there were 3,700 firms in this category that operated for the

¹⁶⁵ 13 C.F.R. § 121.201, NAICS code 518111 (changed from previous code 514191, “On-Line Information Services,” in Oct. 2002).

¹⁶⁶ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 514191 (issued Oct. 2000).

¹⁶⁷ See U.S. Census Bureau, 2002 Economic Census, Industry Series: “Information,” Table 2, Comparative Statistics for the United States (1997 NAICS Basis): 2002 and 1997, NAICS code 514191 (issued Nov. 2004). The preliminary data indicate that the total number of “establishments” increased from 4,165 to 4,394. In this context, the number of establishments is a less helpful indicator of small business prevalence than is the number of “firms,” because the latter number takes into account the concept of common ownership or control. The more helpful 2002 census data on firms, including employment and receipts numbers, will be issued in late 2005.

¹⁶⁸ U.S. Census Bureau, “2002 NAICS Definitions: 518112 Web Search Portals” (Feb. 2004) <www.census.gov>.

¹⁶⁹ 13 C.F.R. § 121.201, NAICS code 518112 (changed from 514199 in Oct. 2002).

¹⁷⁰ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 514199 (issued Oct. 2000). This category was created for the 2002 Economic Census by taking a portion of the superseded 1997 category, “All Other Information Services,” NAICS code 514199. The data cited in the text above are derived from the superseded category.

¹⁷¹ U.S. Census Bureau, “2002 NAICS Definitions: 518210 Data Processing, Hosting, and Related Services” (Feb. 2004) <www.census.gov>.

¹⁷² 13 C.F.R. § 121.201, NAICS code 518210 (changed from 514210 in Oct. 2002).

entire year.¹⁷³ Of these, 3,477 had annual receipts of under \$10 million, and an additional 108 firms had receipts of between \$10 million and \$24,999,999. Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

57. *All Other Information Services.* “This industry comprises establishments primarily engaged in providing other information services (except new syndicates and libraries and archives).”¹⁷⁴ Our action pertains to VoIP services, which could be provided by entities that provide other services such as email, online gaming, web browsing, video conferencing, instant messaging, and other, similar IP-enabled services. The SBA has developed a small business size standard for this category; that size standard is \$6 million or less in average annual receipts.¹⁷⁵ According to Census Bureau data for 1997, there were 195 firms in this category that operated for the entire year.¹⁷⁶ Of these, 172 had annual receipts of under \$5 million, and an additional nine firms had receipts of between \$5 million and \$9,999,999. Consequently, we estimate that the majority of these firms are small entities that may be affected by our action.

58. *Internet Publishing and Broadcasting.* “This industry comprises establishments engaged in publishing and/or broadcasting content on the Internet exclusively. These establishments do not provide traditional (non-Internet) versions of the content that they publish or broadcast.”¹⁷⁷ The SBA has developed a small business size standard for this new (2002) census category; that size standard is 500 or fewer employees.¹⁷⁸ To assess the prevalence of small entities in this category, we will use 1997 Census Bureau data for a relevant, now-superseded census category, “All Other Information Services.” The SBA small business size standard for that prior category was \$6 million or less in average annual receipts. According to Census Bureau data for 1997, there were 195 firms in the prior category that operated for the entire year.¹⁷⁹ Of these, 172 had annual receipts of under \$5 million, and an additional nine firms had receipts of between \$5 million and \$9,999,999. Consequently, we estimate that the majority of the firms in this current category are small entities that may be affected by our action.

59. *Software Publishers.* These companies may design, develop or publish software and may provide other support services to software purchasers, such as providing documentation or assisting in installation. The companies may also design software to meet the needs of specific users. The SBA has developed a small business size standard of \$21 million or less in average annual receipts for all of the following pertinent categories: Software Publishers, Custom Computer Programming Services, and Other Computer Related Services.¹⁸⁰ For Software Publishers, Census Bureau data for 1997 indicate that there

¹⁷³ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 514210 (issued Oct. 2000).

¹⁷⁴ U.S. Census Bureau, “2002 NAICS Definitions: 519190 All Other Information Services” (Feb. 2004) <www.census.gov>.

¹⁷⁵ 13 C.F.R. § 121.201, NAICS code 519190 (changed from 514199 in Oct. 2002).

¹⁷⁶ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 514199 (issued Oct. 2000). This category was created for the 2002 Economic Census by taking a portion of the superseded 1997 category, “All Other Information Services,” NAICS code 514199. The data cited in the text above are derived from the superseded category.

¹⁷⁷ U.S. Census Bureau, “2002 NAICS Definitions: 516110 Internet Publishing and Broadcasting” (Feb. 2004) <www.census.gov>.

¹⁷⁸ 13 C.F.R. § 121.201, NAICS code 516110 (derived from 514199 and other 1997 codes).

¹⁷⁹ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 514199 (issued Oct. 2000). This category was created for the 2002 Economic Census by taking portions of numerous 1997 categories.

¹⁸⁰ 13 C.F.R. § 121.201, NAICS codes 511210, 541511, and 541519.

were 8,188 firms in the category that operated for the entire year.¹⁸¹ Of these, 7,633 had annual receipts under \$10 million, and an additional 289 firms had receipts of between \$10 million and \$24,999,999. For providers of Custom Computer Programming Services, the Census Bureau data indicate that there were 19,334 firms that operated for the entire year.¹⁸² Of these, 18,786 had annual receipts of under \$10 million, and an additional 352 firms had receipts of between \$10 million and \$24,999,999. For providers of Other Computer Related Services, the Census Bureau data indicate that there were 5,524 firms that operated for the entire year.¹⁸³ Of these, 5,484 had annual receipts of under \$10 million, and an additional 28 firms had receipts of between \$10 million and \$24,999,999. Consequently, we estimate that the majority of the firms in each of these three categories are small entities that may be affected by our action.

5. Equipment Manufacturers

60. The equipment manufacturers described in this section are merely indirectly affected by our current action, and therefore are not formally a part of this RFA analysis. We have included them, however, to broaden the record in this proceeding and to alert them to our decisions.

61. *Wireless Communications Equipment Manufacturers.* The SBA has established a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. Examples of products in this category include “transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment”¹⁸⁴ and may include other devices that transmit and receive IP-enabled services, such as personal digital assistants (PDAs). Under the SBA size standard, firms are considered small if they have 750 or fewer employees.¹⁸⁵ According to Census Bureau data for 1997, there were 1,215 establishments¹⁸⁶ in this category that operated for the entire year.¹⁸⁷ Of those, there were 1,150 that had employment of under 500, and an additional 37 that had employment of 500 to 999. The percentage of wireless equipment manufacturers in this category was approximately 61.35%,¹⁸⁸ so we estimate that the number of wireless equipment manufacturers with employment of under 500 was actually closer to 706, with an additional 23 establishments having

¹⁸¹ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 511210 (issued Oct. 2000).

¹⁸² U.S. Census Bureau, 1997 Economic Census, Subject Series: Professional, Scientific, and Technical Services, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4a, NAICS code 541511 (issued Oct. 2000).

¹⁸³ U.S. Census Bureau, 1997 Economic Census, Subject Series: Professional, Scientific, and Technical Services, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4a, NAICS code 541519 (issued Oct. 2000).

¹⁸⁴ Office of Management and Budget, North American Industry Classification System 308-09 (1997) (NAICS code 334220).

¹⁸⁵ 13 C.F.R. § 121.201, NAICS code 334220.

¹⁸⁶ The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 1997, which were 1,089.

¹⁸⁷ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Industry Statistics by Employment Size,” Table 4, NAICS code 334220 (issued Aug. 1999).

¹⁸⁸ *Id.* at Table 5.

employment of between 500 and 999. Consequently, we estimate that the majority of wireless communications equipment manufacturers are small entities that may be affected by our action.

62. *Telephone Apparatus Manufacturing.* This category “comprises establishments primarily engaged primarily in manufacturing wire telephone and data communications equipment.”¹⁸⁹ Examples of pertinent products are “central office switching equipment, cordless telephones (except cellular), PBX equipment, telephones, telephone answering machines, and data communications equipment, such as bridges, routers, and gateways.”¹⁹⁰ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.¹⁹¹ According to Census Bureau data for 1997, there were 598 establishments in this category that operated for the entire year.¹⁹² Of these, 574 had employment of under 1,000, and an additional 17 establishments had employment of 1,000 to 2,499. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

63. *Electronic Computer Manufacturing.* This category “comprises establishments primarily engaged in manufacturing and/or assembling electronic computers, such as mainframes, personal computers, workstations, laptops, and computer servers.”¹⁹³ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.¹⁹⁴ According to Census Bureau data for 1997, there were 563 establishments in this category that operated for the entire year.¹⁹⁵ Of these, 544 had employment of under 1,000, and an additional 11 establishments had employment of 1,000 to 2,499. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

64. *Computer Terminal Manufacturing.* “Computer terminals are input/output devices that connect with a central computer for processing.”¹⁹⁶ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.¹⁹⁷ According to Census Bureau data for 1997, there were 142 establishments in this category that operated for the entire year, and all of the establishments had employment of under 1,000.¹⁹⁸ Consequently, we estimate that the majority or all of these establishments are small entities that may be affected by our action.

¹⁸⁹ Office of Management and Budget, North American Industry Classification System 308 (1997) (NAICS code 334210).

¹⁹⁰ *Id.*

¹⁹¹ 13 C.F.R. § 121.201, NAICS code 334210.

¹⁹² U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Telephone Apparatus Manufacturing,” Table 4, NAICS code 334210 (issued Sept. 1999).

¹⁹³ Office of Management and Budget, North American Industry Classification System 306 (1997) (NAICS code 334111).

¹⁹⁴ 13 C.F.R. § 121.201, NAICS code 334111.

¹⁹⁵ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electronic Computer Manufacturing,” Table 4, NAICS code 334111 (issued Aug. 1999).

¹⁹⁶ Office of Management and Budget, North American Industry Classification System 307 (1997) (NAICS code 334113).

¹⁹⁷ 13 C.F.R. § 121.201, NAICS code 334113.

¹⁹⁸ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Computer Terminal Manufacturing,” Table 4, NAICS code 334113 (issued Aug. 1999).

65. *Other Computer Peripheral Equipment Manufacturing.* Examples of peripheral equipment in this category include keyboards, mouse devices, monitors, and scanners.¹⁹⁹ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.²⁰⁰ According to Census Bureau data for 1997, there were 1061 establishments in this category that operated for the entire year.²⁰¹ Of these, 1,046 had employment of under 1,000, and an additional six establishments had employment of 1,000 to 2,499. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

66. *Fiber Optic Cable Manufacturing.* These establishments manufacture “insulated fiber-optic cable from purchased fiber-optic strand.”²⁰² The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.²⁰³ According to Census Bureau data for 1997, there were 38 establishments in this category that operated for the entire year.²⁰⁴ Of these, 37 had employment of under 1,000, and one establishment had employment of 1,000 to 2,499. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

67. *Other Communication and Energy Wire Manufacturing.* These establishments manufacture “insulated wire and cable of nonferrous metals from purchased wire.”²⁰⁵ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.²⁰⁶ According to Census Bureau data for 1997, there were 275 establishments in this category that operated for the entire year.²⁰⁷ Of these, 271 had employment of under 1,000, and four establishments had employment of 1,000 to 2,499. Consequently, we estimate that the majority or all of these establishments are small entities that may be affected by our action.

68. *Audio and Video Equipment Manufacturing.* These establishments manufacture “electronic audio and video equipment for home entertainment, motor vehicle, public address and musical instrument amplifications.”²⁰⁸ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 750 or fewer employees.²⁰⁹ According to Census Bureau data for

¹⁹⁹ Office of Management and Budget, North American Industry Classification System 307-08 (1997) (NAICS code 334119).

²⁰⁰ 13 C.F.R. § 121.201, NAICS code 334119.

²⁰¹ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Other Computer Peripheral Equipment Manufacturing,” Table 4, NAICS code 334119 (issued Aug. 1999).

²⁰² Office of Management and Budget, North American Industry Classification System 330 (1997) (NAICS code 335921).

²⁰³ 13 C.F.R. § 121.201, NAICS code 335921.

²⁰⁴ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Fiber Optic Cable Manufacturing,” Table 4, NAICS code 335921 (issued Nov. 1999).

²⁰⁵ Office of Management and Budget, North American Industry Classification System 331 (1997) (NAICS code 335929).

²⁰⁶ 13 C.F.R. § 121.201, NAICS code 335929.

²⁰⁷ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Other Communication and Energy Wire Manufacturing,” Table 4, NAICS code 335929 (issued Nov. 1999).

²⁰⁸ U.S. Census Bureau, “2002 NAICS Definitions: 334310 Audio and Video Equipment Manufacturing” (Feb. 2004) <www.census.gov>.

²⁰⁹ 13 C.F.R. § 121.201, NAICS code 334310.

1997, there were 554 establishments in this category that operated for the entire year.²¹⁰ Of these, 542 had employment of under 500, and nine establishments had employment of 500 to 999. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

69. *Electron Tube Manufacturing.* These establishments are “primarily engaged in manufacturing electron tubes and parts (except glass blanks).”²¹¹ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 750 or fewer employees.²¹² According to Census Bureau data for 1997, there were 158 establishments in this category that operated for the entire year.²¹³ Of these, 148 had employment of under 500, and three establishments had employment of 500 to 999. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

70. *Bare Printed Circuit Board Manufacturing.* These establishments are “primarily engaged in manufacturing bare (i.e., rigid or flexible) printed circuit boards without mounted electronic components.”²¹⁴ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²¹⁵ According to Census Bureau data for 1997, there were 1,389 establishments in this category that operated for the entire year.²¹⁶ Of these, 1,369 had employment of under 500, and 16 establishments had employment of 500 to 999. Consequently, we estimate that the majority of these establishments are small entities that may be affected by our action.

71. *Semiconductor and Related Device Manufacturing.* These establishments manufacture “computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media.”²¹⁷ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²¹⁸ According to Census Bureau data for 1997, there were 1,082 establishments in this category that operated for the entire year.²¹⁹ Of these, 987 had employment of under 500, and 52 establishments had employment of 500 to 999.

²¹⁰ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Audio and Video Equipment Manufacturing,” Table 4, NAICS code 334310 (issued Aug. 1999).

²¹¹ U.S. Census Bureau, “2002 NAICS Definitions: 334411 Electron Tube Manufacturing” (Feb. 2004) <www.census.gov>.

²¹² 13 C.F.R. § 121.201, NAICS code 334411.

²¹³ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electron Tube Manufacturing,” Table 4, NAICS code 334411 (issued July 1999).

²¹⁴ U.S. Census Bureau, “2002 NAICS Definitions: 334412 Bare Printed Circuit Board Manufacturing” (Feb. 2004) <www.census.gov>.

²¹⁵ 13 C.F.R. § 121.201, NAICS code 334412.

²¹⁶ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Bare Printed Circuit Board Manufacturing,” Table 4, NAICS code 334412 (issued Aug. 1999).

²¹⁷ U.S. Census Bureau, “2002 NAICS Definitions: 334413 Semiconductor and Related Device Manufacturing” (Feb. 2004) <www.census.gov>.

²¹⁸ 13 C.F.R. § 121.201, NAICS code 334413.

²¹⁹ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Semiconductor and Related Device Manufacturing,” Table 4, NAICS code 334413 (issued July 1999).

72. *Electronic Capacitor Manufacturing.* These establishments manufacture “electronic fixed and variable capacitors and condensers.”²²⁰ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²²¹ According to Census Bureau data for 1997, there were 128 establishments in this category that operated for the entire year.²²² Of these, 121 had employment of under 500, and four establishments had employment of 500 to 999.

73. *Electronic Resistor Manufacturing.* These establishments manufacture “electronic resistors, such as fixed and variable resistors, resistor networks, thermistors, and varistors.”²²³ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²²⁴ According to Census Bureau data for 1997, there were 118 establishments in this category that operated for the entire year.²²⁵ Of these, 113 had employment of under 500, and 5 establishments had employment of 500 to 999.

74. *Electronic Coil, Transformer, and Other Inductor Manufacturing.* These establishments manufacture “electronic inductors, such as coils and transformers.”²²⁶ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²²⁷ According to Census Bureau data for 1997, there were 448 establishments in this category that operated for the entire year.²²⁸ Of these, 446 had employment of under 500, and two establishments had employment of 500 to 999.

75. *Electronic Connector Manufacturing.* These establishments manufacture “electronic connectors, such as coaxial, cylindrical, rack and panel, pin and sleeve, printed circuit and fiber optic.”²²⁹ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²³⁰ According to Census Bureau data for 1997, there were 347 establishments in this category that operated for the entire year.²³¹ Of these, 332 had employment of under 500, and 12 establishments had employment of 500 to 999.

²²⁰ U.S. Census Bureau, “2002 NAICS Definitions: 334414 Electronic Capacitor Manufacturing” (Feb. 2004) <www.census.gov>.

²²¹ 13 C.F.R. § 121.201, NAICS code 334414.

²²² U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electronic Capacitor Manufacturing,” Table 4, NAICS code 334414 (issued July 1999).

²²³ U.S. Census Bureau, “2002 NAICS Definitions: 334415 Electronic Resistor Manufacturing” (Feb. 2004) <www.census.gov>.

²²⁴ 13 C.F.R. § 121.201, NAICS code 334415.

²²⁵ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electronic Resistor Manufacturing,” Table 4, NAICS code 334415 (issued Aug. 1999).

²²⁶ U.S. Census Bureau, “2002 NAICS Definitions: 334416 Electronic Coil, Transformer, and Other Inductor Manufacturing” (Feb. 2004) <www.census.gov>.

²²⁷ 13 C.F.R. § 121.201, NAICS code 334416.

²²⁸ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electronic Coil, Transformer, and Other Inductor Manufacturing,” Table 4, NAICS code 334416 (issued Aug. 1999).

²²⁹ U.S. Census Bureau, “2002 NAICS Definitions: 334417 Electronic Connector Manufacturing” (Feb. 2004) <www.census.gov>.

²³⁰ 13 C.F.R. § 121.201, NAICS code 334417.

²³¹ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Electronic Connector Manufacturing,” Table 4, NAICS code 334417 (issued July 1999).

76. *Printed Circuit Assembly (Electronic Assembly) Manufacturing.* These are establishments “primarily engaged in loading components onto printed circuit boards or who manufacture and ship loaded printed circuit boards.”²³² The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²³³ According to Census Bureau data for 1997, there were 714 establishments in this category that operated for the entire year.²³⁴ Of these, 673 had employment of under 500, and 24 establishments had employment of 500 to 999.

77. *Other Electronic Component Manufacturing.* These are establishments “primarily engaged in loading components onto printed circuit boards or who manufacture and ship loaded printed circuit boards.”²³⁵ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 500 or fewer employees.²³⁶ According to Census Bureau data for 1997, there were 1,835 establishments in this category that operated for the entire year.²³⁷ Of these, 1,814 had employment of under 500, and 18 establishments had employment of 500 to 999.

78. *Computer Storage Device Manufacturing.* These establishments manufacture “computer storage devices that allow the storage and retrieval of data from a phase change, magnetic, optical, or magnetic/optical media.”²³⁸ The SBA has developed a small business size standard for this category of manufacturing; that size standard is 1,000 or fewer employees.²³⁹ According to Census Bureau data for 1997, there were 209 establishments in this category that operated for the entire year.²⁴⁰ Of these, 197 had employment of under 500, and eight establishments had employment of 500 to 999.

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

79. We are requiring interconnected VoIP service providers to collect certain information and take other actions to comply with our rules requiring interconnected VoIP service providers to supply E911 capabilities to their customers. The Order requires collection of information in four instances. First, interconnected VoIP providers must obtain from each customer, prior to the initiation of service, the physical location at which the service will first be utilized, and must provide customers a way to update this information (*i.e.*, the “Registered Location”).²⁴¹ Second, interconnected VoIP providers must place the Registered Location information for their customers into, or make that information available through,

²³² U.S. Census Bureau, “2002 NAICS Definitions: 334418 Printed Circuit Assembly (Electronic Assembly) Manufacturing” (Feb. 2004) <www.census.gov>.

²³³ 13 C.F.R. § 121.201, NAICS code 334418.

²³⁴ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Printed Circuit Assembly (Electronic Assembly) Manufacturing,” Table 4, NAICS code 334418 (issued Sept. 1999).

²³⁵ U.S. Census Bureau, “2002 NAICS Definitions: 334419 Other Electronic Component Manufacturing” (Feb. 2004) <www.census.gov>.

²³⁶ 13 C.F.R. § 121.201, NAICS code 334419.

²³⁷ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Other Electronic Component Manufacturing,” Table 4, NAICS code 334419 (issued Aug. 1999).

²³⁸ U.S. Census Bureau, “2002 NAICS Definitions: 334112 Computer Storage Device Manufacturing” (Feb. 2004) <www.census.gov>.

²³⁹ 13 C.F.R. § 121.201, NAICS code 334112.

²⁴⁰ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, “Computer Storage Device Manufacturing,” Table 4, NAICS code 334112 (issued July 1999).

²⁴¹ The term “Registered Location” is defined in the Order, *supra*, at para. 46.

ALI Databases maintained by local exchange carriers (and, in at least one case, a state government) across the country. Third, the Order requires all providers of interconnected VoIP service specifically to advise new and existing subscribers of the circumstances under which E911 service may not be available through the interconnected VoIP service or may be in some way limited by comparison to traditional E911 service, and to obtain and keep a record of affirmative acknowledgement by every subscriber of having received and understood this advisory.²⁴² Fourth, the Order requires all interconnected VoIP providers to submit a letter to the Commission detailing their compliance with the rules set forth in the Order no later than 120 days after the effective date of the Order.²⁴³

80. We also impose other requirements on providers of interconnected VoIP service. Specifically, the Order requires that, within 120 days of the effective date of the Order, an interconnected VoIP provider must transmit all 911 calls, as well as a call back number and the caller's Registered Location for each call, to the PSAP, designated statewide default answering point, or appropriate local emergency authority that serves the caller's Registered Location and that has been designated for telecommunications carriers under section 64.3001 of the Commission's rules.²⁴⁴ These calls must be routed through the use of ANI²⁴⁵ via the dedicated Wireline E911 Network,²⁴⁶ and the Registered Location must be available from or through the ALI Database. As explained in the Order at paragraph 42, *supra*, however, an interconnected VoIP provider need only provide such call back and location information as a PSAP, designated statewide default answering point, or appropriate local emergency authority is capable of receiving and utilizing. The obligation to determine what type of information, such as ALI or ANI, each PSAP is capable of receiving and utilizing rests with the provider of interconnected VoIP services.²⁴⁷

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

81. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.²⁴⁸

82. The *Notice* invited comment on a number of alternatives to the imposition of 911/E911 obligations on providers of interconnected VoIP service. For instance, the *Notice* specifically sought comment on the effectiveness of alternatives to direct regulation to achieve the Commission's public policy goals of ensuring the availability of 911 and E911 capability.²⁴⁹ The Commission also sought comment on whether voluntary agreements among public safety trade associations, commercial IP-

²⁴² See Order, *supra*, at para. 48.

²⁴³ See *id.* at para. 50.

²⁴⁴ 47 C.F.R. § 64.3001; see also *N11 Codes Fifth Report and Order*, 16 FCC Rcd 22269-77, paras. 10-31.

²⁴⁵ Providers must also use Pseudo-ANI if necessary. The terms "ANI" and "Pseudo-ANI" as used herein have the same meanings as those set forth in section 20.3 of the Commission's rules. 47 C.F.R. § 20.3.

²⁴⁶ The term Wireline E911 Network is defined in the Order, *supra*, at para. 14.

²⁴⁷ See Order, *supra*, at para. 43.

²⁴⁸ 5 U.S.C. § 603(c).

²⁴⁹ See *Notice*, 19 FCC Rcd at 4900, para. 56.

stakeholders, consumers, and state and local E911 coordinators and administrators could lead to VoIP subscribers receiving enhanced 911 functionality, and what the Commission could do to facilitate such agreements.²⁵⁰ The Commission also asked whether “promulgation of best practices or technical guidelines [would] promote the provision of effective IP-based E911 services.”²⁵¹ The Commission also asked how it could provide for technological flexibility so that our rules allow for the development of new and innovative technologies in the event it concluded that mandatory requirements would be necessary.²⁵²

83. In addition, the Commission sought comment on more general issues surrounding the possible imposition of a 911/E911 requirement for IP-enabled services, which could have prompted commenters to suggest other alternatives to the rules adopted today. For instance, the Commission sought comment on what ways IP-enabled service providers currently seek to provide a emergency services to their customers.²⁵³ The Commission also noted that the development and deployment of IP-enabled services is in its early stages, that these services are fast-changing and likely to evolve in ways that it cannot anticipate, and that imposition of regulatory mandates should be undertaken with caution.²⁵⁴ In this regard, the Commission sought comment on how to weigh the potential public benefits of requiring emergency calling and other public safety capabilities against the risk that regulation could slow technical and market development.²⁵⁵

84. The Commission has considered each of the alternatives described above, and in today’s Order, imposes minimal regulation on small entities to the extent consistent with our goal of ensuring that users of interconnected VoIP service have access to appropriate emergency services when they dial 911. As an initial matter, the Commission limited the scope of today’s Order to interconnected VoIP service providers. As a result, certain VoIP service providers are not subject to the E911 obligations imposed in today’s Order. Specifically, today’s Order does not apply to those entities not fully interconnected with the PSTN. Because interconnecting with the PSTN can impose substantial costs, we anticipate that many of the entities that elect not to interconnect with the PSTN, and which therefore are not subject to the rules adopted in today’s Order, are small entities. Small entities that provide VoIP services therefore also have some control over whether they will be subject to the E911 obligations adopted today. Small businesses may still offer VoIP service without being subject to the rules adopted in today’s Order by electing not to provide an *interconnected* VoIP service.²⁵⁶

85. However, as stated above, we must assess the interests of small businesses in light of the overriding public interest in access to E911 services when using interconnected VoIP services. The Order discusses that E911 service is critical to our nation’s ability to respond to a host of crises and that the public has come to rely on the life-saving benefits of such services in emergency situations.²⁵⁷ Therefore, the Commission concluded that it was important for *all* interconnected VoIP service providers to participate in protecting public safety, regardless of their size. The Commission therefore rejected solutions that would rely on the voluntary agreement of VoIP service providers. The record indicated that

²⁵⁰ See *id.* at 4900-01, para. 56.

²⁵¹ See *id.* at 4901, para. 56.

²⁵² See *id.* at 4901, para. 56.

²⁵³ See *id.* at 4899, para. 53.

²⁵⁴ See *id.* at 4898, para. 53.

²⁵⁵ See *id.* at 4898-99, para. 53.

²⁵⁶ See *supra*, Order, Section III.A.

²⁵⁷ See, e.g., *id.* at paras. 4-5.

this alternative had not resulted in, and was not likely soon to result in, ubiquitous access to E911 among users of interconnected VoIP service, which is the Commission's goal.

86. While the rules adopted today apply to all providers of interconnected VoIP service, the Commission attempted to minimize the impact of the new rules on all entities, including small entities. For instance, while it is essential that interconnected VoIP service providers interconnect with the Wireline E911 Network, the Commission employed performance rather than design standards to achieve this result. Thus, rather than mandating a particular technical solution, the Order allows interconnected VoIP providers to connect directly to the Wireline E911 Network, or connect indirectly through a third party, such as a competitive local exchange carrier, or through any other solution that allows a provider to offer E911 service, which thereby allows for technological and commercial flexibility, and leaves room under the new rules for the development of new and innovative technologies.²⁵⁸ The Commission also declined to specify any particular method by which interconnected VoIP service providers must enable their customers to provide and update their Registered Location. The Commission also declined to specify any particular method by which interconnected VoIP service providers must advise new and existing subscribers of the E911 service limitations of their interconnected VoIP service and declined to specify any particular method by which acknowledgments of such limitations must be gathered and stored. The Commission expects these decisions will help small entities comply with the rules adopted today in the most practical means possible. In addition, the Commission today imposes straightforward and limited reporting requirements, and sets reasonable timetables. For example, regarding reporting requirements, the Commission simply requires providers of interconnected VoIP service to file a letter detailing their compliance with our rules no later than 120 days after the effective date of this Order.²⁵⁹ In addition, while the Commission's review of the record in this proceeding convinces us that ensuring reliable E911 service for users of interconnected VoIP service is essential, and therefore that the location information of such users who dial 911 should automatically be sent to the relevant PSAP, the Commission did not impose the obligation today automatically to locate the interconnected VoIP service user in light of record evidence of the current state of technological development and the costs, including on small entities, of such an obligation today. The Commission fully expects this situation to change in the near future, helped in part by the present Order.

87. We also note that by adopting E911 rules for providers of interconnected VoIP service at the present time, the Commission likely has saved small entities providing these services resources in the long run. For instance, in light of the importance of E911 service to the public, providers of interconnected VoIP service likely eventually would have been required by the Commission or Congress to provide E911 service. This could have involved "costly and inefficient 'retrofitting' of embedded IP infrastructure" for any interconnected VoIP service provider that had already adopted a E911 solution.²⁶⁰

88. **Report to Congress:** The Commission will send a copy of the Order, including this FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.²⁶¹ In addition, the Commission will send a copy of the Order, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Order and FRFA (or summaries thereof) will also be published in the Federal Register.²⁶²

²⁵⁸ See Order, *supra*, at para. 38; see also Notice, 19 FCC Rcd at 4901, para. 56.

²⁵⁹ See Order, *supra*, at para. 50.

²⁶⁰ See Notice, 19 FCC Rcd at 4901, para. 57.

²⁶¹ See 5 U.S.C. § 801(a)(1)(A).

²⁶² See 5 U.S.C. § 604(b).

II. Initial Regulatory Flexibility Analysis

89. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),²⁶³ the Commission has prepared the present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities that might result from this Notice of Proposed Rulemaking (*NPRM*). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *NPRM* provided above. The Commission will send a copy of the *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.²⁶⁴ In addition, the *NPRM* and IRFA (or summaries thereof) will be published in the Federal Register.²⁶⁵

A. Need for, and Objectives of, the Proposed Rules

90. In the *NPRM*, we seek comment on what additional steps the Commission should take to ensure that providers of VoIP services that interconnect with the nation's existing public switched telephone network – “interconnected VoIP service” – provide ubiquitous and reliable E911 service.²⁶⁶ Due to the existing state of technology, the Order adopted today relies on users to provide the location information that will be delivered to PSAPs in an emergency, and thus is an immediate step toward a more advanced solution in which the user automatically can be located without assistance from the user. The *NPRM* seeks comment on: what the Commission can do to further the development of this new technology; whether the Commission should expand the scope and requirements of this Order; the role states can and should play in the implementation thereof; the need for consumer privacy protections; the need for stronger customer notification practices relating to 911 service; and whether persons with disabilities can use interconnected VoIP service and other VoIP services to directly call a PSAP via a TTY in light of the requirement in Title II of the Americans with Disabilities Act (ADA) that PSAPs be directly accessible by TTYs.²⁶⁷ The *NPRM* further asks commenters to refresh the record regarding the application of the disability accessibility provisions found in sections 251(a)(2) and 255 of the Act in the context of “IP telephony” and “computer-based equipment that replicates telecommunications functionality.”²⁶⁸

²⁶³ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-12, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, 110 Stat. 857 (1996).

²⁶⁴ See 5 U.S.C. § 603(a).

²⁶⁵ See 5 U.S.C. § 603(a).

²⁶⁶ In the Order, the Commission concluded that interconnected VoIP service providers must provide E911 capabilities to their customers as a standard feature of service. The Order requires providers of interconnected VoIP service to provide E911 service no matter where the customer is using the service, whether at home or away. See Order, *supra*, at para. 37.

²⁶⁷ See 42 U.S.C. §§ 12131-34. Pursuant to the ADA requirements, telephone emergency services, including 911 services, are required to provide direct access to individuals who use TDDs (or as now commonly called, TTYs) and computer modems, without relying on outside relay services or third party services. See 28 C.F.R. § 35.162; see also 28 C.F.R. § 35.160(a) (providing that a public entity shall “take appropriate steps to ensure that communications with applicants, participants, and members of the public with disabilities are as effective as communications with others”); 28 C.F.R. § 35.161 (stating that “[w]here a public entity communicates by telephone with applicants and beneficiaries, TDD’s or equally effective telecommunication systems shall be used to communicate with individuals with impaired hearing or speech”).

²⁶⁸ *Disability Access Order*, 16 FCC Rcd at 6483-84, para. 175; see generally *id.* at 6483-6486, paras. 173-85.

A. Legal Basis

91. The legal basis for any action that may be taken pursuant to this *NPRM* is contained in sections 1, 4(i), 4(j), 251(e), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j), 251(e), 303(r), and sections 1.1, 1.48, 1.411, 1.412, 1.415, 1.419, and 1.1200-1.1216, of the Commission's rules, 47 C.F.R. §§ 1.1, 1.48, 1.411, 1.412, 1.415, 1.419, 1.1200-1.1216.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules May Apply

92. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules.²⁶⁹ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."²⁷⁰ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.²⁷¹ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²⁷² This present *NPRM* might, in theory, reach a variety of industries; out of an abundance of caution, we have attempted to cast a wide net in describing categories of potentially affected small entities. We would appreciate any comment on the extent to which the various entities might be directly affected by our action.

93. *Small Businesses.* Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.²⁷³

94. *Small Organizations.* Nationwide, there are approximately 1.6 million small organizations.²⁷⁴

95. *Small Governmental Jurisdictions.* The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."²⁷⁵ As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.²⁷⁶ This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

²⁶⁹ 5 U.S.C. §§ 603(b)(3), 604(a)(3).

²⁷⁰ 5 U.S.C. § 601(6).

²⁷¹ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register."

²⁷² 15 U.S.C. § 632.

²⁷³ See SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

²⁷⁴ Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

²⁷⁵ 5 U.S.C. § 601(5).

²⁷⁶ U.S. Census Bureau, Statistical Abstract of the United States: 2000, Section 9, pages 299-300, Tables 490 and 492.

96. We have described and estimated the number of small entities to which the proposed rules might apply in the FRFA, *supra*, and hereby incorporate by reference those descriptions here.

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

97. The *NPRM* describes a future requirement the Commission intends to adopt for an advanced E911 solution for interconnected VoIP that must include a method for determining a user's location without assistance from the user and that there will be firm implementation deadlines for that solution. The *NPRM* also seeks comment on what additional steps the Commission should take to ensure that providers of VoIP services provide ubiquitous and reliable E911 service in light of the technological barriers that apply to VoIP E911 services. For instance, the Commission seeks comment on how it can facilitate the development of techniques for automatically identifying the geographic location of users of VoIP services, and notes that a number of possible methods have been proposed to automatically identify the location of a VoIP user, including gathering location information through the use of: an access jack inventory; a wireless access point inventory; access point mapping and triangulation; HDTV signal triangulation; and various GPS-based solutions. The Commission specifically asks whether it should require all terminal adapters or other equipment used in the provision of interconnected VoIP service sold as of June 1, 2006 to be capable of providing location information automatically, whether embedded in other equipment or sold to customers as a separate device.

98. The *NPRM* also seeks comment on whether the Commission should expand the scope of today's Order, which is limited to providers of interconnected VoIP services. The Commission tentatively concludes that a provider of a VoIP service offering that permits users to receive calls that originate on the PSTN and separately makes available a different offering that permits users to terminate calls generally to the PSTN should be subject to the rules we adopt in today's Order if a user can combine those separate offerings or can use them simultaneously or in immediate succession.

99. The Commission also seeks comment on whether it should adopt additional regulations to ensure that interconnected VoIP service customers obtain the required level of E911 services. Among other things, the Commission asks whether it should adopt E911 performance standards, require system redundancy, and require additional reporting requirements. The *NPRM* also seeks comment on whether the Commission should impose additional or more restrictive customer notification requirements relating to E911 on VoIP providers, and on the sufficiency of our customer acknowledgement requirements. It also asks whether the Commission should adopt any customer privacy protections related to provision of E911 service by interconnected VoIP service providers, perhaps similar to the privacy requirements that apply to wireline and wireless telecommunications carriers. In addition, the *NPRM* seeks comment on whether there are any steps the Commission should take to ensure that people with disabilities who desire to use VoIP services obtain access to E911 services, such as by imposing on VoIP technologies the same disability access requirements as traditional telephony facilities.

100. Finally, the Commission also asks what role states can and should play to help implement the E911 rules we adopt today. For instance, the Commission asks whether state and local governments should play a role similar to the roles they play in implementing the Commission's wireless E911 rules. The *NPRM* also requests comment on whether the Commission should take any action to facilitate the states' ability to collect 911 fees from interconnected VoIP providers, either directly or indirectly.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

101. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives:

(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.²⁷⁷

102. The *NPRM* specifically seeks comment on whether the Commission should expand the scope and requirements of the Order, recognizing that such an expansion may not be appropriate with regard to all VoIP service providers.²⁷⁸ With one exception, the *NPRM* does not adopt any tentative conclusions regarding what specific regulations would apply to any entity, including small entities. We seek comment here on the effect the various proposals described in the *NPRM*, and summarized above, will have on small entities, and on what effect alternative rules would have on those entities. How can the Commission achieve its goal of ensuring that all users of VoIP services ultimately covered by the Commission's E911 rules are able to access ubiquitous and reliable E911 service while also imposing minimal burdens on small entities? What specific steps could the Commission take in this regard?

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

103. None.

²⁷⁷ 5 U.S.C. § 603(c).

²⁷⁸ See *NPRM*, *supra*, paras. 56, 58.

**STATEMENT OF
CHAIRMAN KEVIN J. MARTIN**

Re: IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking (WC Docket Nos. 04-36, 05-196)

Today's action seeks to remedy a very serious problem – one quite literally of life or death for the millions of customers that subscribe to VoIP service as a substitute for traditional phone service. Currently, there are many VoIP providers that either do not provide their customers with any access to 911 emergency services or only provide 911 access in certain areas of the country. There are still other VoIP providers that only provide their customers access to a non-emergency line of public safety personnel – a line that does not connect to trained emergency operators, but instead connects to administrative staff who may or may not answer the calls. Because certain VoIP providers do not routinely connect their customers to 911 emergency operators, public safety officials across the country have been unable to address certain calls for help in a timely fashion, resulting in several tragedies. This situation is simply unacceptable.

Anyone who dials 911 has a reasonable expectation that he or she will be connected to an emergency operator; this expectation exists whether that person is dialing 911 from a traditional wireline phone, a wireless phone, or a VoIP phone. Today, we take this action to ensure this expectation is met as soon as possible.

The Order we adopt reaches the following conclusions:

- Interconnected VoIP providers must deliver all 911 calls to the customer's local emergency operator. This must be a standard, rather than optional, feature of the service.
- Interconnected VoIP providers must provide emergency operators with the call back number and location information of their customers (i.e., E911) where the emergency operator is capable of receiving it. Although the customer must provide the location information, the VoIP provider must provide the customer a means of updating this information, whether he or she is at home or away from home.
- By the effective date, interconnected VoIP providers must inform their customers, both new and existing, of the E911 capabilities and limitations of their service.
- The incumbent LECs are required to continue to provide access to their E911 networks to any requesting telecommunications carrier. They must continue to provide access to trunks, selective routers, and E911 databases to competing carriers. The Commission will closely monitor this obligation.

In short, the rules we adopt today require all VoIP providers that permit their customers to receive and place calls over the public-switched telephone network to provide their customers with 911 access. By not dictating the technical means by which providers must come into compliance, we do not impose undue regulation on these services. Although I would have liked to make these rules effective immediately, I recognize that there are technical issues that must be worked out and coordination that must take place with public safety officials before providers can comply. Accordingly, these rules will be effective 120 days from the effective date of this Order. I believe that this timeframe properly balances the nonnegotiable need of VoIP customers to access public safety with the practical need for adequate industry coordination.

To comply with our rules, VoIP providers may interconnect directly with the incumbent LECs'

911 network or purchase access to this network from competitive carriers and other third-party providers. In this regard, I note that incumbent LECs currently have a statutory obligation to provide requesting telecommunications carriers access to their 911 network. I am extremely encouraged by and commend the efforts of the Bell Operating Companies (BOCs) in permitting VoIP providers access to their 911 network. Significantly, each BOC currently offers 911 capability to VoIP providers, and some BOCs have already entered into 911 arrangements with these providers. I recognize that successful nationwide solutions are dependent on the cooperation of VoIP providers, incumbent LECs, third party vendors, and the public safety community. Such cooperation is already taking place in several major markets, and I have every reason to believe that this cooperation will continue throughout the country.

The requirement to provide access to 911 is about public safety. Because the Commission previously found that the VoIP services at issue were interstate, the Commission assumed the responsibility to ensure that basic public safety requirements are implemented and satisfied. Today, we fulfill that responsibility.

I am extremely supportive of fostering innovation and driving the adoption of new technologies, and I firmly believe that the emergency access requirements that we adopt today are compatible with these goals. Congress has mandated that the Commission promote the “safety of life and property.” This obligation transcends new technologies and cannot be compromised.

While the rules we adopt today are a step in the right direction our actions today are not the end of the story. An advanced 911 solution needs to be developed that enables VoIP providers to locate their customers automatically much like wireless providers are able to locate their customers today. Every American deserves ubiquitous and reliable 911 service regardless of the technology that is being used.

The provision of access to 911 should not be optional for any telephone service provider. We need to take whatever actions are necessary to swiftly enforce these requirements to ensure that no lives are lost due to lack of access to 911.

**STATEMENT OF
COMMISSIONER KATHLEEN Q. ABERNATHY**

Re: IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking (WC Docket Nos. 04-36, 05-196)

This Order promotes a critical public policy objective by ensuring that voice-over-IP (VOIP) services provide customers with E911 service. While I have long championed a light regulatory touch for IP-enabled services, I have also recognized that governmental mandates may be necessary to ensure fulfillment of core social goals such as public safety. Indeed, in the very first sentence of the Communications Act, Congress made it one of our paramount obligations to “promot[e] safety of life and property through the use of wire and radio communication.” 47 U.S.C. § 151. This responsibility is particularly compelling in the context of E911, which consumers have reasonably come to expect as a core component of any telephone service.

Some VOIP providers contend that the industry is working toward solutions and mandates are not necessary to ensure the timely rollout of E911 service. Ordinarily I would be sympathetic to this view, but recent tragic failures of the current approach — which left families unable to connect to emergency services in time to save lives — underscore the need for immediate intervention. Not only must we ensure prompt deployment of E911 capabilities, but I strongly support the decision to require clear and conspicuous disclosures to consumers regarding any limitations on emergency calling capabilities. Such regulations, paired with continued forbearance from economic regulations (such as mandates concerning price and service quality), are fully compatible with the pro-investment, pro-innovation environment the Commission has worked hard to foster.

As the Order recognizes, VOIP providers cannot unilaterally provide customers with fully functioning 911 service. Incumbent LECs and public safety answering points are key parts of the equation. Thus, I am pleased that the Commission will monitor and facilitate ILECs’ provision of access to selective routers and other key inputs. I applaud the efforts of those carriers that have voluntarily arranged to provide such access, and I expect others to work with VOIP providers to provide expeditious solutions in the wake of this Order. VOIP providers may choose to access 911 answering systems indirectly through CLECs or other third parties, but direct connection should also be available in light of the mandate we are imposing. Because of the incipient nature of arrangements between VOIP providers and ILECs, implementation will not be problem-free. Nevertheless, a tight compliance deadline is appropriate in light of the critical nature of the public safety interests at stake. To the extent that VOIP providers are unable to comply based on ILEC provisioning delays or other factors beyond their control, the Commission should be prepared to grant limited waivers or take other appropriate action.

While this Order represents an important step in ensuring that consumers can connect to E911 services regardless of the telephone service they choose, we all recognize that the solutions we impose are interim in nature. Relying on manually entered customer location registrations will not provide long-term reliability, particularly as mobile VOIP services become more prevalent. I appreciate the leadership of the National Emergency Numbering Association in the development of next-generation E911 solutions. NENA has worked closely with VOIP providers and other industry participants, and its continued involvement will be invaluable. I am optimistic that, while new IP networks and services pose near-term challenges for emergency calling, the new technology will enable long-term public safety enhancements by creating more efficient and feature-filled emergency response systems.

**STATEMENT OF
COMMISSIONER MICHAEL J. COPPS**

Re: IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking (WC Docket Nos. 04-36, 05-196)

Last November the Commission asserted that certain VoIP services were interstate in nature and therefore subject to exclusive FCC jurisdiction. Seen by some as a grand and glorious pronouncement, others of us warned that a simple assertion of Washington control over these services without any indication of what this meant in such critical areas as public safety, homeland security and consumer protection was hardly the stuff of bold leadership. Preemption without policy is power without responsibility.

Today the Commission attempts to put a policy into place regarding the responsibilities of VoIP providers to deliver effective E911 emergency calling services to their customers. For far too many years now, the Commission has engaged in all sorts of term-parsing and linguistic exegesis as if just finding the right descriptor for new technologies would magically create a policy framework for them. Yet here we are today still trying to determine if those who provide new calling technologies need also to provide up-to-date emergency calling and location capabilities to those who use their services. The sad fact is that we have spent so much time splitting hairs about what is a telecommunications service and what is an information service that we have endangered public safety. At some point the semantic debates must end and reality must assert itself—when customers sign up for a telephone they expect it to deliver like a telephone. When an intruder is in the house and the homeowner goes to the phone to call the police, that's a call that just has to go through.

Today we face up to this challenge. I want to commend Chairman Martin for putting this item before us today. In the discussions he and I have had about this subject, I have seen in him a genuine commitment to the idea that the safety of the people is always the first obligation of the public servant. The item we vote on today is ambitious. But being less than ambitious on public safety is simply not an acceptable option. I also want to thank each of my colleagues for their work to make this a better item.

Our work today flows directly from the first sentence of the Communications Act, which commands us to “make available . . . to all the people of the United States . . . a rapid, efficient, Nation-wide . . . communication service . . . for the purpose of promoting safety of life and property.” Sixty-five years after these words were signed into law, Congress updated them in the Wireless Communications and Public Safety Act, which designates 911 as the universal emergency telephone number in the United States.

Our decision builds on these mandates. We are putting in place rules that require interconnected VoIP providers to transmit 911 calls to a PSAP over the existing E911 network. We require interconnected VoIP providers to obtain location information from each customer about where the service will be used. We require VoIP providers to offer customers the ability to update this location information. Our goal here must be that this registration process be effectuated as quickly as possible.

Critically, we limit our requirements here to services that are capable of origination and termination on the public-switched network. This means they are directed squarely at substitutes for basic telephony. Our rules govern the kind of services that a parent or child or babysitter or co-worker will justifiably expect to work in a 911 emergency situation. By moving swiftly, we will save lives. The recent incidents in Texas and Connecticut and Florida that we have just heard about make this point with chilling and regrettable clarity.

So I am pleased to support today's decision. We must recognize, of course, that much work needs to be done to shore up the reliability of VoIP 911 services. As the decision notes, interconnected VoIP providers can obtain access to selective routers and other functionalities necessary to provide 911 capabilities through competitive carriers, third-parties, incumbent carrier tariffs, contracts with incumbent carriers, or a combination thereof. All of the Bell companies have now announced service offerings for VoIP providers. This is a positive and truly encouraging development. But access to selective routers has to be achieved and achieved soon, so if the options that we could agree on today prove insufficient, the Commission will need to step in to prevent the public safety of VoIP customers from falling through the cracks. By the same token, port blocking or discrimination could impede even the best VoIP E911 arrangements. I believe the Commission will need to be vigilant about this threat, too. Our goal must be to resolve these issues so we can avoid more horrible outcomes like those we have heard about so painfully today.

We must also do more to coordinate with state and local authorities and PSAP officials. They are the unsung heroes of 911. They have played a vital and historic role in public safety matters involving both wireline and wireless technologies. We will need to do everything within our powers to ensure they have the resources necessary to respond to emergency calls. There's no solution without them.

A 911 call is the single most important call any of us may ever make. Today we take significant steps to provide consumers with the confidence they expect when they dial for public safety. This is our obligation under the law. It is the right thing to do. I fully support it. Now let's all of us, as parties to its implementation, roll up our sleeves and get the job done.

**STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN**

Re: IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking (WC Docket Nos. 04-36, 05-196)

There is no higher calling or higher priority for us at the Commission than improving 911 and E911 services. I support this Order because it reaffirms the commitment of both Congress and this Commission to a nationwide public safety system, even as our communications networks migrate to new and innovative technologies like Voice-over-Internet-Protocol (or VoIP).

Since its inception in the 1960s, “911” has become synonymous with help being just a phone call away. Americans make 200 million calls to 911 each year, with a third of those calls coming from wireless phones. The ability to reach public safety officials from both their homes and from mobile devices has had a remarkably beneficial impact on American consumers. One benefit of access to wireless 911 is that Emergency Medical Services (EMS) notification times for fatal crashes have dropped an average of 30%, shaving valuable minutes off that so-called “golden hour” where help is most crucial. These achievements have come through the vital partnership between service providers, the public safety community, State and local officials, the Commission, and Congress.

This Order builds on those past efforts by ensuring the benefits of our E911 networks extend to users of interconnected VoIP services that are increasingly used by American consumers to communicate with the rest of the voice phone network. All indicators suggest that the IP-based services, like VoIP, are rapidly becoming the building block for the future of telecommunications. Somewhere between one and two million Americans currently use some form of VoIP services. These services promise a new era of consumer choice, and we must continue to promote the deployment of new technologies. At the same time, we cannot let our desire to see VoIP proliferate come at the cost of providing the best emergency services available today, nor can we afford to take any steps backward. Given the rapid adoption rate for these new technologies, it is incumbent upon us to see that VoIP providers adapt their system design and operations to offer access to the safety net on which Americans have come to rely.

Through this item, we set tight deadlines for VoIP providers to offer these public safety capabilities to their consumers. This Order responds to calls from leading public safety organizations and others who have asked us to promptly implement E911 and warned about the dangers associated with the current practices of some VoIP providers. The heart-wrenching testimony of our guests at today’s open meeting, Andrea and Douglas McClanaghan, Sosomma and Peter John, and Cheryl and Joe Waller, only serves to reinforce the urgency of this matter.

With this Order, we make clear that a VoIP customer must not discover in their time of need that the 911 service for which they carefully registered actually routes them to an administrative line with a recording. Nor can Americans stop trusting the emergency response system, for it will undermine the important work that industry, the public safety community and the Commission has already accomplished in making it a reliable source of help.

To achieve these goals, the Commission adopts a broadly-stated E911 requirement that applies to all interconnected VoIP services, while allowing providers flexibility to choose among technological solutions. The Order permits VoIP providers to meet this requirement by interconnecting indirectly through a third party such as a competitive local phone company, interconnecting directly with the E911 network, or through any other solution that allows a provider to offer 911/E911 service. The Order recognizes that some VoIP services, particularly those nomadic services that allow consumers to take their VoIP service from their home to their office or their beach house, face significant implementation

challenges. Access to the trunks, selective routers, and databases of the E911 network is essential to meet the obligations set out here. Although I am pleased that this Order acknowledges the importance of this access and recognizes the important role of the E911 network providers including incumbent phone companies, it is critical that we monitor developments on this front closely. We must all remain committed to taking the necessary steps to make E911 for these services a success.

It is also important that consumers understand that there may still be limitations associated with the E911 functionality through some services. This Order recognizes that power outages, loss of a consumer's broadband connection, or the time needed to update E911 location databases may affect a consumer's ability to reach public safety through 911. To this end, this item includes a requirement that VoIP providers notify consumers about the actual E911 capabilities of their service and explores these issues further in the attached Further Notice. I am also pleased that we seek comment on what role our State commission partners can play in implementing these rules.

Beyond the important steps that we take here today, IP-based services hold great promise for E911. I appreciate the efforts that NENA and those in the VoIP industry have made to develop innovative solutions for 911/E911 services and encourage these industry participants to continue their efforts. By all accounts, these next generation capabilities have tremendous potential to improve on emergency response and medical monitoring services with video and other capabilities that will help Public Safety Answering Points (PSAPs) and first responders. These are innovations that will truly benefit all Americans, but in the meantime, it is the Commission's duty to direct VoIP providers to do more to ensure that all Americans will have access to 911 when they need it.

I want to thank Chairman Martin for his leadership and willingness to act swiftly on this issue. E911 has been one of my priorities at the Commission and I have spoken often about the need to address public safety access for VoIP customers. I know that the Chairman and my colleagues share this goal, and I look forward to our continued and mutual commitment to make our decision today a success.



Cost Summary

This section contains a summary of cost.





Connecting Your World

This Page was Intentionally Left Blank



		AT&T
Line Item	Part A ESInet & NGCS	Costs (Years 1-10)
	City of Alexandria, VA (includes Primary and Backup)	
A1- 1	One Time Fee	\$ 4,000.00
A1- 2	Monthly Recurring Fee	\$ 20,468.13
A1- 3	Annual Recurring Fee	\$ 245,617.60
	Arlington County, VA (includes Primary and Backup)	
A1- 4	One Time Fee	\$ 4,000.00
A1- 5	Monthly Recurring Fee	\$ 30,555.20
A1- 6	Annual Recurring Fee	\$ 366,662.40
	Fairfax County, VA (includes Primary, Backup, and 3 Secondaries)	
	PLEASE NOTE: The 3 Secondary PSAPs are listed as "Remote PSAP's from the Primary Host", and therefore do not include Transport Connections or other equipment costs associated with a Host-Remote design	
A1- 7	One Time Fee	\$ 4,000.00
A1- 8	Monthly Recurring Fee	\$ 152,297.87
A1- 9	Annual Recurring Fee	\$ 1,827,574.40
	Fauquier County, VA	
A1- 10	One Time Fee	\$ 4,000.00
A1- 11	Monthly Recurring Fee	\$ 9,170.93
A1- 12	Annual Recurring Fee	\$ 110,051.20
	City of Manassas, VA	
A1- 13	One Time Fee	\$ 4,000.00
A1- 14	Monthly Recurring Fee	\$ 5,568.53
A1- 15	Annual Recurring Fee	\$ 66,822.40
	Manassas Park, VA	
A1- 16	One Time Fee	\$ 4,000.00
A1- 17	Monthly Recurring Fee	\$ 2,096.80
A1- 18	Annual Recurring Fee	\$ 25,161.60
	Metropolitan Washington Airport Authority, VA	
A1- 19	One Time Fee	\$ 4,000.00
A1- 20	Monthly Recurring Fee	\$ 16,073.07
A1- 21	Annual Recurring Fee	\$ 192,876.80
	Prince William County, VA (includes Primary and Backup)	
A1- 22	One Time Fee	\$ 4,000.00
A1- 23	Monthly Recurring Fee	\$ 60,229.47
A1- 24	Annual Recurring Fee	\$ 722,753.60
	Stafford County, VA	
A1- 25	One Time Fee	\$ 4,000.00
A1- 26	Monthly Recurring Fee	\$ 18,933.73
A1- 27	Annual Recurring Fee	\$ 227,204.80
	Part A Total Fees- Five years	\$ 18,959,624.00

Line Item	Part B ESInet & NGCS	Cost (years 1-10)
	Calvert County, MD (includes Primary and Backup)	
A1- 28	One Time Fee	\$ 4,000.00
A1- 29	Monthly Recurring Fee	\$ 12,079.33
A1- 30	Annual Recurring Fee	\$ 144,952.00
	Charles County, MD (includes Primary and Backup)	
A1- 31	One Time Fee	\$ 4,000.00
A1- 32	Monthly Recurring Fee	\$ 20,815.73
A1- 33	Annual Recurring Fee	\$ 249,788.80
	Frederick County, MD (includes Primary and Backup)	
A1- 34	One Time Fee	\$ 4,000.00
A1- 35	Monthly Recurring Fee	\$ 32,709.60
A1- 36	Annual Recurring Fee	\$ 392,515.20
	Montgomery County, MD (includes Primary, Backup, and Secondary)	
	PLEASE NOTE: The Secondary PSAP is listed as "Remote PSAP's from the Primary Host", and therefore does not include Transport Connections or other equipment costs associated with a Host-Remote design	
A1- 37	One Time Fee	\$ 4,000.00
A1- 38	Monthly Recurring Fee	\$ 138,682.13
A1- 39	Annual Recurring Fee	\$ 1,664,185.60
	Prince George's County, MD (includes Primary and Backup)	
A1- 40	One Time Fee	\$ 4,000.00
A1- 41	Monthly Recurring Fee	\$ 121,271.33
A1- 42	Annual Recurring Fee	\$ 1,455,256.00
	St. Mary's County, MD (includes Primary and Backup)	
A1- 43	One Time Fee	\$ 4,000.00
A1- 44	Monthly Recurring Fee	\$ 14,855.07
A1- 45	Annual Recurring Fee	\$ 178,260.80
	Part B Total Fees - Five Years	\$ 20,448,792.00
	Interconnection to D.C. & Loudoun County	
	PLEASE NOTE: There are no charges if ESInet connections exist with West Safety Services	
	Interconnection to D.C. One Time Fee	\$ -
	Interconnection to Loudoun County One Time Fee	\$ -
	ESInet and NGCS Grand Total Costs Part A&B - Five years	
		\$ 39,408,416.00
	Optional pricing sheet shown below	
	4/18/17 - Please note that all optional pricing below remains the same unless otherwise addressed in the written BAFO Narrative questions	

		AT&T
Line Item	Optional Services Part A and B	
	Alarm Integration	
A1- 46	One Time Fee	\$ -
A1- 47	Monthly Recurring Fee	\$ -
	3rd Party NOC/SOC Access	
A1- 48	One Time Fee	\$ -
A1- 49	Monthly Recurring Fee	\$ -
	Other NG9-1-1 Applications	
	PLEASE NOTE: ECATS pricing provided on Appendix D Attachment 1	
	PLEASE NOTE: GIS pricing provided on Appendix D Attachment 2	
	Integration of Secondary Military PSAPs	
A1- 50	One Time Fee	\$ -
A1- 51	Monthly Recurring Fee	\$ 6,303.31
	Bandwidth Upgrade (to accommodate 25% increase in call volume)	
	PLEASE NOTE: This is already included in the Per PSAP Monthly Recurring Fee	
	One Time Fee	Included
	Monthly Recurring Fee	Included
	Text to 9-1-1 MSRP Integration	
	PLEASE NOTE: This is already included in the Per PSAP Monthly Recurring Fee	
	One Time Fee	Included
	Monthly Recurring Fee	Included
	Non-Terrestrial Transport	
A1- 52	One Time Fee	\$ -
A1- 53	Monthly Recurring Fee	\$ -
	PSAP Security Consulting Services	
	PLEASE NOTE: See Appendix D Attachment 3. Per PSAP for OTF, additional fees on an hourly basis	
A1- 54	One Time Fee	\$ 11,360.00
A1- 55	PLEASE NOTE: Per hour for additional short term assignments	\$ 210.00
	PLEASE NOTE: Special Construction is an "Optional Service" for each PSAP below to achieve redundant Local Access Diversity	
	Each PSAP to be contracted and charged separately for Special Construction to achieve Local Access Diversity.	
	If Special Construction is not contracted and charged then exceptions may apply to respective PSAP Service Level	
	City of Alexandria, VA - POLICE - Special Construction	
A1- 56	One Time Fee	\$ 90,778.00
	Alexandria PD Backup PSAP - Special Construction	
A1- 57	One Time Fee	\$ 21,162.00
	Arlington County, VA - Special Construction	
A1- 58	One Time Fee	\$ 471,413.00
	Arlington County ECC Back up PSAP - Special Construction	
A1- 59	One Time Fee	\$ 264,438.00
	Falls Church Police Secondary - Special Construction	
A1- 60	One Time Fee	\$ 35,282.00
	Fairfax County, VA - Special Construction	
A1- 61	One Time Fee	\$ 89,287.00
	Pine Ridge Alternate PSAP Back Up - Special Construction	
A1- 62	One Time Fee	\$ 26,209.00

	Fauquier County, VA - Special Construction	
A1- 63	One Time Fee	\$ 110,473.00
	City of Manassas, VA Secondary - Special Construction	
A1- 64	One Time Fee	\$ 87,714.29
	Manassas Park, VA Secondary - Special Construction	
A1- 65	One Time Fee	\$ 178,008.00
	Metropolitan Washington Airport Authority, VA - PLEASE NOTE Special Construction not needed for Local Access Diversity	
A1- 66	One Time Fee	\$ -
	Prince William County, VA - Special Construction	
A1- 67	One Time Fee	\$ 89,309.49
	Prince William Backup - Special Construction	
A1- 68	One Time Fee	\$ 52,448.00
	Stafford County, VA - Special Construction	
A1- 69	One Time Fee	\$ 45,816.00
	Calvert County, MD - Special Construction	
A1- 70	One Time Fee	\$ 13,450.00
	Calvert Back up - Special Construction	
A1- 71	One Time Fee	\$ 13,450.00
	Charles County, MD - Special Construction	
A1- 72	One Time Fee	\$ 13,450.00
	Charles Co Back up - Special Construction	
A1- 73	One Time Fee	\$ 50,886.00
	Frederick County, MD - Special Construction	
A1- 74	One Time Fee	\$ 45,366.00
	Frederick Backup - Special Construction	
A1- 75	One Time Fee	\$ 12,645.00
	Montgomery County, MD - Special Construction	
A1- 76	One Time Fee	\$ 12,891.00
	Montgomery Co Back up - Special Construction	
A1- 77	One Time Fee	\$ 12,891.00
	Prince George's County, MD - Special Construction	
A1- 78	One Time Fee	\$ 34,141.00
	Prince George Co Back up - Special Construction	
A1- 79	One Time Fee	\$ 25,112.00
	St. Mary's County, MD - Special Construction	
A1- 80	One Time Fee	\$ 122,464.00
	St Marys Co Back up - Special Construction	
A1- 81	One Time Fee	\$ 122,464.00
	TOTAL COST - Special Construction Costs Part A and B	\$2,041,547.78
	TOTAL COST Optional Services Part A and B plus Special Construct	\$2,059,421.09

Line Item	Other Commonwealth PSAPs (Part C) - Years 1-5 and Years 6-10	AT&T
	Part C ESInet & NGCS PSAPs	Costs
	Alleghany, VA	
A2- 1	One Time Fee	\$ 4,000.00
A2- 2	Monthly Recurring Fee	\$ 4,263.65
A2- 3	Annual Recurring Fee	\$ 51,163.82
	Amelia, VA	
A2- 4	One Time Fee	\$ 4,000.00
A2- 5	Monthly Recurring Fee	\$ 4,035.64
A2- 6	Annual Recurring Fee	\$ 48,427.71
	Amherst, VA	
A2- 7	One Time Fee	\$ 4,000.00
A2- 8	Monthly Recurring Fee	\$ 5,987.77
A2- 9	Annual Recurring Fee	\$ 71,853.22
	Appomattox, VA	
A2- 10	One Time Fee	\$ 4,000.00
A2- 11	Monthly Recurring Fee	\$ 4,272.56
A2- 12	Annual Recurring Fee	\$ 51,270.73
	Augusta, VA	
A2- 13	One Time Fee	\$ 4,000.00
A2- 14	Monthly Recurring Fee	\$ 10,618.63
A2- 15	Annual Recurring Fee	\$ 127,423.61
	Bath, VA	
A2- 16	One Time Fee	\$ 4,000.00
A2- 17	Monthly Recurring Fee	\$ 3,184.01
A2- 18	Annual Recurring Fee	\$ 38,208.13
	Bedford, VA	
A2- 19	One Time Fee	\$ 4,000.00
A2- 20	Monthly Recurring Fee	\$ 10,390.99
A2- 21	Annual Recurring Fee	\$ 124,691.88
	Bland, VA	
A2- 22	One Time Fee	\$ 4,000.00
A2- 23	Monthly Recurring Fee	\$ 3,407.91
A2- 24	Annual Recurring Fee	\$ 40,894.89

	Botetourt, VA	
A2- 25	One Time Fee	\$ 4,000.00
A2- 26	Monthly Recurring Fee	\$ 6,172.02
A2- 27	Annual Recurring Fee	\$ 74,064.20
	Bristol, VA	
A2- 28	One Time Fee	\$ 4,000.00
A2- 29	Monthly Recurring Fee	\$ 4,635.62
A2- 30	Annual Recurring Fee	\$ 55,627.42
	Brunswick, VA	
A2- 31	One Time Fee	\$ 4,000.00
A2- 32	Monthly Recurring Fee	\$ 4,405.51
A2- 33	Annual Recurring Fee	\$ 52,866.11
	Buchanan, VA	
A2- 34	One Time Fee	\$ 4,000.00
A2- 35	Monthly Recurring Fee	\$ 5,011.71
A2- 36	Annual Recurring Fee	\$ 60,140.47
	Buckingham, VA	
A2- 37	One Time Fee	\$ 4,000.00
A2- 38	Monthly Recurring Fee	\$ 4,461.31
A2- 39	Annual Recurring Fee	\$ 53,535.74
	Campbell, VA	
A2- 40	One Time Fee	\$ 4,000.00
A2- 41	Monthly Recurring Fee	\$ 8,384.46
A2- 42	Annual Recurring Fee	\$ 100,613.50
	Caroline, VA	
A2- 43	One Time Fee	\$ 4,000.00
A2- 44	Monthly Recurring Fee	\$ 5,796.57
A2- 45	Annual Recurring Fee	\$ 69,558.84
	Charles City, VA	
A2- 46	One Time Fee	\$ 4,000.00
A2- 47	Monthly Recurring Fee	\$ 3,487.21
A2- 48	Annual Recurring Fee	\$ 41,846.48
	Charlotte, VA	
A2- 49	One Time Fee	\$ 4,000.00
A2- 50	Monthly Recurring Fee	\$ 3,948.51
A2- 51	Annual Recurring Fee	\$ 47,382.14

	Charlottesville-UVA-Albemarle, VA	
A2- 52	One Time Fee	\$ 4,000.00
A2- 53	Monthly Recurring Fee	\$ 18,589.40
A2- 54	Annual Recurring Fee	\$ 223,072.84
	Chesapeake, VA	
A2- 55	One Time Fee	\$ 4,000.00
A2- 56	Monthly Recurring Fee	\$ 27,949.50
A2- 57	Annual Recurring Fee	\$ 335,393.97
	Chesterfield, VA	
A2- 58	One Time Fee	\$ 4,000.00
A2- 59	Monthly Recurring Fee	\$ 41,264.71
A2- 60	Annual Recurring Fee	\$ 495,176.49
	Clarke, VA	
A2- 61	One Time Fee	\$ 4,000.00
A2- 62	Monthly Recurring Fee	\$ 4,193.46
A2- 63	Annual Recurring Fee	\$ 50,321.49
	Colonial Heights, VA	
A2- 64	One Time Fee	\$ 4,000.00
A2- 65	Monthly Recurring Fee	\$ 4,190.57
A2- 66	Annual Recurring Fee	\$ 50,286.78
	Covington, VA	
A2- 67	One Time Fee	\$ 4,000.00
A2- 68	Monthly Recurring Fee	\$ 3,334.39
A2- 69	Annual Recurring Fee	\$ 40,012.62
	Craig, VA	
A2- 70	One Time Fee	\$ 4,000.00
A2- 71	Monthly Recurring Fee	\$ 3,263.21
A2- 72	Annual Recurring Fee	\$ 39,158.54
	Culpeper, VA	
A2- 73	One Time Fee	\$ 4,000.00
A2- 74	Monthly Recurring Fee	\$ 8,117.00
A2- 75	Annual Recurring Fee	\$ 97,403.95
	Cumberland, VA	
A2- 76	One Time Fee	\$ 4,000.00
A2- 77	Monthly Recurring Fee	\$ 3,762.50
A2- 78	Annual Recurring Fee	\$ 45,150.02

	Danville, VA	
A2- 79	One Time Fee	\$ 4,000.00
A2- 80	Monthly Recurring Fee	\$ 6,888.64
A2- 81	Annual Recurring Fee	\$ 82,663.73
	Dickenson, VA	
A2- 82	One Time Fee	\$ 4,000.00
A2- 83	Monthly Recurring Fee	\$ 4,249.75
A2- 84	Annual Recurring Fee	\$ 50,997.00
	Dinwiddie, VA	
A2- 85	One Time Fee	\$ 4,000.00
A2- 86	Monthly Recurring Fee	\$ 5,614.67
A2- 87	Annual Recurring Fee	\$ 67,376.06
	Eastern Shore, VA	
A2- 88	One Time Fee	\$ 4,000.00
A2- 89	Monthly Recurring Fee	\$ 7,288.34
A2- 90	Annual Recurring Fee	\$ 87,460.12
	Emporia, VA	
A2- 91	One Time Fee	\$ 4,000.00
A2- 92	Monthly Recurring Fee	\$ 3,357.88
A2- 93	Annual Recurring Fee	\$ 40,294.57
	Essex, VA	
A2- 94	One Time Fee	\$ 4,000.00
A2- 95	Monthly Recurring Fee	\$ 3,885.95
A2- 96	Annual Recurring Fee	\$ 46,631.44
	Farmville, VA	
A2- 97	One Time Fee	\$ 4,000.00
A2- 98	Monthly Recurring Fee	\$ 5,156.79
A2- 99	Annual Recurring Fee	\$ 61,881.52
	Floyd, VA	
A2- 100	One Time Fee	\$ 4,000.00
A2- 101	Monthly Recurring Fee	\$ 4,279.32
A2- 102	Annual Recurring Fee	\$ 51,351.79
	Fluvanna, VA	
A2- 103	One Time Fee	\$ 4,000.00
A2- 104	Monthly Recurring Fee	\$ 5,562.49
A2- 105	Annual Recurring Fee	\$ 66,749.89

	Franklin City, VA	
A2- 106	One Time Fee	\$ 4,000.00
A2- 107	Monthly Recurring Fee	\$ 3,629.16
A2- 108	Annual Recurring Fee	\$ 43,549.94
	Franklin County, VA	
A2- 109	One Time Fee	\$ 4,000.00
A2- 110	Monthly Recurring Fee	\$ 8,832.64
A2- 111	Annual Recurring Fee	\$ 105,991.74
	Frederick, VA	
A2- 112	One Time Fee	\$ 4,000.00
A2- 113	Monthly Recurring Fee	\$ 12,237.61
A2- 114	Annual Recurring Fee	\$ 146,851.28
	Fredericksburg, VA	
A2- 115	One Time Fee	\$ 4,000.00
A2- 116	Monthly Recurring Fee	\$ 5,436.27
A2- 117	Annual Recurring Fee	\$ 65,235.26
	Giles, VA	
A2- 118	One Time Fee	\$ 4,000.00
A2- 119	Monthly Recurring Fee	\$ 4,467.19
A2- 120	Annual Recurring Fee	\$ 53,606.23
	Gloucester, VA	
A2- 121	One Time Fee	\$ 4,000.00
A2- 122	Monthly Recurring Fee	\$ 6,712.30
A2- 123	Annual Recurring Fee	\$ 80,547.60
	Goochland, VA	
A2- 124	One Time Fee	\$ 4,000.00
A2- 125	Monthly Recurring Fee	\$ 5,080.73
A2- 126	Annual Recurring Fee	\$ 60,968.70
	Greene, VA	
A2- 127	One Time Fee	\$ 4,000.00
A2- 128	Monthly Recurring Fee	\$ 4,719.38
A2- 129	Annual Recurring Fee	\$ 56,632.52
	Greensville, VA	
A2- 130	One Time Fee	\$ 4,000.00
A2- 131	Monthly Recurring Fee	\$ 3,943.62
A2- 132	Annual Recurring Fee	\$ 47,323.40

	Halifax, VA	
A2- 133	One Time Fee	\$ 4,000.00
A2- 134	Monthly Recurring Fee	\$ 6,224.39
A2- 135	Annual Recurring Fee	\$ 74,692.72
	Hampton, VA	
A2- 136	One Time Fee	\$ 4,000.00
A2- 137	Monthly Recurring Fee	\$ 16,260.63
A2- 138	Annual Recurring Fee	\$ 195,127.55
	Hanover, VA	
A2- 139	One Time Fee	\$ 4,000.00
A2- 140	Monthly Recurring Fee	\$ 14,287.93
A2- 141	Annual Recurring Fee	\$ 171,455.12
	Harrisonburg-Rockingham, VA	
A2- 142	One Time Fee	\$ 4,000.00
A2- 143	Monthly Recurring Fee	\$ 16,481.87
A2- 144	Annual Recurring Fee	\$ 197,782.39
	Henrico, VA	
A2- 145	One Time Fee	\$ 4,000.00
A2- 146	Monthly Recurring Fee	\$ 37,631.40
A2- 147	Annual Recurring Fee	\$ 451,576.78
	Highland, VA	
A2- 148	One Time Fee	\$ 4,000.00
A2- 149	Monthly Recurring Fee	\$ 2,945.92
A2- 150	Annual Recurring Fee	\$ 35,351.01
	Hopewell, VA	
A2- 151	One Time Fee	\$ 4,000.00
A2- 152	Monthly Recurring Fee	\$ 5,225.83
A2- 153	Annual Recurring Fee	\$ 62,709.97
	Isle of Wight, VA	
A2- 154	One Time Fee	\$ 4,000.00
A2- 155	Monthly Recurring Fee	\$ 6,523.77
A2- 156	Annual Recurring Fee	\$ 78,285.25
	James City, VA	
A2- 157	One Time Fee	\$ 4,000.00
A2- 158	Monthly Recurring Fee	\$ 11,155.81
A2- 159	Annual Recurring Fee	\$ 133,869.74

	King and Queen, VA	
A2- 160	One Time Fee	\$ 4,000.00
A2- 161	Monthly Recurring Fee	\$ 3,429.25
A2- 162	Annual Recurring Fee	\$ 41,151.00
	King George, VA	
A2- 163	One Time Fee	\$ 4,000.00
A2- 164	Monthly Recurring Fee	\$ 5,481.50
A2- 165	Annual Recurring Fee	\$ 65,778.01
	King William, VA	
A2- 166	One Time Fee	\$ 4,000.00
A2- 167	Monthly Recurring Fee	\$ 4,416.96
A2- 168	Annual Recurring Fee	\$ 53,003.56
	Lancaster, VA	
A2- 169	One Time Fee	\$ 4,000.00
A2- 170	Monthly Recurring Fee	\$ 3,871.46
A2- 171	Annual Recurring Fee	\$ 46,457.57
	Lee, VA	
A2- 172	One Time Fee	\$ 4,000.00
A2- 173	Monthly Recurring Fee	\$ 5,176.18
A2- 174	Annual Recurring Fee	\$ 62,114.13
	Louisa, VA	
A2- 175	One Time Fee	\$ 4,000.00
A2- 176	Monthly Recurring Fee	\$ 6,353.82
A2- 177	Annual Recurring Fee	\$ 76,245.80
	Lunenburg, VA	
A2- 178	One Time Fee	\$ 4,000.00
A2- 179	Monthly Recurring Fee	\$ 3,990.61
A2- 180	Annual Recurring Fee	\$ 47,887.30
	Lynchburg, VA	
A2- 181	One Time Fee	\$ 4,000.00
A2- 182	Monthly Recurring Fee	\$ 10,576.93
A2- 183	Annual Recurring Fee	\$ 126,923.15
	Madison, VA	
A2- 184	One Time Fee	\$ 4,000.00
A2- 185	Monthly Recurring Fee	\$ 4,198.91
A2- 186	Annual Recurring Fee	\$ 50,386.96

	Martinsville-Henry, VA	
A2- 187	One Time Fee	\$ 4,000.00
A2- 188	Monthly Recurring Fee	\$ 9,496.65
A2- 189	Annual Recurring Fee	\$ 113,959.77
	Mathews, VA	
A2- 190	One Time Fee	\$ 4,000.00
A2- 191	Monthly Recurring Fee	\$ 3,631.41
A2- 192	Annual Recurring Fee	\$ 43,576.96
	Mecklenburg, VA	
A2- 193	One Time Fee	\$ 4,000.00
A2- 194	Monthly Recurring Fee	\$ 5,941.17
A2- 195	Annual Recurring Fee	\$ 71,294.02
	Middlesex, VA	
A2- 196	One Time Fee	\$ 4,000.00
A2- 197	Monthly Recurring Fee	\$ 3,866.37
A2- 198	Annual Recurring Fee	\$ 46,396.48
	Nelson, VA	
A2- 199	One Time Fee	\$ 4,000.00
A2- 200	Monthly Recurring Fee	\$ 4,277.79
A2- 201	Annual Recurring Fee	\$ 51,333.53
	New Kent, VA	
A2- 202	One Time Fee	\$ 4,000.00
A2- 203	Monthly Recurring Fee	\$ 4,781.44
A2- 204	Annual Recurring Fee	\$ 57,377.34
	New River Valley, VA	
A2- 205	One Time Fee	\$ 4,000.00
A2- 206	Monthly Recurring Fee	\$ 13,213.59
A2- 207	Annual Recurring Fee	\$ 158,563.08
	Newport News, VA	
A2- 208	One Time Fee	\$ 4,000.00
A2- 209	Monthly Recurring Fee	\$ 21,231.89
A2- 210	Annual Recurring Fee	\$ 254,782.72
	Norfolk, VA	
A2- 211	One Time Fee	\$ 4,000.00
A2- 212	Monthly Recurring Fee	\$ 27,784.54
A2- 213	Annual Recurring Fee	\$ 333,414.43

	Northumberland, VA	
A2- 214	One Time Fee	\$ 4,000.00
A2- 215	Monthly Recurring Fee	\$ 4,037.45
A2- 216	Annual Recurring Fee	\$ 48,449.39
	Norton, VA	
A2- 217	One Time Fee	\$ 4,000.00
A2- 218	Monthly Recurring Fee	\$ 3,316.68
A2- 219	Annual Recurring Fee	\$ 39,800.19
	Nottoway, VA	
A2- 220	One Time Fee	\$ 4,000.00
A2- 221	Monthly Recurring Fee	\$ 4,292.34
A2- 222	Annual Recurring Fee	\$ 51,508.04
	Orange, VA	
A2- 223	One Time Fee	\$ 4,000.00
A2- 224	Monthly Recurring Fee	\$ 6,408.25
A2- 225	Annual Recurring Fee	\$ 76,898.99
	Page, VA	
A2- 226	One Time Fee	\$ 4,000.00
A2- 227	Monthly Recurring Fee	\$ 5,169.52
A2- 228	Annual Recurring Fee	\$ 62,034.25
	Patrick, VA	
A2- 229	One Time Fee	\$ 4,000.00
A2- 230	Monthly Recurring Fee	\$ 4,532.49
A2- 231	Annual Recurring Fee	\$ 54,389.82
	Petersburg, VA	
A2- 232	One Time Fee	\$ 4,000.00
A2- 233	Monthly Recurring Fee	\$ 6,028.76
A2- 234	Annual Recurring Fee	\$ 72,345.15
	Pittsylvania, VA	
A2- 235	One Time Fee	\$ 4,000.00
A2- 236	Monthly Recurring Fee	\$ 9,146.63
A2- 237	Annual Recurring Fee	\$ 109,759.53
	Portsmouth, VA	
A2- 238	One Time Fee	\$ 4,000.00
A2- 239	Monthly Recurring Fee	\$ 12,171.08
A2- 240	Annual Recurring Fee	\$ 146,052.95

	Powhatan, VA	
A2- 241	One Time Fee	\$ 4,000.00
A2- 242	Monthly Recurring Fee	\$ 5,857.17
A2- 243	Annual Recurring Fee	\$ 70,286.04
	Prince George, VA	
A2- 244	One Time Fee	\$ 4,000.00
A2- 245	Monthly Recurring Fee	\$ 6,523.35
A2- 246	Annual Recurring Fee	\$ 78,280.23
	Pulaski, VA	
A2- 247	One Time Fee	\$ 4,000.00
A2- 248	Monthly Recurring Fee	\$ 6,396.03
A2- 249	Annual Recurring Fee	\$ 76,752.35
	Radford, VA	
A2- 250	One Time Fee	\$ 4,000.00
A2- 251	Monthly Recurring Fee	\$ 4,425.19
A2- 252	Annual Recurring Fee	\$ 53,102.24
	Rappahannock, VA	
A2- 253	One Time Fee	\$ 4,000.00
A2- 254	Monthly Recurring Fee	\$ 3,471.35
A2- 255	Annual Recurring Fee	\$ 41,656.17
	Richmond City, VA	
A2- 256	One Time Fee	\$ 4,000.00
A2- 257	Monthly Recurring Fee	\$ 23,334.59
A2- 258	Annual Recurring Fee	\$ 280,015.08
	Richmond County, VA	
A2- 259	One Time Fee	\$ 4,000.00
A2- 260	Monthly Recurring Fee	\$ 3,779.80
A2- 261	Annual Recurring Fee	\$ 45,357.64
	Roanoke City, VA	
A2- 262	One Time Fee	\$ 4,000.00
A2- 263	Monthly Recurring Fee	\$ 12,625.60
A2- 264	Annual Recurring Fee	\$ 151,507.23
	Roanoke County, VA	
A2- 265	One Time Fee	\$ 4,000.00
A2- 266	Monthly Recurring Fee	\$ 12,435.02
A2- 267	Annual Recurring Fee	\$ 149,220.21

	Rockbridge, VA	
A2- 268	One Time Fee	\$ 4,000.00
A2- 269	Monthly Recurring Fee	\$ 6,486.32
A2- 270	Annual Recurring Fee	\$ 77,835.84
	Russell, VA	
A2- 271	One Time Fee	\$ 4,000.00
A2- 272	Monthly Recurring Fee	\$ 5,566.60
A2- 273	Annual Recurring Fee	\$ 66,799.23
	Salem, VA	
A2- 274	One Time Fee	\$ 4,000.00
A2- 275	Monthly Recurring Fee	\$ 5,257.04
A2- 276	Annual Recurring Fee	\$ 63,084.52
	Scott, VA	
A2- 277	One Time Fee	\$ 4,000.00
A2- 278	Monthly Recurring Fee	\$ 4,972.74
A2- 279	Annual Recurring Fee	\$ 59,672.90
	Shenandoah, VA	
A2- 280	One Time Fee	\$ 4,000.00
A2- 281	Monthly Recurring Fee	\$ 6,776.45
A2- 282	Annual Recurring Fee	\$ 81,317.41
	Smyth, VA	
A2- 283	One Time Fee	\$ 4,000.00
A2- 284	Monthly Recurring Fee	\$ 5,884.88
A2- 285	Annual Recurring Fee	\$ 70,618.51
	Southampton, VA	
A2- 286	One Time Fee	\$ 4,000.00
A2- 287	Monthly Recurring Fee	\$ 4,551.67
A2- 288	Annual Recurring Fee	\$ 54,620.08
	Spotsylvania, VA	
A2- 289	One Time Fee	\$ 4,000.00
A2- 290	Monthly Recurring Fee	\$ 19,074.89
A2- 291	Annual Recurring Fee	\$ 228,898.67
	Staunton, VA	
A2- 292	One Time Fee	\$ 4,000.00
A2- 293	Monthly Recurring Fee	\$ 1,621.58
A2- 294	Annual Recurring Fee	\$ 19,458.96

	Suffolk, VA	
A2- 295	One Time Fee	\$ 4,000.00
A2- 296	Monthly Recurring Fee	\$ 12,531.97
A2- 297	Annual Recurring Fee	\$ 150,383.58
	Surry, VA	
A2- 298	One Time Fee	\$ 4,000.00
A2- 299	Monthly Recurring Fee	\$ 3,552.77
A2- 300	Annual Recurring Fee	\$ 42,633.28
	Sussex, VA	
A2- 301	One Time Fee	\$ 4,000.00
A2- 302	Monthly Recurring Fee	\$ 3,909.16
A2- 303	Annual Recurring Fee	\$ 46,909.87
	Tazewell, VA	
A2- 304	One Time Fee	\$ 4,000.00
A2- 305	Monthly Recurring Fee	\$ 7,157.38
A2- 306	Annual Recurring Fee	\$ 85,888.56
	Twin County, VA	
A2- 305	One Time Fee	\$ 4,000.00
A2- 306	Monthly Recurring Fee	\$ 7,926.87
A2- 307	Annual Recurring Fee	\$ 95,122.49
	Virginia Beach, VA	
A2- 308	One Time Fee	\$ 4,000.00
A2- 309	Monthly Recurring Fee	\$ 46,266.24
A2- 310	Annual Recurring Fee	\$ 555,194.89
	Warren, VA	
A2- 311	One Time Fee	\$ 4,000.00
A2- 312	Monthly Recurring Fee	\$ 6,820.21
A2- 313	Annual Recurring Fee	\$ 81,842.55
	Washington, VA	
A2- 314	One Time Fee	\$ 4,000.00
A2- 315	Monthly Recurring Fee	\$ 8,306.73
A2- 316	Annual Recurring Fee	\$ 99,680.71
	Waynesboro, VA	
A2- 317	One Time Fee	\$ 4,000.00
A2- 318	Monthly Recurring Fee	\$ 2,722.51
A2- 319	Annual Recurring Fee	\$ 32,670.12

	Westmoreland, VA	
A2- 320	One Time Fee	\$ 4,000.00
A2- 321	Monthly Recurring Fee	\$ 4,518.39
A2- 322	Annual Recurring Fee	\$ 54,220.65
	Winchester, VA	
A2- 323	One Time Fee	\$ 4,000.00
A2- 324	Monthly Recurring Fee	\$ 5,460.48
A2- 325	Annual Recurring Fee	\$ 65,525.75
	Wise, VA	
A2- 326	One Time Fee	\$ 4,000.00
A2- 327	Monthly Recurring Fee	\$ 6,720.84
A2- 328	Annual Recurring Fee	\$ 80,650.13
	Wythe, VA	
A2- 329	One Time Fee	\$ 4,000.00
A2- 330	Monthly Recurring Fee	\$ 5,662.45
A2- 331	Annual Recurring Fee	\$ 67,949.36
	York-Poquoson-Williamsburg, VA	
A2- 332	One Time Fee	\$ 4,000.00
A2- 333	Monthly Recurring Fee	\$ 13,157.88
A2- 334	Annual Recurring Fee	\$ 157,894.62
	Part C One Time Fees	\$ 448,000.00
	Part C Monthly Recurring Total Fees for Five Years (Yrs 1-5)	\$ 53,747,214.81
	Part C Monthly Recurring Total Fees for Five Years (Yrs 6-10)	\$ 53,747,214.81
	Part C Monthly Recurring Fees (Annual Amount)	\$ 10,749,442.96
	Part C Total - One Time and Recurring Fees (Yrs 1-5)	\$ 54,195,214.81

Line Item	Part C Optional Special Construction Costs	
	<p>PLEASE NOTE: Special Construction is an "Optional Service" for each Part C PSAP and has not been estimated yet to achieve redundant Local Access Diversity. Each PSAP to be contracted and charged separately for Special Construction to achieve Local Access Diversity. If Special Construction is not contracted and charged then exceptions may apply to respective PSAP Service Level Agreements</p>	
	Part C PSAPs	Cost
	Alleghany, VA	
A2- 335	Special Construction Costs	To Be Determined (TBD)
	Amelia, VA	
A2- 336	Special Construction Costs	TBD
	Amherst, VA	
A2- 337	Special Construction Costs	TBD
	Appomattox, VA	
A2- 338	Special Construction Costs	TBD
	Augusta, VA	
A2- 339	Special Construction Costs	TBD
	Bath, VA	
A2- 340	Special Construction Costs	TBD
	Bedford, VA	
A2- 341	Special Construction Costs	TBD
	Bland, VA	
A2- 342	Special Construction Costs	TBD
	Botetourt, VA	
A2- 343	Special Construction Costs	TBD
	Bristol, VA	
A2- 344	Special Construction Costs	TBD
	Brunswick, VA	
A2- 345	Special Construction Costs	TBD
	Buchanan, VA	
A2- 346	Special Construction Costs	TBD
	Buckingham, VA	
A2- 347	Special Construction Costs	TBD
	Campbell, VA	
A2- 348	Special Construction Costs	TBD
	Caroline, VA	
A2- 349	Special Construction Costs	TBD

	Charles City, VA	
A2- 350	Special Construction Costs	TBD
	Charlotte, VA	
A2- 351	Special Construction Costs	TBD
	Charlottesville-UVA-Albemarle, VA	
A2- 352	Special Construction Costs	TBD
	Chesapeake, VA	
A2- 353	Special Construction Costs	TBD
	Chesterfield, VA	
A2- 354	Special Construction Costs	TBD
	Clarke, VA	
A2- 355	Special Construction Costs	TBD
	Colonial Heights, VA	
A2- 356	Special Construction Costs	TBD
	Covington, VA	
A2- 357	Special Construction Costs	TBD
	Craig, VA	
A2- 358	Special Construction Costs	TBD
	Culpeper, VA	
A2- 359	Special Construction Costs	TBD
	Cumberland, VA	
A2- 360	Special Construction Costs	TBD
	Danville, VA	
A2- 361	Special Construction Costs	TBD
	Dickenson, VA	
A2- 362	Special Construction Costs	TBD
	Dinwiddie, VA	
A2- 363	Special Construction Costs	TBD
	Eastern Shore, VA	
A2- 364	Special Construction Costs	TBD
	Emporia, VA	
A2- 365	Special Construction Costs	TBD
	Essex, VA	
A2- 366	Special Construction Costs	TBD
	Farmville, VA	
A2- 367	Special Construction Costs	TBD

	Floyd, VA	
A2- 368	Special Construction Costs	TBD
	Fluvanna, VA	
A2- 369	Special Construction Costs	TBD
	Franklin City, VA	
A2- 370	Special Construction Costs	TBD
	Franklin County, VA	
A2- 371	Special Construction Costs	TBD
	Frederick, VA	
A2- 372	Special Construction Costs	TBD
	Fredericksburg, VA	
A2- 373	Special Construction Costs	TBD
	Giles, VA	
A2- 374	Special Construction Costs	TBD
	Gloucester, VA	
A2- 375	Special Construction Costs	TBD
	Goochland, VA	
A2- 376	Special Construction Costs	TBD
	Greene, VA	
A2- 377	Special Construction Costs	TBD
	Greensville, VA	
A2- 378	Special Construction Costs	TBD
	Halifax, VA	
A2- 379	Special Construction Costs	TBD
	Hampton, VA	
A2- 380	Special Construction Costs	TBD
	Hanover, VA	
A2- 381	Special Construction Costs	TBD
	Harrisonburg-Rockingham, VA	
A2- 382	Special Construction Costs	TBD
	Henrico, VA	
A2- 383	Special Construction Costs	TBD
	Highland, VA	
A2- 384	Special Construction Costs	TBD
	Hopewell, VA	
A2- 385	Special Construction Costs	TBD

	Isle of Wight, VA	
A2- 386	Special Construction Costs	TBD
	James City, VA	
A2- 387	Special Construction Costs	TBD
	King and Queen, VA	
A2- 388	Special Construction Costs	TBD
	King George, VA	
A2- 389	Special Construction Costs	TBD
	King William, VA	
A2- 390	Special Construction Costs	TBD
	Lancaster, VA	
A2- 391	Special Construction Costs	TBD
	Lee, VA	
A2- 392	Special Construction Costs	TBD
	Louisa, VA	
A2- 393	Special Construction Costs	TBD
	Lunenburg, VA	
A2- 394	Special Construction Costs	TBD
	Lynchburg, VA	
A2- 395	Special Construction Costs	TBD
	Madison, VA	
A2- 396	Special Construction Costs	TBD
	Martinsville-Henry, VA	
A2- 397	Special Construction Costs	TBD
	Mathews, VA	
A2- 398	Special Construction Costs	TBD
	Mecklenburg, VA	
A2- 399	Special Construction Costs	TBD
	Middlesex, VA	
A2- 400	Special Construction Costs	TBD
	Nelson, VA	
A2- 401	Special Construction Costs	TBD
	New Kent, VA	
A2- 402	Special Construction Costs	TBD
	New River Valley, VA	
A2- 403	Special Construction Costs	TBD

	Newport News, VA	
A2- 404	Special Construction Costs	TBD
	Norfolk, VA	
A2- 405	Special Construction Costs	TBD
	Northumberland, VA	
A2- 406	Special Construction Costs	TBD
	Norton, VA	
A2- 407	Special Construction Costs	TBD
	Nottoway, VA	
A2- 408	Special Construction Costs	TBD
	Orange, VA	
A2- 409	Special Construction Costs	TBD
	Page, VA	
A2- 410	Special Construction Costs	TBD
	Patrick, VA	
A2- 411	Special Construction Costs	TBD
	Petersburg, VA	
A2- 412	Special Construction Costs	TBD
	Pittsylvania, VA	
A2- 413	Special Construction Costs	TBD
	Portsmouth, VA	
A2- 414	Special Construction Costs	TBD
	Powhatan, VA	
A2- 415	Special Construction Costs	TBD
	Prince George, VA	
A2- 416	Special Construction Costs	TBD
	Pulaski, VA	
A2- 417	Special Construction Costs	TBD
	Radford, VA	
A2- 418	Special Construction Costs	TBD
	Rappahannock, VA	
A2- 419	Special Construction Costs	TBD
	Richmond City, VA	
A2- 420	Special Construction Costs	TBD
	Richmond County, VA	
A2- 421	Special Construction Costs	TBD

	Roanoke City, VA	
A2- 422	Special Construction Costs	TBD
	Roanoke County, VA	
A2- 423	Special Construction Costs	TBD
	Rockbridge, VA	
A2- 424	Special Construction Costs	TBD
	Russell, VA	
A2- 425	Special Construction Costs	TBD
	Salem, VA	
A2- 426	Special Construction Costs	TBD
	Scott, VA	
A2- 427	Special Construction Costs	TBD
	Shenandoah, VA	
A2- 428	Special Construction Costs	TBD
	Smyth, VA	
A2- 429	Special Construction Costs	TBD
	Southampton, VA	
A2- 430	Special Construction Costs	TBD
	Spotsylvania, VA	
A2- 431	Special Construction Costs	TBD
	Staunton, VA	
A2- 432	Special Construction Costs	TBD
	Suffolk, VA	
A2- 433	Special Construction Costs	TBD
	Surry, VA	
A2- 434	Special Construction Costs	TBD
	Sussex, VA	
A2- 435	Special Construction Costs	TBD
	Tazewell, VA	
A2- 436	Special Construction Costs	TBD
	Twin County, VA	
A2- 437	Special Construction Costs	TBD
	Virginia Beach, VA	
A2- 438	Special Construction Costs	TBD
	Warren, VA	
A2- 439	Special Construction Costs	TBD

	Washington, VA	
A2- 440	Special Construction Costs	TBD
	Waynesboro, VA	
A2- 441	Special Construction Costs	TBD
	Westmoreland, VA	
A2- 442	Special Construction Costs	TBD
	Winchester, VA	
A2- 443	Special Construction Costs	TBD
	Wise, VA	
A2- 444	Special Construction Costs	TBD
	Wythe, VA	
A2- 445	Special Construction Costs	TBD
	York-Poquoson-Williamsburg, VA	
A2- 446	Special Construction Costs	TBD
	Part C Special Construction Costs Total	Total TBD
	Additional PSAP - TBD	
A2- 447	Special Construction Costs	TBD
	Additional PSAP - TBD	
A2- 448	Special Construction Costs	TBD
	Additional PSAP - TBD	
A1- 453	One Time Fee	TBD
A1- 454	Monthly Recurring Fee	TBD
A1- 455	Annual Recurring Fee	TBD
	Additional PSAP - TBD	
A1- 456	One Time Fee	TBD
A1- 457	Monthly Recurring Fee	TBD
A1- 458	Annual Recurring Fee	TBD
	PLEASE NOTE: Special Construction is an "Optional Service" for each Part C PSAP has not been estimated to achieve redundant Local Access Diversity. Each PSAP to be contracted and charged separately for Special Construction to achieve Local Access Diversity. If Special Construction is not contracted and charged then exceptions may apply to respective PSAP Service Level Agreements	

Pricing below (Data Analytics Initial Host Site Set-up), applies to Host site setup in a geodiverse/redundant design. It is assumed both Part A and Part B entities will operate as remotes off the aforementioned ESInet host. Pricing assumes the number of PSAP listed as described in RFP 01a 9-21-16 NCR Cost Proposal Appendix D.

One-Time Non-Recurring Service Charge

Line Item	Item	Description	Cost	Qty	Sub-Total	
A3-01	ESInet Host A	DC-SVR-HP	Server Class RDDM	\$8,400.00	2	\$ 16,800.00 One-Time
A3-02	ESInet Host B	DC-SVR-HP	Server Class RDDM	\$8,400.00	2	\$ 16,800.00 One-Time
Total Non-Recurring Charges (All Host Sites):						\$ 33,600.00

Data Analytics Package Per Site/Month

Part A ESInet & NGCS entities are current Standard ECaTS MIS Reporting suite customers, therefore are provided the i3 Analytics Reporting functionality at a reduce monthly rate. **Please Note:** Part A entities must continue to be Standard ECaTS MIS Reporting suite customers in order to receive the reduced MRC; if Part A entities migrate away from ECaTS Standard MIS Reporting suite, MRC will be charged at the tier rate (noted in original RFP pricing ECaTS MIS pricing table). The reduced rate does not include any additional customization request by the entity.

County	PSAPs	Item	Description	Cost	Qty (# of PSAPs)	Subtotal	
i3 Logger Monthly Recurring Service Charge and NRC (Part A ESInet & NGCS)							
A3-03	City of Alexandria, VA	Alexandria PD	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-04	Per PSAP/SITE	Alexandria PD	LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-05	City of Alexandria, VA	Alexandria PD Backup PSAP	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-06	Per PSAP/SITE	Alexandria PD Backup PSAP	LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-07	Arlington County, VA	Arlington County ECC	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-08	Per PSAP/SITE	Arlington County ECC	LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-09	Arlington County, VA	Arlington County ECC Backup PSAP	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-10	Per PSAP/SITE	Arlington County ECC Backup PSAP	LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-11	Arlington County, VA	Falls Church Police Communications	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-12	Per PSAP/SITE	Falls Church Police Communications	LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-13	Fauquier County, VA	Fauquier County 9-1-1 Dispatch Center	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-14	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-15	City of Manassas, VA	Manassas City Police Communications	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-16	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-17	Manassas Park	Manassas Park Police Communications	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-18	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time
A3-19	Metropolitan Washington Aripport Authority, VA	Metropolitan Washington Airport Authority	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00 Per Month
A3-20	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00 One-Time

A3-21	Prince Williams County, VA	Prince William County PSC	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00	Per Month
A3-22	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00	One-Time
A3-23	Prince Williams County, VA	Prince William County PSC Backup PSAP	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00	Per Month
A3-24	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00	One-Time
A3-25	Stafford County, VA	Stafford County Sheriffs Communications	LOG-SERVICE	Provide web based data analytic reports displaying emergency call information metrics.	\$ 43.00	1	\$ 43.00	Per Month
A3-26	Per PSAP/SITE		LOG-SETUP	One-time Fee:	\$ 500.00	1	\$ 500.00	One-Time

ECaTS Standard MIS Call Handling Analytics & i3 Logger Analytics
Data Analytics Package Site/month

Part B ESInet & NGCS entities are not currently Standard ECATS Reporting customers, therefore the pricing below outlines the cost for procuring both i3 analytic reporting and MIS call handling reporting. The "Tiered" pricing is the minimum cost of providing either the MIS call handling reporting OR i3 logger reporting. If the customer would like to add either reporting service to give them BOTH i3 logging and call handling reports the cost (as outlined below) will include an additional \$43 per PSAP per month. The one-time deployment costs includes the deployment of (1) Linux RDDM deployed at each standalone PSAP for MIS reporting and (1) system setup/configuration cost (\$500) per PSAP for the i3 Logger.

Line Item	County	PSAP	Item	Description	Price	Qty (# of PSAPs)	Subtotal	
Monthly Recurring Service Charge and NRC (Part A ESInet & NGCS)								
A3-26	Calvert County, MD	Calvert County PSAP	MIS Reporting Monthly Fee	ES-T4	<i>Tier 4 (10-19 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 431.60	1	\$ 431.60 Monthly
A3-27			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00 Monthly
A3-28		Calvert County PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00 One-Time
A3-29			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00 One-Time
A3-30	Calvert County Back-up PSAP	Calvert County Backup PSAP (Unmanned back-up)	MIS Reporting Monthly Fee	ES-BU	Unmanned Back-up PSAP Monthly Service Fee	\$ 180.00	1	\$ 180.00 Monthly
A3-31			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00 Monthly
A3-32		Calvert County Backup PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00 One-Time
A3-33			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00 One-Time
A3-34	Charles County, MD	Charles County 9-1-1 Communications Center	MIS Reporting Monthly Fee	ES-T4	<i>Tier 4 (10-19 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 431.60	1	\$ 431.60 Monthly
A3-35			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00 Monthly
A3-36		Charles County 9-1-1 Communications Center	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00 One-Time
A3-37			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00 One-Time
A3-38	Charles County Back-up PSAP	Charles County 9-1-1 Communications Center Back-up PSAP	MIS Reporting Monthly Fee	ES-T2	<i>Tier 2 (3-4 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 327.60	1	\$ 327.60 Monthly
A3-39			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00 Monthly
A3-40		Charles County 9-1-1 Communications Center Back-up PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00 One-Time
A3-41			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00 One-Time
A3-42	Frederick County, MD	Frederick County EOC	MIS Reporting Monthly Fee	ES-T5	<i>Tier 5 (20-39 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 483.60	1	\$ 483.60 Monthly
A3-43			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00 Monthly
A3-44		Frederick County EOC	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00 One-Time

A3-45			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-46	Frederick County Back-up PSAP	Frederick County EOC Backup PSAP	MIS Reporting Monthly Fee	ES-T4	<i>Tier 4 (10-19 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 431.60	1	\$ 431.60	Monthly
A3-47			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-48		Frederick County EOC Backup PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-49			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-50	Montgomery County, MD	Montgomery County Police Communications Center	ECaTS MIS Reporting Monthly Fee	ES-T6	<i>Tier 6 (40-75 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 535.60	1	\$ 535.60	Monthly
A3-51			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-52		Montgomery County Police Communications Center	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-53			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-54	Montgomery County Back-up PSAP	Montgomery County Police Communications Center Backup PSAP	MIS Reporting Monthly Fee	ES-T5	<i>Tier 5 (20-39 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 483.60	1	\$ 483.60	Monthly
A3-55			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-56		Montgomery County Police Communications Center Back-up PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-57			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-58	Takoma Park Police	Takoma Park Police	MIS Reporting Monthly Fee	ES-T2	<i>Tier 2 (3-4 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 327.60	1	\$ 327.60	Monthly
A3-59			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-60		Takoma Park Police	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-61			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-62	Prince George's County, MD	Prince George's County EOC	MIS Reporting Monthly Fee	ES-T7	<i>Tier 7 (76+ Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 1,400.00	1	\$ 1,400.00	Monthly

A3-63			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-64	Prince George's County EOC		MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-65			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-66	Prince George's County EOC Back-up PSAP	Prince George's County EOC Backup PSAP	MIS Reporting Monthly Fee	ES-T6	<i>Tier 6 (40-75 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 535.60	1	\$ 535.60	Monthly
A3-67			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-68		Prince George's County EOC Backup PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-69			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-70	St. Mary's County, MD	St. Mary's County PSAP	MIS Reporting Monthly Fee	ES-T4	<i>Tier 4 (10-19 Pos) Provide web based data analytic reports displaying emergency call information metrics, including: on-going support, helpdesk, maintenance and management.</i>	\$ 431.60	1	\$ 431.60	Monthly
A3-71			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-72		St. Mary's County PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-73			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time
A3-74	St. Mary's County Back-up PSAP	St. Mary's County Backup PSAP (Unmanned back-up)	MIS Reporting Monthly Fee	ES-BU	Unmanned Back-up PSAP	\$ 180.00	1	\$ 180.00	Monthly
A3-75			i3 Logger Monthly Fee	LOG_SERVICE	i3 Logger Monthly Service Fee	\$ 43.00	1	\$ 43.00	Monthly
A3-76		St. Mary's County Back-up PSAP	MIS Reporting One-Time Fee	DC-LNX	Deployment of (1) Linux RDDM at standalone PSAP, including: install, system acceptance, quality assurance, etc.	\$ 4,300.00	1	\$ 4,300.00	One-Time
A3-77			i3 Logger One-Time Fee	LOG-SETUP	System setup and configuration of the i3 Logger per remote PSAP	\$ 500.00	1	\$ 500.00	One-Time

GIS Data Management Transitional Services

		Total Discounted Price	
Line Item	Description	MRC	NRC
A4-1	GIS - NG911 Transitional Data Management One-time Fee, 1st 200,000	-	\$27,000.00
A4-2	GIS - NG911 Transitional Data Management One-time Fee, each addl person	-	\$0.048
A4-3	GIS - NG911 Transitional Data Management Monthly Recurring, Less than 200,000 persons	\$1,608.00	-
A4-4	GIS - NG911 Transitional Data Management Monthly Recurring, 200,000 - 1,000,000 persons, per person	\$0.008	-
A4-5	GIS - NG911 Transitional Data Management Monthly Recurring, 1,000,000 - 5,000,000 persons, per person	\$0.008	-
A4-6	GIS - NG911 Transitional Data Management Monthly Recurring, >5,000,000 persons, per person	\$0.008	-
A4-7	GeoMSAG Replacement Svc One-time Fee, 1st 200,000 persons	-	\$19,200.00
A4-8	GeoMSAG Replacement Svc One-time Fee, each addl person	-	\$0.048
A4-9	Additional GIS to MSAG/GIS to ALI Match Rate Validation Report, each	-	\$1,200.00
A4-10	GIS Routing Accuracy Report (per report)		\$2,000.00
A4-11	Training and other support service fees for GIS support services		\$120/hr

MapSAG GIS Software and Services

		Total Discounted Price	
Line Item	Description	MRC	NRC
A5-1	MapSAG (Single or Concurrent MapSAG Use License for One User at a jurisdiction) (See Note 1)	-	\$22,800.00
A5-2	Annual MapSAG software maintenance and support (beginning in year 2) per license	-	\$1,680.000
A5-3	Additional license at jurisdiction (initial license in place) single or concurrent user		\$9,600.00
A5-4	Single User MapSAG training (remotely provided by instructor)		\$2,100.00
A5-5	Single User MapSAG training fee (onsite provided by instructor) not including travel expenses		\$2,940.00
A5-6	Part A PSAPs Discount - (Single or Concurrent MapSAG Use License for One User at a jurisdiction) (See Note 1)		\$18,000.00
A5-7	Part A PSAPs Discount - Training for two to six Users (See Note 2)		\$8,400.00

Note 1 (pricing includes):

- o NG9-1-1 GIS Data Assessment, Analysis and Recommendations Report
- o Single use or Concurrent use MapSAG license
- o Complete data configuration
- o Year 1 MapSAG maintenance and support
- o Free access to the MapSAG Data Exchange Center when coupled with MapFlex 9-1-1 to greatly enhance GIS data updates and dispatch map discrepancy tracking.

Note 2 (pricing includes):

- o The on-site training session fee includes travel & expense for two trainers to one location. Each session can accommodate up to a maximum of six people in each session. Fairfax County / NCR can gain significant economies of scale using this methodology and combining personnel from multiple PSAPs. The training location / facility would be provided by Fairfax County. The maximum amount of people that can be trained at one time is six. By example, if 12 people need to be trained, two sessions would be required at \$8,400 each totaling \$16,800

Web Browser Text-to-9-1-1 approach

For jurisdictions that wish to support the over the top (OTT) web browser approach for accepting Text to 9-1-1 messages, the PSAPs would connect directly to the West Text Control Center and the following pricing schedule would apply:

		Total Price	
Line Item	Description	MRC	NRC
A6-1	PSAP with one to four Positions	\$157.00	\$1,568.00
A6-2	PSAP with five to ten Positions	\$408.00	\$4,077.00
A6-3	PSAP with over ten Positions	\$1,192.00	\$11,917.00

AT&T Labor Category and Hourly Rate Schedule

Line Item	Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Standard Technician										
A7-1	Standard Business Hours (8a-5p)	\$85.00	\$85.00	\$85.00	\$87.55	\$90.18	\$92.88	\$95.67	\$98.54	\$101.49	\$104.54
A7-2	Non-Standard Business Hours (M-F after 5pm or Sat all day)	\$113.00	\$113.00	\$113.00	\$116.39	\$119.88	\$123.48	\$127.18	\$131.00	\$134.93	\$138.98
A7-3	Sunday / Holiday all day	\$141.00	\$141.00	\$141.00	\$145.23	\$149.59	\$154.07	\$158.70	\$163.46	\$168.36	\$173.41
	Technical Project Manager										
A7-4	Standard Business Hours (8a-5p)	\$155.00	\$158.88	\$162.85	\$166.92	\$171.09	\$175.37	\$179.75	\$184.25	\$188.85	\$193.57
	Network Consultant										
A7-5	Standard Business Hours (8a-5p)	\$175.00	\$179.38	\$183.96	\$188.46	\$193.17	\$198.00	\$202.95	\$208.02	\$213.22	\$218.55

This Page was Intentionally Left Blank

Exhibit B

Non-Recurring Costs (billed directly to VITA)

NG9-1-1 Non-recurring cost (A&T flat rate) \$4,000

Diverse Connectivity Costs \$26,000

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB D

MEETING DATE:	June 5, 2019				
AGENDA TITLE:	CARE Task Force Charter Renewal & Appointment Extensions				
MOTION(s):	I move to approve a one-year extension of the CARE Task Force Charter until June 30, 2020 and further move to extend Task Force member appointments for terms to end June 30, 2020.				
STRATEGIC INITIATIVE?	Yes XX	No	If yes, list initiative(s):		C1
AGENDA CATEGORY:	Public Hearing	Action Matter XX	Presentation	Consent Agenda	Other
STAFF CONTACT(S):	Steven M. Nichols, County Administrator				
PRESENTER(S):	Steven M. Nichols, County Administrator				
RECOMMENDATION:	Approval				
TIMING:	Current				
DISCUSSION:	<p>The CARE Task Force was established by the BOS on July 5, 2017.</p> <p>The Task Force Charter was previously extended from Dec 31, 2017 until June 30, 2018, and again from July 1, 2018 until June 30, 2019.</p> <p>The Task Force requests to continue work through FY20; interested members are requesting reappointment (see attached)</p>				
FISCAL IMPACT:	TBD				
POLICY IMPACT:	None				
LEGISLATIVE HISTORY:	CARE Task Force was established by the BOS on July 5, 2017.				
ENCLOSURES:	<ul style="list-style-type: none"> • Charter • Current Appointees 				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other



CHARTER COLUMBIA AREA RENEWAL EFFORT (CARE) TASK FORCE

**Approved
By BOS:
July 5, 2017**

1. Purpose. The purpose of the Columbia Area Renewal Effort (CARE) Task Force is to advise, assist, support, and advocate for positive change and renewal efforts in the Columbia area. The Task Force will prepare a report of proposed actions for consideration by the Board of Supervisors.



2. Task Force Duration. The work of the Task Force is intended to be completed and a final report of recommendations submitted to the Board of Supervisors by December 31, 2017, unless an extension is approved by the Board.

3. Tasks / Responsibilities. In collaboration with County staff and other local agencies, the Task Force shall develop a list of proposed action steps to:

- a. Promote citizen engagement.
- b. Support renewal and clean-up efforts.
- c. Identify and develop green space opportunities and options.
- d. Advocate for improved public safety awareness and positive actions.
- e. Protect and enhance unique historical/architectural resources.
- f. Review and assess Historic District designation options.
- g. Support business attraction.
- h. Propose and support public events for the Columbia area.

4. Membership. Membership shall be comprised as follows:

- a. Columbia-area resident, business, and/or property owner members (8) (appointed by Board of Supervisors)
- b. Columbia Interfaith Council representative
- c. Fluvanna Historical Society Representative
- d. Fluvanna County Columbia District Supervisor
- e. Fluvanna County Sheriff (or representative)
- f. Fluvanna County Administrator (or representative)
- g. Fluvanna County Community & Economic Development representatives (2)

- h. Fluvanna County Public Works representative
- i. Fluvanna County Parks & Recreation representative
- j. The Chair may request other ad hoc members to participate in task force efforts, as needed. This will likely include subject matter experts and representatives from local support agencies.

5. Organizational Structure

a. Chair. The Task Force will be chaired by Board of Supervisors' representative (or designee).

b. Meetings

(1) **Public meetings are generally scheduled for the third** Monday of each month at 7:00 pm.

(2) Meetings will be advertised via the County website. Additional or special meetings may be called by the Chair with 72-hour notice to members and posting of the notification on the County website.

(3) A quorum shall consist of a simple majority of members.

c. Minutes. Minutes of each meeting will be prepared by a designated County representative, and following adoption by the Task Force, shall be posted on the County website.

d. Recommendations and Reports. Task Force reports and action recommendations will be submitted in writing to the County Administrator for consideration by the Board of Supervisors on a regular meeting agenda. Documentation will include background information and justification for any recommended actions.

6. Parliamentary Authority

a. The Task Force shall be governed in its proceedings by the current edition of Robert's Rules of Order, Newly Revised.

b. Decisions will commonly be made by consensus. A formal vote shall be taken when a decision is required for policy recommendations and action items, or if the decision requires referral to the Board of Supervisors for formal approval.

CARE Task Force Members

Last Name	First Name	Position
Duncan	Robin	Powhatan Resident
Hess	Eric	Sheriff
Johnson	Tricia	Fluvanna Historical Society
Jones	Chuck	Columbia Interfaith Council
Kenney	Melissa	Fluvanna Resident
Mitchell	Darrick	Columbia Resident
Nichols	Steve	County Administrator
Robinson	Brad	Senior Planner
Sarafin	Justin	Dir. Preservation Initiatives & Engagement
Shelley	Isaac	Local Business/Property Owner
Sheridan	Mike	Columbia District Supervisor
Shumate	Susan	Columbia Interfaith Council
Spitzer	Aaron	Director, Parks & Recreation
Stephens	Wayne	Director, Public Works
Tinsley	Carolyn	Columbia Resident
Zimmer	Ed	Planning Commission Rep
Zoll	Kevin	Building Official
Knepper	James	Not seeking reappointment
Mehfoud	John	Moved out of area
Mehfoud	Suzanne	Moved out of area

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB E

MEETING DATE:	June 5, 2019					
AGENDA TITLE:	FY19 Budget CSA Purchase of Services Supplemental Appropriation					
MOTION(s):	I move the Board of Supervisors approve a supplemental appropriation of \$200,000 for the FY19 CSA Purchase of Services Budget, with the \$76,200 local portion of funding to come from Unassigned Fund Balance and the state portion of \$123,800 to come from the Office of Children's Services.					
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):			
		X				
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other	
		X				
STAFF CONTACT(S):	Bryan Moeller, CSA Coordinator					
PRESENTER(S):	Bryan Moeller, CSA Coordinator					
RECOMMENDATION:	Approve					
TIMING:	Routine					
DISCUSSION:	<p>The CSA Purchase of Services budget is projected to be over-budget. Local funds will account for approximately 38% of the total CSA Purchase of Services budget and the State pool covers the remaining 62%. Currently, staff projects the final FY19 budget amount needed to be \$3,050,000, approximately \$200,000 over the current budgeted amount of \$2,850,000. This over-budget balance changes daily as children come into the program, and as unused funds are released for services. This supplemental appropriation would make the revised FY18 budget \$3,050,000.</p>					
FISCAL IMPACT:	Increase the FY19 CSA Purchase of Services budget by \$200,000, of which \$76,200 is our local share to be funded from Unassigned Fund Balance and \$123,800 to be reimbursed to Fluvanna County through the State pool reimbursement.					
POLICY IMPACT:	N/A					
LEGISLATIVE HISTORY:	N/A					
ENCLOSURES:	None					
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other	
		X				



FY19 CSA Supplemental Funding Request

June 5, 2019

Bryan Moeller, CSA Coordinator



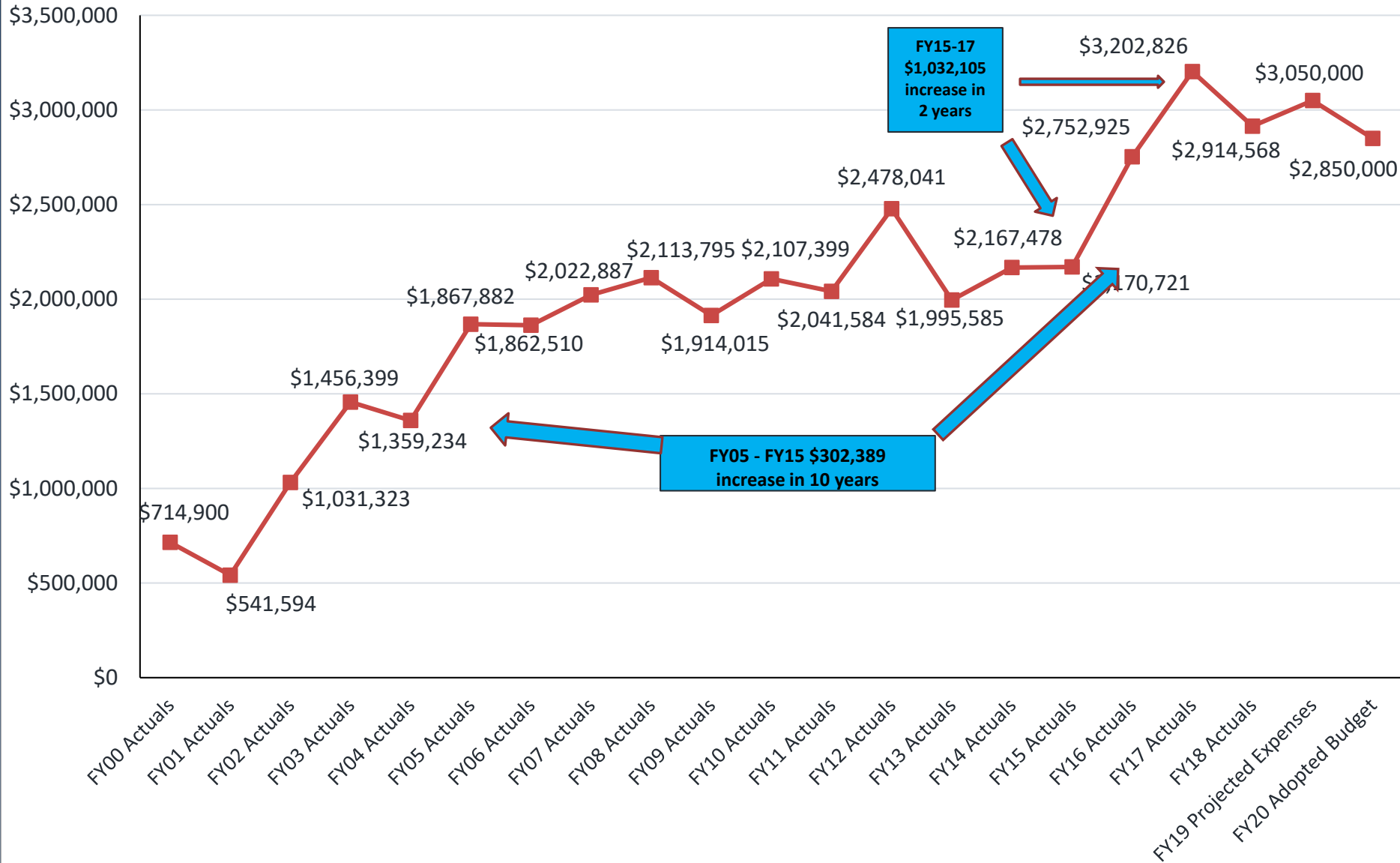
FY19 Budget

- **Adopted Budget: \$2,850,000**
- **Projected Budget: \$3,050,000**

- **\$76,200 Local Share (Unassigned Fund Balance)**
- **\$123,800 State Share**



CSA Expenditure History (Purchase of Services)

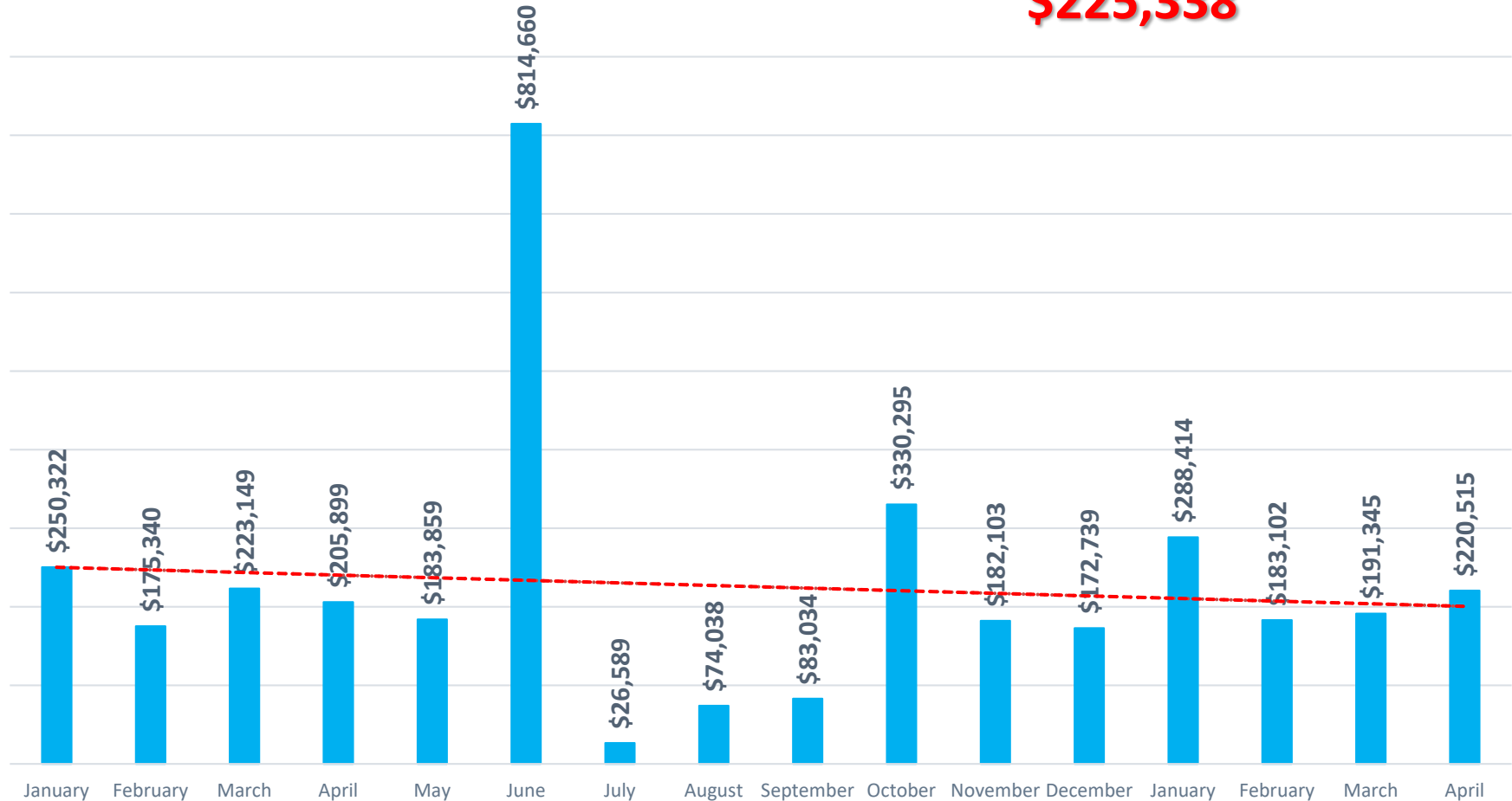




CSA Expenditures by Month

January 2018 – April 2019

**Monthly Average:
\$225,338**





Residential/Educational Services FY17-FY19

- Approximately over one third (37%) of our clients account over half (53.1%) of our costs.
- Fluvanna County CSA currently has 112 open cases.

	FY17 Actuals	Clients	FY18 Actuals	Clients	FY19 Projected	Clients
Total CSA POS	\$3,480,902		\$2,914,568		\$3,050,000	
Private Day	\$981,478	16	\$900,003	15	\$1,050,302	18
Residential	\$1,283,889	26	\$492,427	16	\$273,625	15
Residential Education	\$258,212	12	\$422,979	18	\$296,614	17
Total Residential & Private Day Costs	\$2,523,579	54	\$1,815,409	49	\$1,620,541	50
% Residential & Private Day Budget	72.5%		62.3%		53.1%	



Children in Private Day/Residential Placements

BOS 2019-06-05 p.232/278

- **20% increase in private day placements for FY19**
 - Consistent with state trends
- **Sudden increase in residential placements in May/June 2019**



Questions?

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB F

MEETING DATE:	June 5, 2019					
AGENDA TITLE:	Industrial District Setbacks Zoning Text Amendment					
MOTION(s):	I move that the Fluvanna County Board of Supervisors adopt the attached resolution to initiate a Zoning Text Amendment to amend Chapter 22 of the Fluvanna County Code for yard setback regulations of the I-1, Industrial, Limited and I-2, Industrial, General zoning districts, and to schedule a future public hearing for formal Planning Commission consideration and recommendation to the Board of Supervisors.					
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):			
		X				
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other	
		X				
STAFF CONTACT(S):	Eric Dahl, Interim Director of Community Development					
PRESENTER(S):	Brad Robinson, Senior Planner					
RECOMMENDATION:	Approval					
TIMING:	Immediate					
DISCUSSION:	Potential reduction of the front yard setback within industrial subdivisions.					
FISCAL IMPACT:	N/A					
POLICY IMPACT:						
LEGISLATIVE HISTORY:	None					
ENCLOSURES:	Draft Zoning Text Amendments.					
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other	
	XX					

RESOLUTION

Be it resolved by the Fluvanna County Board of Supervisors, pursuant to Fluvanna County Code Sec. 22-20-1(c), that the Board intends to propose the following amendment to the Fluvanna County Code:

ORDINANCE

AN ORDINANCE TO AMEND CHAPTER 22 OF THE FLUVANNA COUNTY CODE BY THE ADDITION OF A NEW SUBSECTION 22-11-5 AND 22-12-5 TO REDUCE THE MINIMUM BUILDING SETBACKS FOR PROPERTIES IN INDUSTRIAL SUBDIVISIONS

BE IT ORDAINED BY THE FLUVANNA BOARD OF SUPERVISORS, pursuant to Virginia Code Sections 15.2-2285, that the Fluvanna County Code be, and it is hereby, amended, by the amendment of Sections 22-11-5 and 22-12-5, as follows:

Sec. 22-11-5. Setback regulations.

Buildings and accessory uses shall be located not less than one hundred feet (100') from any street right-of-way and all parking lots shall be located not less than fifty feet (50') from any street right of way except that:

(A) Buildings and accessory uses may be located less than one hundred feet (100'), ~~but not less than fifty feet (50')~~, from a street right-of-way, provided that said street:

- (i) is an access road within a subdivision for business or industrial uses and serves properties that contain industrial zoning district classifications only;
- (ii) is a cul-de-sac or an interior road; and

(B) All parking lots shall be located not less than twenty-five feet (25') from any street right of way.

The foregoing notwithstanding, the location of buildings and accessory uses shall at all times be located so as to provide safe and efficient access to, from and within the property, including sight distance, and turning, stacking and other traffic circulation features and facilities.

This shall be known as the "building setback line."

.....

Sec. 22-12-5. Setback regulations.

Buildings shall be located not less than two hundred feet (200') from any street right-of-way. except that:

(A) Buildings and accessory uses may be located less than two hundred feet (200'), from a street right-of-way, provided that said street:

(i) is an access road within a subdivision for business or industrial uses and serves properties that contain industrial zoning district classifications only;

(ii) is a cul-de-sac or an interior road; and

(B) All parking lots shall be located not less than twenty-five feet (25') from any street right of way.

The foregoing notwithstanding, the location of buildings and accessory uses shall at all times be located so as to provide safe and efficient access to, from and within the property, including sight distance, and turning, stacking and other traffic circulation features and facilities.

This shall be known as the "setback line."

And be it further resolved that the public purpose for the proposed amendments is to encourage economic development and orderly growth within industrial subdivisions by proving for more efficient used of industrially zoned properties.

And be it further resolved that the proposed amendment be, and it is hereby, referred to the Planning Commission.

FLUVANNA COUNTY BOARD OF SUPERVISORS
BCC APPOINTMENTS STAFF REPORT

TAB G

MEETING DATE:	Jan 9, 2019			
AGENDA TITLE:	Board, Commission, and Committee Appointments			
MOTION:	I move the Board of Supervisors recommend, to the Circuit Court, appointment to:			
Board/Commission/Committee		Appointees	Begins Term	Ends Term
Jefferson Area Board for Aging (JABA) Board of Directors			July 1, 2019	June 30, 2021

BCC VACANCIES AND APPLICANTS				
BCC Vacancies	Applicants	Appt	District	Current BCC Appointments / Other Notes
JABA Board of Directors	Paul Bevins	Reapp.	Palmyra	JABA Board, TRIAD, Meals on Wheels
DISCUSSION:				
ENCLOSURES:	Candidate Applications			



APPLICATION TO SERVE ON BOARDS/COMMISSION/COMMITTEES

County of Fluvanna

Name: Paul Bevins		Election <input type="checkbox"/> Columbia <input type="checkbox"/> Cunningham <input type="checkbox"/> Fork Union District: <input checked="" type="checkbox"/> Palmyra <input type="checkbox"/> Rivanna <input type="checkbox"/> Other	
Mailing Address (including City, State, & ZIP) 12 Seminole Trail Palmyra, Va. 22963		Physical Address (if different)	
Years Lived in Fluvanna 8	Cell Phone – preferred? 203-988-7835	Home Phone – preferred? 434-591-6622 (preferred)	Email josephbevins@yahoo.com
EXPERIENCE/PROFESSIONAL EXPERTISE/EDUCATION (Please provides dates of education and experience.): I have served on the Board of Directors of JABA for close to two years. My term is due to expire, and I wish to be reappointed. I am a retired Program Manager for the State of Connecticut's Judicial Department. I worked for state government for approximately 37 years. For most of those years, I was also and Adjunct Instructor of Criminal Justice and Social Science, working for the last 18 years on the faculty of Western Conn. State University. I hold a MPA degree from the University of New Haven, and a M.S. degree in Urban Studies and a B.A. degree in Political Science both from Southern Ct. State University..			
CURRENT OR PRIOR SERVICE ON BOARDS/COMMISSIONS/OR COMMITTEES: Approximately two years on the Board of Directors of JABA. Presently I also serve on the TRIAD Committee of the Fluvanna County Sheriff's Department. I am also a volunteer driver for the local Meals on Wheels Program. I have additionally served on other committees at Lake Monticello as well as in Fluvanna County. Prior to my move in 2011 to Palmyra, I served on local committees in my previous community of Hamden, Ct. Those positions included President of the local Board of Health, Chairperson of my church's Parish Council, and Commissioner on the local Human Services Commission.			
CIVIC ACTIVITIES AND MEMBERSHIPS (Roles with fraternal, business, church, or social groups – please provide dates): I am a parishioner of St. Thomas Aquinas Church and assist the church in its delivery of food to a local food bank.			
REASON(S) FOR WANTING TO SERVE FLUVANNA COUNTY: I have always volunteered in my local community. Like many, I expect much from my government, but as a retired government employee, I recognize that we all must give a lot to our government. I have especially enjoyed working at JABA. I began as a volunteer driver in their food delivery program. I next served on their Ethics Committee and then on their Advisory Council. In addition to my current service on JABA's Board, I also serve on JABA's Finance Committee.			
Applicants are considered as vacancies occur and your application will be kept on file for three years. Fluvanna County does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services. Submit by email (clerk@fluvannacounty.org) or mail to: Clerk, Board of Supervisors, PO Box 540, Palmyra, VA 22963 By signing below you are indicating that you have read and understand the attached Fluvanna County BCC Attendance Policy and that you agree to abide by the Bylaws of any Board, Commission, or Committee to which you may be appointed.			
Applicant's Signature Paul Bevins (from file)		Date 3/26/2019 14:09	

PLEASE INDICATE BELOW ANY BOARDS, COMMISSIONS, OR COMMITTEES ON WHICH YOU WISH TO SERVE.

X	Board, Commission, Committee
	Agricultural/Forestral District Advisory Committee
	Audit Committee
	Board of Equalization (BOE)
	Board of Zoning Appeals (BZA)
	Building Code of Appeals Board
	Central Virginia Regional Jail (CVRJ) Authority
	Columbia Task Force (CARE)
	Community Policy & Management Team (CPMT)
	Economic Development Authority (EDA)
	Economic Develop. & Tourism Advisory Council (EDTAC)
	Family Assessment and Planning Team (FAPT)
	Finance Board
	Fluvanna Partnership for Aging Committee
	Fork Union Sanitary District (FUSD) Advisory Committee
	James River Water Authority (JRWA)
	JAUNT Board

X	Board, Commission, Committee (cont.)
	Jefferson Area Board of Aging (JABA) Advisory Council
X	Jefferson Area Board of Aging (JABA) Board of Directors
	Library Board of Trustees
	Monticello Area Community Action Agency (MACAA)
	Palmyra Area Revitalization Committee (PARC)
	Parks & Recreation Advisory Board
	Piedmont Virginia Community College (PVCC) Board
	Planning Commission
	Region Ten Community Services Board
	Rivanna River Basin Commission
	Social Services Board
	Thomas Jefferson Planning District Commission (TJPDC)
	Thomas Jefferson Water Resources Protection Foundation
	Youth Advisory Council (YAC)
	OTHER:

Fluvanna County Board, Committee, and Commission Attendance Policy

(Approved June 17, 2015)

1. BCC members shall attend at least two-thirds of all scheduled meetings in each calendar year while serving.
2. The Chairperson of the board, commission, or committee shall notify the Clerk to the Board of Supervisors of any absences exceeding this policy.
3. The Clerk shall report these findings to the Board of Supervisors, typically in closed session.
4. Appointees who do not meet the attendance requirement without a valid reason(s) may be deemed to have rendered an implied resignation of that appointment.
5. The Board may choose to accept the resignation and appoint another person to fill the appointed position. The Board may also override the implied resignation and extend the appointment, if extenuating circumstances so dictate.
6. This requirement shall apply to all boards, commissions, or committees listed on the attached application form, provided however, that if State or County Ordinance addresses attendance requirements in an alternative manner, such law shall prevail.

Office Use Only		
Application Received On:	Mar 26, 2019	Application Received By: Kelly Belanger Harris
Acknowledgement Sent:	Mar 26, 2019	
Renewal Date:		Remarks: 03/26/2019 - Reappointment request
Renewal Date:		
Renewal Date:		
Renewal Date:		

From: Marta Keane
Date: May 24, 2019 at 16:19:50 EDT
To: coad@fluvannacounty.org
Cc: Steve Nichols
Subject: JABA board re-appointment

Dear Supervisors,

Paul Bevins has been on the JABA Board for two years, representing Fluvanna and his term is nearing completion. He has applied to be re-appointed, and I would like to support that. Paul has attended the meetings regularly. He has participated on the Finance Committee. He has been active in sharing information back and forth, so that the county is informed, and we at JABA can be available at events in Fluvanna. I hope that you will approve his re-appointment to the JABA Board. Thank you, Marta

Marta M. Keane
Chief Executive Officer
JABA (Jefferson Area Board for Aging)
434-817-5238
mkeane@jabacares.org

Confidentiality Notice: This email message, including attachments, is for the sole use of the intended recipient(s) and may contain confidential, protected and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited by the applicable state and federal laws. If you are not the intended recipient, please send a reply email to inform the sender that you received the email by mistake and will destroy the original and all copies.

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB H

MEETING DATE:	June 5, 2019				
AGENDA TITLE:	Adoption of the Fluvanna County Board of Supervisors May 15, 2019 Meeting Minutes.				
MOTION(s):	I move the meeting minutes of the Fluvanna County Board of Supervisors Regular Meeting on Wednesday, May 15, 2019, be adopted.				
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):		
		X			
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
				XX	
STAFF CONTACT(S):	Kelly Belanger Harris, Clerk to the Board				
PRESENTER(S):	Steven M. Nichols, County Administrator				
RECOMMENDATION:	Approve				
TIMING:	Routine				
DISCUSSION:	None.				
FISCAL IMPACT:	N/A				
POLICY IMPACT:	N/A				
LEGISLATIVE HISTORY:	None				
ENCLOSURES:	Draft Minutes for May 15, 2019				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other

FLUVANNA COUNTY BOARD OF SUPERVISORS
REGULAR MEETING MINUTES
Circuit Court Room
May 15, 2019
Regular Meeting 7:00pm

- MEMBERS PRESENT:** John M. (Mike) Sheridan, Columbia District, Chair
Tony O’Brien, Rivanna District, Vice Chair
Mozell Booker, Fork Union District
Patricia Eager, Palmyra District
Donald W. Weaver, Cunningham District
- ABSENT:** None.
- ALSO PRESENT:** Steven M. Nichols, County Administrator
Fred Payne, County Attorney
Kelly Belanger Harris, Clerk to the Board of Supervisors

1 - CALL TO ORDER, PLEDGE OF ALLEGIANCE, & MOMENT OF SILENCE

At 7:00pm Chair Sheridan called to order the Regular Meeting of May 15, 2019.
After the recitation of the Pledge of Allegiance, a moment of silence was observed.

3 - ADOPTION OF AGENDA

MOTION
Mrs. Booker moved to accept the Agenda, for the May 15, 2019 Regular Meeting of the Board of Supervisors. Mr. Weaver seconded and the Agenda was adopted by a vote of 5-0. AYES: Sheridan, O’Brien, Booker, Eager, and Weaver. NAYS: None. ABSENT: None.

4 - COUNTY ADMINISTRATOR’S REPORT

Mr. Nichols reported on the following topics:

- Carnival (May 8 – 11) – County Revenue: 2019 - 5,228; 2018 - \$5,589
 - Estimated 2019 Crowd Total – 1,260 (based on \$15 arm band sales)
- Eagle Scout Project Completed late April
 - Jeremy Armentrout – Scout Troop 154 - Installed 3 benches along the front 9 of the Disc Golf Course (Holes 1, 4, 7)
- Announcements and Updates
 - Additional Work Session on June 5th - Need to review the Space Utilization Study to get Board guidance and direction
 - Visitor at the Treasurer’s Office - A bear was seen on the security camera walking through the village green.
 - Floor Problems at Treasurer’s Office Lobby
- Upcoming Meetings

Day	Date	Time	Purpose	Location
Wed	Jun 5	4:00 PM 7:00 PM	Regular Meeting Facility Planning/Space Utilization Work Session	Courtroom Morris Room
Wed	Jun 19	4:00 PM 7:00 PM	Property Maintenance Work Session (with PC) Regular Meeting	Courtroom
Wed	Jul 2	4:00 PM 7:00 PM	Regular Meeting	Courtroom

5 - PUBLIC COMMENTS #1

At 7:09pm Chair Sheridan opened the first round of Public Comments.
With no one wishing to speak, Chair Sheridan closed the first round of Public Comments at 7:09pm.

6 - PUBLIC HEARING

VDOT Secondary Six Year Plan—Bethel Kefyalew, VDOT, Louisa Residency presented the draft Secondary Six Year Plan and Construction Priority List. Ms. Kefyalew noted that the draft plan includes the estimated 2025 allocation. The future allocation estimate includes \$96,000 that is not yet attached to a project; Ms. Kefyalew recommended putting this amount toward the two projects that are not currently fully-funded in the draft plan. Supervisor concerns:

- White Hill Rd. referenced in draft plan; should be White Hall Rd.
- Constituent concerns regarding storm water runoff from Rt. 618 onto their property
- A speed concern at Branch Rd/Antioch Springs Rd. The Board requested a speed study of the area.

At 7:14pm, Chair Sheridan opened the Public Hearing.
There being no one wishing to speak, Chair Sheridan closed the Public Hearing.
With no additional discussion,

MOTION

Mrs. Eager moved to accept the Resolution for the VDOT Secondary Six-Year Plan (2019/20 through 2024/25) and VDOT Construction Priority List (2019/20) as required by sections 33.1-23 and 33.1-23.4 of the 1950 Code of Virginia. Mrs. Booker gave second and the motion passed 5-0. AYE: Sheridan, O'Brien, Booker, Eager, & Weaver. NAY: None ABSENT: None.

SUP 19:03 – Michael Brookman – Holly Steele, Planner requested consideration of a special use permit to construct a specialty retail store for the sale of firearms, with respect to 10.549 acres of Tax Map 52, Section 8, Parcel 2. The property is located off of James Madison Highway (State Route 15), approximately 0.1 miles east of the intersection with East River Rd. (State Route 6) and is currently zoned A-1. This request was recommended for approval 5-0 at the May 7, 2019 Planning Commission meeting.

Chair Sheridan called for questions.

Mrs. Booker, concerned about customers using the Fork Union Animal Hospital driveway, asked whether there is an additional entrance that can be used for the proposed business. Ms. Steele indicated that there is a separate entrance on adjacent property and an easement-in-perpetuity on the Fork Union Animal Hospital property to access Mr. Brookman's property. Mr. Nichols noted that VDOT generally requires 225ft between commercial entrances and may not approve two entrances so close together.

Chair Sheridan invited the applicant, Michael Brookman, forward.

Mr. O'Brien inquired of the meaning of "specialty firearms." Mr. Brookman noted that he is a Federal Firearms Licensed business and sells personal firearms, hunting firearms, and ammunition. Mr. Brookman detailed the security measures he will put in place with the express intent of prohibiting theft of his merchandise.

Chair Sheridan opened the Public Hearing at 7:27pm.

- Candace Waycaster, Hospital Manager at Fork Union Veterinary Hospital, voiced concerns regarding access to the proposed business and subsequent disruptions to the veterinary clinic business and general atmosphere of the clinic property.

Mr. Payne noted that the Board is approving the use of the property, not access to the property.

MOTION

Mrs. Eager moved that the Board of Supervisors approve SUP 19:03 Michael Brookman's request for a Special Use Permit (SUP 19:03) to construct a specialty retail store for the sale of firearms, with respect to 10.549 acres of Tax Map 52, Section 8, Parcel 2, located in the Fork Union District, subject to the nine (9) conditions listed in the staff report. Mr. Weaver gave second and the motion passed 5-0. AYE: Sheridan, O'Brien, Booker, Eager, & Weaver. NAY: None. ABSENT: None.

Staff Conditions:

1. Prior to development of the site, a site development plan that meets the requirements of the Fluvanna County Zoning Ordinance, must be submitted for review and approval.
2. The site must meet all Virginia Department of Transportation requirements.
3. The site must meet the requirements set forth by the Virginia Department of Health.
4. The property shall be maintained in a neat and orderly manner so that the visual appearance from the road and adjacent properties is acceptable to County officials.
5. Hours of operation shall be between 10:00 am and 6:00 pm Monday through Saturday.
6. The Board of Supervisors, or its representative, reserves the right to inspect the business for compliance with these conditions at any time.
7. All outdoor storage of materials shall be screened from the view of public roads, rights-of-way, and adjacent properties as required by Sec. 22-24-7 3. iii of the zoning ordinance.
8. The facility shall be constructed and receive final inspection from the Fluvanna County Department of Building Inspections within two (2) years of the date of approval of the special use permit or the SUP approval will expire and require a new SUP;
9. Under Sec. 22-17-4 F (2) of the Fluvanna County Code, the Board of Supervisors has the authority to revoke a Special Use Permit if the property owner has substantially breached the conditions of the Special Use Permit;"

An Ordinance To Amend and Reenact Chapter 15, Article 2, Section 15-2-3 Of The Fluvanna County Code Regarding Exemptions From License Fees For Certain Vehicles—Steven M. Nichols, County Administrator requested amendment of Chapter 15, Article 2, Section 15-2-3 of the Fluvanna County Code Regarding Exemptions From License Fees For Certain Vehicles.

At 7:44pm, Chair Sheridan opened the public hearing open; there being no one wishing to speak, the public hearing was closed at 7:44pm.

With no discussion,

MOTION

Mr. O'Brien moved that the Fluvanna County Board of Supervisors approve "AN ORDINANCE TO AMEND AND REENACT CHAPTER 15, ARTICLE 2, SECTION 15-2-3 OF THE FLUVANNA COUNTY CODE REGARDING EXEMPTIONS FROM LICENSE FEES FOR CERTAIN VEHICLES." Mrs. Eager gave second and the motion passed 5-0. AYE: Sheridan, O'Brien, Booker, Eager, & Weaver. NAY: None. ABSENT: None.

7 - ACTION MATTERS

FSPCA Public Animal Shelter Agreement - Revised 2019—Steven M. Nichols, County Administrator requested approval of the 2019 FSPCA Public Animal Shelter Agreement. A per capita increase, from \$6/capita to \$8/capita, increases the County responsibility by \$100,000 for FY20. This increase includes the contractual agreement for the FSPCA to provide County shelter services (as required by State Code) and an increase in funding to allow for increased salaries for FSPCA employees.

Geri Russel, President of the FSPCA, spoke with regards to historical funding levels.

Following general discussion,

MOTION

Mr. O'Brien moved to approve the revised Agreement with the Fluvanna Society for the Prevention of Cruelty to Animals (FSPCA) to provide Public Animal Shelter Services for Fluvanna County. Mrs. Eager gave second and the motion passed 4-1. AYE: Sheridan, O'Brien, Booker, & Eager. NAY: Weaver.

ABSENT: None.

Voluntary Long-term Care Program—Jessica Rice, Human Resources Manager requested authorization to participate in the Commonwealth of Virginia (COV) Voluntary Group Long Term Care Insurance Program. This one-time opportunity to opt-in to the program allows employees to purchase from Genworth directly; premiums are not deducted from payroll. Mrs. Rice noted that participation requires a 3 year term of participation, coordination of training with Genworth, and a list of all eligible employees to be used by Genworth in their marketing and education efforts. There is no program management required of the County. Mrs. Eager asked about portability of the plan; Mrs. Rice indicated that the plan is fully portable should an employee leave employment with the County. Mrs. Rice noted that we do not currently offer a comparable product.

Following little discussion,

MOTION

Mrs. Eager moved the Board of Supervisors approve Fluvanna County participation in the Commonwealth of Virginia (COV) Voluntary Group Long Term Care Insurance Program as presented, and authorize the County Administrator to sign the adoption agreement for program enrollment. Mrs. Booker provided second and the motion passed 5-0. AYE: Sheridan, O'Brien, Booker, Eager, & Weaver. NAY: None. ABSENT: None.

Deputy Commissioner of the Revenue IV Position Description—Jessica Rice, Human Resources Manager presented a request to approve a new position in the Commissioner of the Revenue's office.

- Currently, the Commissioner of the Revenue office has Deputy 1, 2, & 3 position descriptions that are approved by the BOS and are active.
- The County does not currently have an active Deputy IV position, although it is allowable by the Commonwealth.
- The additional fiscal, budgetary, and land use program responsibilities as outlined in the Deputy IV position description are above the level of work expected from a Deputy COR III.
- No additional FTEs are requested with this position description.
- With the creation of a Deputy COR IV, the Commissioner can fill any combination of positions with the approved 4 FTEs, with the caveat that only one Deputy COR IV spot can be filled at any time.
- Compensation Board funding will remain the same. 2 Master Deputy IVs are already funded. One is allotted for the Chief Deputy and one is for this Deputy IV position.
- Compensation for the additional duties outlined in the Deputy COR IV position was included in the FY 19 budget and carried forward in the recently adopted FY 20 budget.

Mr. Weaver asked about budgeted funds; Mr. Nichols noted that this is an administrative process that completes the action begun during budget to allow for a Deputy Commissioner IV position.

MOTION

Mrs. Eager moved to approve the new position description, #2020 Deputy Commissioner of the Revenue IV, Pay Band 14, as presented. On a second by Mr. O'Brien, the motion passed 5-0. AYE: Sheridan, O'Brien, Booker, Eager, & Weaver. NAY: None. ABSENT: None.

8 - PRESENTATIONS

None.

9 - CONSENT AGENDA

The following items were discussed before approval:

Accounts Payable Report, April 2019—Mary Anna Twisdale, Director of Finance

The following items were approved under the Consent Agenda for May 15, 2019:

Minutes of April 24, 2019—Kelly Belanger Harris, Clerk to the Board

Minutes of May 1, 2019—Kelly Belanger Harris, Clerk to the Board

Appointment of Zoning Administrator – Dahl—Steven M. Nichols, County Administrator

Accounts Payable Report, April 2019—Mary Anna Twisdale, Director of Finance

FY19 Animal Friendly Supplemental Appropriation—Mary Anna Twisdale, Director of Finance

ZXR Project Agreement #12 Amendment – Dewberry—Cyndi Toler, Purchasing Officer
Commissioner of the Revenue Position Description Updates—Jessica Rice, Human Resources Manager

MOTION

Mr. Weaver moved to approved the consent agenda, for the May 15, 2019 Board of Supervisors meeting, and to ratify Accounts Payable and Payroll for April 2019 in the amount of \$2,328,045.33. Mr. O’Brien seconded and the motion passed 5-0. AYE: Sheridan, O’Brien, Booker, Eager, & Weaver. NAY: None. ABSENT: None.

10 - UNFINISHED BUSINESS

None.

11 - NEW BUSINESS

Mrs. Eager – Overgrown soccer fields at Pleasant Grove Sports Complex
Mrs. Booker – Bremo Bluff Rd. concerns
Chair Sheridan – Dogwood Road bridges
Mr. Nichols – 2020 Census Complete Count Committee. The Board agreed to pursue participation in a regional effort through TJPDC.
Chair Sheridan recognized National Law Enforcement Recognition Day

12 - PUBLIC COMMENTS #2

At 8:36pm Chair Sheridan opened the second round of Public Comments.
With no one wishing to speak, Chair Sheridan closed the second round of Public Comments at 8:36pm.

14 - ADJOURN

MOTION:
At 8:36pm Mr. Weaver moved to adjourn the regular meeting of Wednesday, May 15, 2019. Mrs. Booker seconded and the motion carried with a vote of 5-0. AYES: Sheridan, O’Brien, Booker, Eager, & Weaver. NAYS: None. ABSENT: None.

ATTEST: FLUVANNA COUNTY BOARD OF SUPERVISORS

Kelly Belanger Harris
Clerk to the Board

John M. Sheridan
Chair

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB I

MEETING DATE:	June 5, 2019																								
AGENDA TITLE:	Ratification of Hiring Salary – Director of Community Development																								
MOTION(s):	I move to approve a hiring salary of \$79,725 for the new Director of Community Development, Mr. Douglas Miles, effective June 24, 2019.																								
STRATEGIC INITIATIVE?	Yes	No	If yes, list initiative(s):																						
		x																							
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other																				
				X																					
STAFF CONTACT(S):	Jessica Rice, HR Manager, and Steve Nichols, County Administrator																								
PRESENTER(S):	Jessica Rice, HR Manager																								
RECOMMENDATION:	Approval																								
TIMING:	Current																								
DISCUSSION:	<p>Mr. Douglas Miles has accepted employment with Fluvanna County as our new Director of Community Development.</p> <p>He currently works in Prince George area and plans to relocate to Fluvanna County. He brings the right mix of education, experience, and significant skills, along with more than 25 years of planning/zoning experience.</p> <p>Recommend salary is above the County Administrator's salary range hiring authority. Details shown in the chart below.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; width: 80%;"> <tr> <td style="background-color: #d9e1f2;">Position</td> <td style="background-color: #d9e1f2;">Finance Director</td> </tr> <tr> <td>Previous Annual Salary</td> <td style="text-align: right;">\$84,030</td> </tr> <tr> <td>Pay Band</td> <td style="text-align: center;">23</td> </tr> <tr> <td style="text-align: center;">Minimum</td> <td style="text-align: right;">\$63,780</td> </tr> <tr> <td style="text-align: center;">Mid-range</td> <td style="text-align: right;">\$79,724</td> </tr> <tr> <td style="text-align: center;">Maximum</td> <td style="text-align: right;">\$95,669</td> </tr> <tr> <td colspan="2" style="height: 10px;"></td> </tr> <tr> <td style="text-align: center;">COAD Authority - 15% above Base</td> <td style="text-align: right;">\$73,347</td> </tr> <tr> <td colspan="2" style="height: 10px;"></td> </tr> <tr> <td style="background-color: #d9ead3;">Requested - 25% above Base</td> <td style="background-color: #d9ead3; text-align: right;">\$79,725</td> </tr> </table>					Position	Finance Director	Previous Annual Salary	\$84,030	Pay Band	23	Minimum	\$63,780	Mid-range	\$79,724	Maximum	\$95,669			COAD Authority - 15% above Base	\$73,347			Requested - 25% above Base	\$79,725
Position	Finance Director																								
Previous Annual Salary	\$84,030																								
Pay Band	23																								
Minimum	\$63,780																								
Mid-range	\$79,724																								
Maximum	\$95,669																								
COAD Authority - 15% above Base	\$73,347																								
Requested - 25% above Base	\$79,725																								

FISCAL IMPACT:	Costs within current budget.				
POLICY IMPACT:	N/A				
LEGISLATIVE HISTORY:	N/A				
ENCLOSURES:	N/A				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other
				X	

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB J

MEETING DATE:	June 5, 2019				
AGENDA TITLE:	FLSA Status Changes for Assistant PW Director Positions				
MOTION(s):	<p>I move to approve the Fair Labor Standards Act (FLSA) status change from exempt to non-exempt for positions</p> <ul style="list-style-type: none"> #7510 Assistant Public Works Director - Utilities #3690 Assistant Public Works Director 				
TIED TO STRATEGIC INITIATIVES?	Yes	No	If yes, list initiative(s):		
		X			
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
				XX	
STAFF CONTACT(S):	Jessica Rice, Human Resources Manager				
PRESENTER(S):	Jessica Rice, Human Resources Manager				
RECOMMENDATION:	Approval.				
TIMING:	Current.				
DISCUSSION:	<ul style="list-style-type: none"> Both Assistant Public Works Director positions are in Pay Band 19 and are FLSA exempt. The current status affords both positions a flat annual salary, without the possibility of earning overtime for response to emergency situations that occur during non-business hours. Emergency call-outs typically occur during severe weather events, overnight, and on holidays. All other staff who are subject to those types of call-outs, currently have the ability to be compensated for the extra hours worked. Federal laws allow for this change because the primary role for the Assistant Director does not include executive level decisions such as hiring, discipline, or termination of personnel, budget development and fiscal responsibility, emergency planning, etc. The recommendation is to change both positions to Pay Band 19 FLSA non-exempt. 				
FISCAL IMPACT:	<ul style="list-style-type: none"> Estimated \$3,000 per year - will be determined by the number of emergency call-outs during the year.. Funds to come from existing FY20 Public Works Personnel budget. 				
POLICY IMPACT:	N/A				
LEGISLATIVE HISTORY:	N/A				

ENCLOSURES:					
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other
				XX	

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

TAB K

MEETING DATE:	June 5, 2019				
AGENDA TITLE:	ZXR Sargent Change Order #1				
MOTION(s):	I move the Board of Supervisors approve the Zion Crossroads Water Booster Station and Wastewater Pump Station Change Order #1 with Sargent Corporation with a reduction in cost of \$8,357.75, and authorize the County Administrator to execute the Change Order, subject to approval as to form by the County Attorney.				
STRATEGIC INITIATIVE?	Yes x	No	If yes, list initiative(s):		C9
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
				X	
STAFF CONTACT(S):	Cyndi Toler, Purchasing Officer				
PRESENTER(S):	Cyndi Toler, Purchasing Officer				
RECOMMENDATION:	Approval				
TIMING:	Routine				
DISCUSSION:	<ul style="list-style-type: none"> It has been decided that the wooden walkway originally planned around the WWPS and the WBS is not necessary; it is better suited to have a concrete walkway. This change will also save the county a total of \$10,957.25 At the site of the WBS it was found that the stable soil was at a much lower depth than anticipated. Because of this, the contractor needs to excavate deeper then fill in the excess depth with stone in order to stabilize the footings. This has resulted in an additional cost to the county of \$2,599.50 				
FISCAL IMPACT:	A reduction in cost of \$8,357.75				
POLICY IMPACT:	Na				
LEGISLATIVE HISTORY:	Na				
ENCLOSURES:	Zion Crossroads Water Booster Station and Wastewater Pump Station Change Order #1				
REVIEWS COMPLETED:	Legal x	Finance	Purchasing x	HR	Other

Change Order**No. 1**Date of Issuance: 05/13/2019Effective Date: 05/13/2019

Project: Zion Crossroads Water Booster Station and Wastewater Pump Station	Owner: Fluvanna County	Owner's Contract No.: 2018-05
Contract: Zion Crossroads Water Booster Station and Wastewater Pump Station	Date of Contract: 01/31/2019	
Contractor: Sargent Corporation	Engineer's Project No.: 50078863	

The Contract Documents are modified as follows upon execution of this Change Order:**Description:**

Removal of platforms around generators and replacement with concrete sidewalk (-\$10,957.25);

17.33 CY excavation and disposal of unsatisfactory soils at WBS (\$60/CY per contract documents; \$1,039.80);

17.33 CY structural fill at water booster station (\$90/CY per contract documents; \$1,559.70)

Attachments (list documents supporting change):

Change Order No. 1 Request (generator platform modifications – Sargent)

Site Visit Report 4/30/19 – Draper Aden Associates

CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ 1,900,000.00Increase/Decrease from previously approved
Change Orders No. N/A to No. N/A:\$ N/A

Contract Price prior to this Change Order:

\$ 1,900,000.00

Increase/Decrease of this Change Order:

\$ (8,357.75)

Contract Price incorporating this Change Order:

\$ 1,891,642.25**CHANGE IN CONTRACT TIMES:**Original Contract Times: ☐ Working days ☒ Calendar daysSubstantial completion Phase 1 (days): 360Substantial completion Phase 2 (days): 540Ready for final payment (days): 600Increase/Decrease from previously approved Change Orders
No. N/A to No. N/A:Substantial completion Phase 1 (days): N/ASubstantial completion Phase 2 (days): N/AReady for final payment (days): N/A

Contract Times prior to this Change Order:

Substantial completion Phase 1 (days): 360Substantial completion Phase 2 (days): 540Ready for final payment (days): 600


Increase/Decrease of this Change Order:

Substantial completion Phase 1 (days): 0Substantial completion Phase 2 (days): 0Ready for final payment (days): 0

Contract Times with all approved Change Orders:

Substantial completion Phase 1 (days): 360Substantial completion Phase 2 (days): 540Ready for final payment (days): 600


RECOMMENDED:

By: 
Engineer (Authorized Signature)
Date: 5/14/19

ACCEPTED:

By: _____
Owner (Authorized Signature)
Date: _____

ACCEPTED:

By: 
Contractor (Authorized Signature)
Date: 5-14-19



Excellence for Generations.

AN EMPLOYEE OWNED COMPANY

BOS 2019-06-05 p.259/278
Sargent Corporation Mid-Atlantic Division
11139 Air Park Road, Suite 1
Ashland, VA 23005
Phone: (804) 368-7118
Fax: (804) 368-7387

CHANGE ORDER REQUEST

Project: Zion Crossroads Pump Stations
To: Melanie Leckey - Dewberry
Date: May 9, 2019

Re: Change Order Request No. 01

Scope: Cost adjustments related to deletion of wooden deck, addition of concrete sidewalk at gensets.

Notes:

DESCRIPTION	QTY	U/M	UNIT PRICE		TOTAL
WBS Wood Deck	-1	LS	\$	6,707.00	\$ (6,707.00)
WWPS Wood Deck	-1	LS	\$	6,707.00	\$ (6,707.00)
Delete Concrete Piers	-1	LS	\$	3,000.00	\$ (3,000.00)
Add Concrete Sidewalks	1	LS	\$	5,280.00	\$ 5,280.00
#57 Stone vs. 21A at WWPS	7	TN	\$	4.43	\$ 31.01
#57 Stone at WBS	7	TN	\$	20.82	\$ 145.74

Total for Change Order Request No. 01	\$	(10,957.25)
---------------------------------------	----	-------------

Sincerely,
Sargent Corporation

Jim Cipollone
Project Manager

Approved By: Melanie Leckey - Dewberry

Project: Fluvanna Water Booster Pump Station

Location: Palmyra, VA

Client Name: Fluvanna County

Contractor: Sargeant Corporation

Weather: Overcast

Page 1 of 3

Date: 04/30/2019

DAA Project #: 19020200-010202

DAA Rep: Justin Cornwell

Temp Range: 75-80

TIME & MILEAGE

LEAD INSPECTOR				ALTERNATE INSPECTOR				OTHER			
Onsite Time:	<u>2.0</u>	Tech:	<input checked="" type="checkbox"/>	Onsite Time:	_____	Tech:	<input type="checkbox"/>	Onsite Time:	_____	Tech:	<input checked="" type="checkbox"/>
Travel Round Trip:	<u>2.0</u>	PM:	<input type="checkbox"/>	Travel Round Trip:	_____	PM:	<input checked="" type="checkbox"/>	Travel Round Trip:	_____	PM:	<input type="checkbox"/>
Other (Specify):	_____	PE	<input type="checkbox"/>	Other (Specify):	_____	PE	<input type="checkbox"/>	Other (Specify):	_____	PE	<input type="checkbox"/>
Total:	<u>4.0</u>	Other:	<input type="checkbox"/>	Total:	_____	Other:	<input type="checkbox"/>	Total:	_____	Other:	<input type="checkbox"/>
Mileage:	<u>110</u>			Mileage:	_____			Mileage:	_____		
Vehicle:	_____			Vehicle:	_____			Vehicle:	_____		

ADDITIONAL ONSITE PERSONNEL:

Name:	Hours Onsite:	Travel Round Trip & Mileage:
	<u>See Above</u>	<u>See Above</u>
	<u>See Above</u>	<u>See Above</u>
Visitors Name:	Company:	

SOILS**CONCRETE/STEEL****SPECIAL****CQA/CQC**

Proofrolling:	<input type="checkbox"/>	Concrete Pour:	<input type="checkbox"/>	Roofing:	<input type="checkbox"/>	Low Perm Soils:	<input type="checkbox"/>
Sampling:	<input type="checkbox"/>	Footing Inspection:	<input type="checkbox"/>	Fireproofing:	<input type="checkbox"/>	Cover Soils:	<input type="checkbox"/>
# Samples collected:	_____	Cylinder Pickup:	<input type="checkbox"/>	EIFS:	<input type="checkbox"/>	Closure:	<input type="checkbox"/>
Density Testing:	<input checked="" type="checkbox"/>	Structural Steel Inspection:	<input type="checkbox"/>	Mortar/Grout:	<input type="checkbox"/>	Geosynthetic:	<input type="checkbox"/>
		Other: Rebar Inspection	<input type="checkbox"/>	Other:	<input type="checkbox"/>	Structural Fill:	<input type="checkbox"/>
						Other:	<input type="checkbox"/>

Problems/Non-Compliances/Failing Tests: Yes ☐ No ☒ (if yes, describe below)

Inspections:

A DAA representative was present, as requested by *Sargeant Corporation*, to check the subgrade of the footing being excavated for the water booster pump station. The areas undercut yesterday filled up with water overnight. This water destabilized the footing subgrade, which required additional undercut. After inspecting the footing trenches, it appeared the water was perched water that leaked into the footing through the sidewalls of the trenches. I instructed the contractor to excavate down to something stable and suitable. Once I deemed the bottom stable, the contractor placed VDOT #57 stone in the bottom of the trench. The total undercut numbers from yesterday and today combined are below.

Undercut:

West side: 4' wide x 20" deep for the length of the side (21'): **5.2 cy**

North Side: 4' wide x 20" deep x 8' long: 1.98 cy

4' wide x 5" deep x 21' long: 1.24 cy

4' wide x 32" deep x 4' long: 1.58 cy

Total North Side: 4.8 cy

East Side: 4' wide x 32" deep x 21' long: **8.3 cy**

South Side: 4' wide x 24" deep x 20' long: 5.92 cy

4' wide x 5" deep x 6' long: .35 cy

4' wide x 32" deep x 7' long: 2.76 cy

Total South Side: 9.03 cy

Total Footing Undercut: 27.33 cy

I instructed contractor if they form the footings instead of free pouring to the sidewalls, they need to backfill the forms with stone due to no suitable fill material on site.

Signed: Justin Cornwell

On-site Person

Attachments: Site Map

Site Images:



Unsuitable material from footing inspection



After undercut

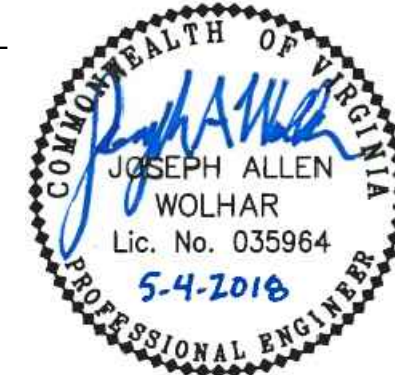
Dewberry Engineers Inc.

 4805 Lake Brook Drive, Suite 200
 Glen Allen, Virginia 23060
 PHONE: 804.290.7957
 FAX: 804.290.7928
 www.dewberry.com

 ZION CROSSROADS
 WATER BOOSTER PUMP STATION
 AND WASTEWATER PUMP STATION
 FLUVANNA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 FLUVANNA COUNTY, VA

KEY PLAN

SEAL



SCALE

No.	DATE	BY	Description

 DRAWN BY STAFF
 APPROVED BY JAW
 CHECKED BY MKM
 DATE MAY 2018
 TITLE

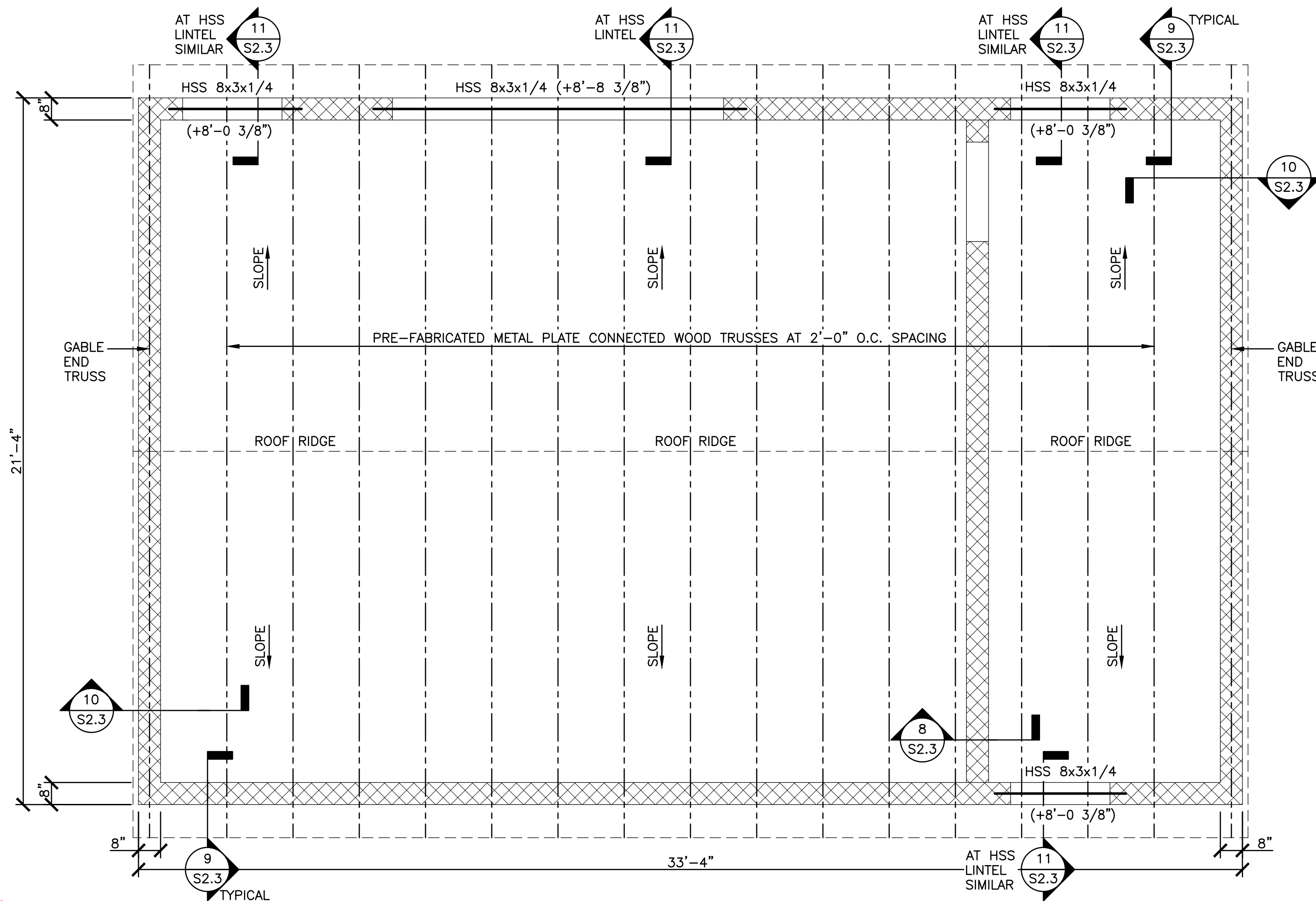
 WBS
 FOUNDATION PLAN
 AND
 ROOF FRAMING PLAN

PROJECT NO. 50078863

S2.2

ROOF FRAMING PLAN NOTES:

- SEE SHEET S2.0 FOR GENERAL STRUCTURAL NOTES.
- TRUSS BEARING ELEVATIONS SHALL BE (+10'-1 1/2") REFERENCED TO FINISHED FLOOR ELEVATION 448.00'.
- TOP OF STRUCTURAL STEEL ELEVATIONS ARE SHOWN ON PLAN THUS (+X'-X") AND ARE REFERENCED TO FINISHED FLOOR ELEVATION 488.00'.
- ROOF SHEATHING SHALL BE 5/8" APA-RATED STRUCTURAL I SHEATHING, 32/16 SPAN RATING, EXPOSURE 1 (INTERIOR GRADE WITH EXTERIOR GLUE), 48" X 96" PANELS. ATTACH TO METAL-PLATE-CONNECTED WOOD TRUSSES WITH 10d NAILS AT 6" ON CENTER AT SUPPORTED PANEL EDGES AND WITH 10d NAILS AT 12" ON CENTER AT INTERMEDIATE SUPPORTS.
- CONTRACTOR TO SUBMIT TRUSS LAYOUT PLAN WITH TRUSS SHOP DRAWINGS. TRUSS LAYOUT PLAN, SHOP DRAWINGS, AND TRUSS CALCULATIONS ARE TO BE PREPARED BY THE TRUSS DESIGNER AND BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF VIRGINIA. THE TRUSS SPACING SHALL NOT EXCEED 2'-0" ON CENTER. SEE "METAL-PLATE-CONNECTED WOOD TRUSSES" SECTION OF THE GENERAL STRUCTURAL NOTES FOR ADDITIONAL TRUSS DESIGN REQUIREMENTS.
- GABLE TRUSSES SHALL BE DESIGNED FOR COMPONENT WIND LOAD FORCE APPLIED PERPENDICULAR TO THEIR PROFILE.
- PROVIDE CONTINUOUS BRIDGING AT TRUSS BOTTOM CHORDS AS REQUIRED BY T.P.I. STANDARDS.
- TRUSS HANDLING, INSTALLATION, AND BRACING SHALL BE PER TRUSS PLATE INSTITUTE HIP-91 SUMMARY SHEET.
- SEE SHEET S2.1 FOR LINTEL SCHEDULE AND CMU WALL REINFORCING SCHEDULE.


 2 WBS ROOF FRAMING PLAN
 SCALE: 3/8" = 1'-0"

FOUNDATION PLAN NOTES:

- SEE SHEET S2.0 FOR GENERAL STRUCTURAL NOTES.
- (±X'-X") DENOTES FINISHED FLOOR ELEVATION OF STRUCTURAL SLAB. SEE MECHANICAL DRAWINGS AND SITE PLAN FOR EXACT FLOOR ELEVATION.
- (-X'-X") DENOTES TOP OF FOOTING ELEVATION REFERENCED FROM FINISH FLOOR ELEVATION (+0'-0").
- UNLESS NOTED OTHERWISE, TYPICAL FLOOR CONSTRUCTION SHALL BE 6" THICK CONCRETE SLAB-ON-GRADE WITH #4 AT 12" O.C. EACH WAY AT MID-DEPTH OF SLAB OVER 15 MIL VAPOR BARRIER AND 4" #57 STONE BASE.
- EXTERIOR 4" SIDEWALK SLAB SHALL BE REINFORCED WITH 6x6 W1.4xW1.4 WELDED WIRE FABRIC AT MID-DEPTH OF SLAB. PLACE SLAB OVER 4" #57 STONE BASE.
- EXTERIOR 8" PAVEMENT SLAB ADJACENT TO ROLL-UP DOOR SHALL BE REINFORCED WITH #4 BARS AT 12" O.C. SPACING EACH WAY AT MID-DEPTH OF SLAB. PLACE SLAB OVER 4" #57 STONE BASE.
- C— DENOTES CONTROL JOINT OR CONSTRUCTION JOINT LOCATION IN SLAB-ON-GRADE. SEE DETAILS 1/S2.1 AND 2/S2.1. CONTROL JOINT LOCATIONS MAY BE SCALED FROM DRAWING. PROVIDE TOOLED JOINTS IN EXTERIOR SIDEWALKS.
- S--S DENOTES FOOTING STEP, SEE DETAIL 3/S2.1
- SEE DETAIL 4/S2.1 FOR ADDITIONAL REINFORCING REQUIRED AT CMU BOND BEAM WALL CORNERS.
- SEE DETAILS 5/S2.1, 6/S2.1, AND 7/S2.1 FOR ADDITIONAL CMU WALL REINFORCING REQUIREMENTS.
- SEE MECHANICAL DRAWINGS FOR WALL DIMENSIONS AND WALL OPENING DIMENSIONS.
- "EJ" DENOTES LOCATION OF MASONRY WALL EXPANSION JOINTS. SEE DETAIL 8/S2.1
- SEE MECHANICAL DRAWINGS FOR FLOOR DRAINS AND PIPING. COORDINATE EXACT LOCATIONS OF SLOPES AND DRAINS IN FLOOR SLABS WITH MECHANICAL DRAWINGS.

GENERATOR SLAB AND ACCESS PLATFORM

 SEE SHEET S2.4 FOR GENERATOR SLAB AND
 ACCESS PLATFORM DETAILS.
 SEE SITE PLAN FOR GENERATOR LOCATION.

 1 WBS FOUNDATION PLAN
 SCALE: 3/8" = 1'-0"

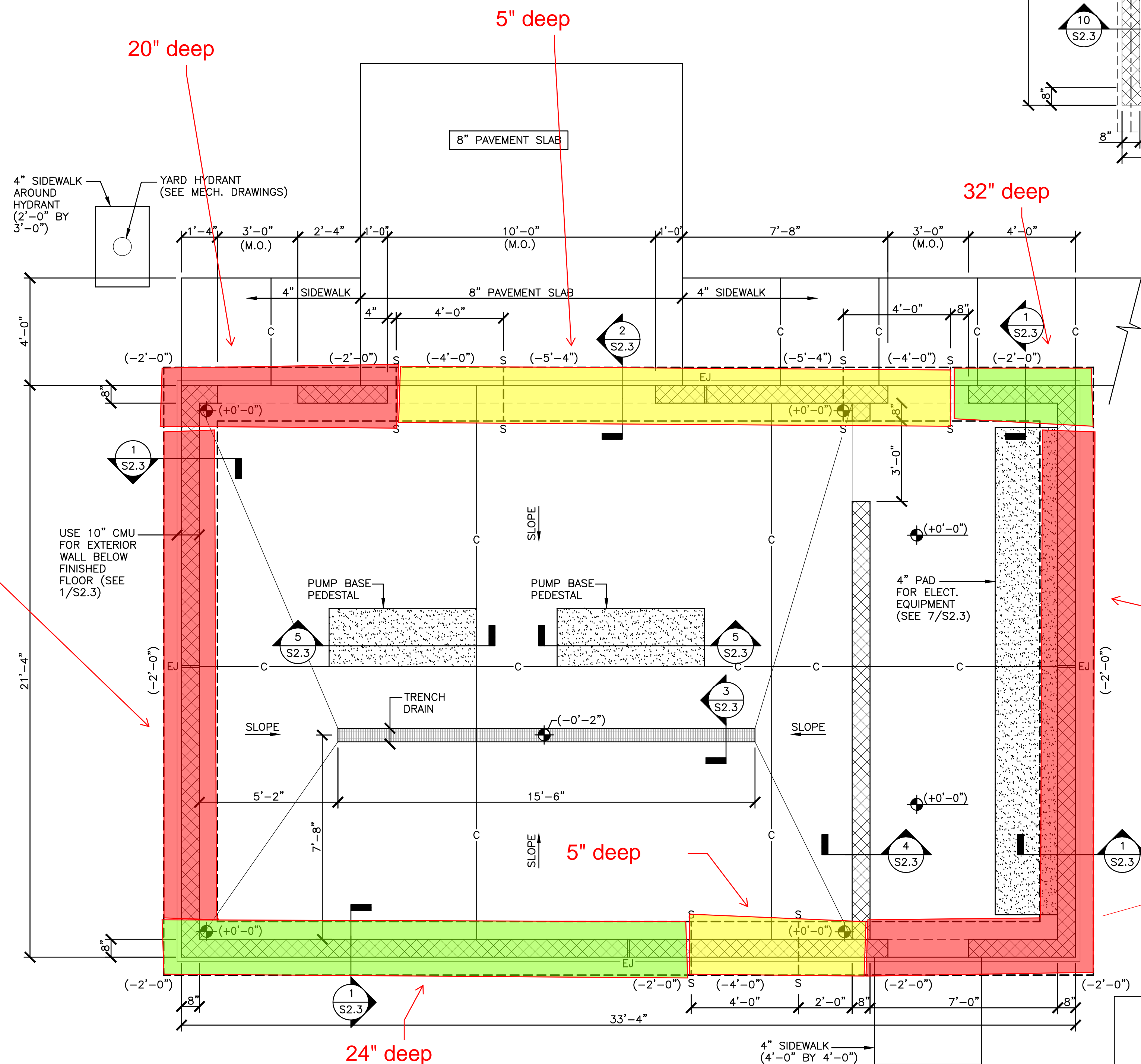
E

D

C

B

A



**FLUVANNA COUNTY BOARD OF SUPERVISORS
MEETING PACKAGE ATTACHMENTS**

Y/N	Item
Y	Unassigned Fund Balance Report
Y	BOS Contingency Balance Report
Y	Capital Reserve Balances Memo
	Fluvanna County Bank Balances
Y	Building Inspections Report
Y	VDOT Monthly Report

MEMORANDUM

Date: June 5, 2019
From: Mary Anna Twisdale – Director of Finance
To: Board of Supervisors
Subject: FY19 BOS Contingency Balance

The FY19 BOS Contingency line balance is as follows:

Beginning Budget:	\$150,000.00
Less: FY19 Non-Profit Budget Allocations Change – 05.16.18	-\$14,180.00
Less: FY19 C.A.R.E. Task Force Container for Clean Up Day – 09.19.18	-\$500.00
Less: FY19 Building & Program Feasibility Study – 11.20.18	-\$10,690.00
Less: FY19 Additional Public Safety Radios for St. Troopers – 12.19.18	-\$12,000.00
Less: FY19 Aqua Virginia vs. Caroline County – 03.06.2019	-\$5,000
Less: FY19 TJPDC Regional Housing Summit – 04.03.2019	-\$1,000
Less: FY19 RK&K Columbia Sewage CIP – 04.17.2019	-39,699.00
Available:	\$66,931.00

MEMORANDUM

Date: June 5, 2019
From: Mary Anna Twisdale- Director of Finance
To: Board of Supervisors
Subject: FY19 Capital Reserve Balances

The FY19 Capital Reserve account balances are as follows:

County Capital Reserve:

FY19 Budget Allocation:	\$0
FY18 Carryover	\$67,256
FY18 Closed Out Projects	\$163,865
Total FY19 Budget:	\$231,121
Less: I.T. Air Conditioning Unit – 09.19.18	-\$7,000
Less: FSPCA Building Renovations – 10.17.18	-\$45,000
Less: Palmyra Rescue Squad Building Renovations – 10.17.18	-\$15,000
Less: Historic Courthouse Oil Furnace Replacement – 01.09.19	-\$8,948
Less: Social Services Heat Pump – 01.09.19	-\$6,061
Less: Courthouse Basement Piping – 03.20.19	-\$14,530
Less: Library Carpeting – 03.20.19	-\$8,382.89
Less: Administration Campus Sidewalk – 04.03.19	-\$6,488
Less: Dog Park ADA Trail – 04.03.19	-\$12,570
FY19 Available:	\$107,141.11

Schools Capital Reserve:

FY19 Budget Allocation:	\$150,000
FY18 Carryover	\$116,308
FY18 Closed Out Projects	\$13,046
Total FY19 Budget:	\$279,354
Plus: BOS Unassigned Fund Balance: Middle School Debt Proceeds – 09.19.18	\$72,001
Less: Abrams Abatement: Classroom & Crawl Space – 09.19.18	-\$72,001
Less: Carysbrook & Central Elementary Blacktop Repair – 09.19.18	-\$10,650
Less: Central Elementary School Partition – 09.19.18	-\$12,000
Less: Bus 21 Engine/ Motor Replacement – 11.07.18	-\$22,500
Less: FCHS Water Tank – 12.19.18	-\$2,450
Less: FMS Fire Alarm Install, Removal, and Replacement – 12.19.18	-\$4,422
Less: FCHS PH Filter Tank – 04.03.19	-\$7,959
Less: FMS Annex Gym Wall – 04.03.19	-\$6,855
Less: FMS Office Area Roof – 04.03.19	-\$13,995
Less: FMS Window Installation – 04.03.19	-\$4,374
FY19 Available:	\$194,149

MEMORANDUM

Date: June 5, 2019
From: Mary Anna Twisdale – Director of Finance
To: Board of Supervisors
Subject: Unassigned Fund Balance

FY18 Year End Audited Total Unassigned Fund Balance:	\$14,532,691
Unassigned Fund Balance – 12% Target Per Policy:	\$8,687,777
Unassigned Fund Balance – Excess Above Policy Target:	\$5,844,914
Less: FY 18-19 Automatic Carryovers – 07.01.18	-\$21,644
Less: FY19 Abrams Abatement Classroom and Crawl Space – 09.19.18	-\$72,001
Less: FY19 Fire Hydrant Installation (JRWA) – 10.17.18	-\$142,500
Less: FY18-19 Various Carryover Requests – 11.20.18	-\$240,700
Less: FY19 BOS Professional Services Ward vs. Fluvanna – 03.06.19	-\$130,000
Less: FY20 CIP – 04.24.19	-1,873,640
Current FY19 Unassigned Fund Balance – Excess Above Policy Target:	\$3,364,429

Category	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
LAND DISTURBING PERMITS ISSUED														
LAND DISTURBING PERMITS	2015	6	5	9	10	10	12	15	16	3	5	10	5	106
	2016	12	11	8	14	10	17	7	6	11	3	9	9	117
	2017	3	2	17	7	7	9	6	6	15	8	7	14	101
	2018	10	4	16	13	11	17	13	7	9	6	7	8	121
	2019	8	12	16	9	0	0	0	0	0	0	0	0	45

[illegible][illegible]

Culpeper District, Louisa Residency

Fluvanna County Monthly Report: June 2019

Fluvanna Mileage, Structures

PRIMARY MILES	SECONDARY MILES	STRUCTURES	TOTAL MILES
102.34	598.62	75	700.96

Fatal Accidents

DATE	LOCATION	ALCOHOL	RESTRAINT
05/05/18	Route 250, at Route 631 Troy Rd	No	No
08/24/18	Route 250	Hit & Run	Pedestrian
09/18/18	Route 607	No	N/A
10/17/18	Route 619, East of Route 660	No	N/A
12/11/18	Route 659, 0.50 miles N of Route 626	No	Pedestrian
1/22/19	Route 656	No	Yes

*Of the 843 fatalities in VA in 2017, 208 were related to distracted driving and 308 were motor vehicle occupants not wearing a seatbelt.

**10% of all drivers do not wear a seatbelt. Of all driver fatalities, 50% are from the 10% that do not wear a seatbelt if the option was available.

[Link to SmartScale information](#)

[Link to SmartScale Projects \(Filter for Fluvanna Co. Projects\)](#)

SmartScale Round 3 Applications:

- Thomas Jefferson Pkwy (Rte 53) & Turkeysag Trail (Rte 1015)
- James Madison Hwy (Rte 15) & Bybees Church Rd (Rte 613)
- James Madison Hwy (Rte 15) & Hunters Lodge Rd (Rte 631)
- Route 250 at Toy Road (Route 631)



Key Dates:

- February – April, CTB considers evaluated projects for inclusion in the Six Year Improvement Program (SYIP)
- June, CTB adopts Final SYIP

Projects:

PROJECT	LAST MILESTONE	NEXT MILESTONE	AD DATE
Route 53 Safety improvements at Route 618, Roundabout, (UPC:96938)	Community Meeting (Apr 2019)	Advertisement	Anticipated NOV 2019
Route 680 – Rural Rustic (UPC:107558)	CN Begins (State Forces)	CN Completion	Anticipated Completion Summer 2019
Route 629 Bridge Replacement (UPC 104848)	CN Begins	CN Completion	Anticipated Completion December 2019

Route 1001 – PE Study (UPC T22858)		PE Authorization	Anticipated to begin Summer 2019
Route 659 – PE Study (UPC T22859)		PE Authorization	Anticipated to begin Summer 2019
Route 600-618 Intersection Improvements (UPC 111739)	Environmental Review Process	Scoping	Anticipated FEB 2022

Additional Road Projects:

- **On-Call Pipe Replacements** (UPC 106020)
- **District Wide Guardrail Repair and/or Replacement** (UPC 106849)
- **District Wide ADA Compliance** (UPC 108027)
- **On-Call District Wide Pavement Marking** (UPC 108282)
- **District-Wide Primary Rumble-Strips, 9999-967-280** (UPC 106978)

Route	County MP Start	County MP End	Location Description	Length (LM)	Center/Edge
15	5.26	12.76	From Saylor Lane to Roundabout at Rte. 53 (Thomas Jefferson Pkwy)	7.5	Center
250	106.54	108.45	From Albemarle County Line to Rte. 600 (Paynes Mill Rd)	1.91	Center

State-Force and District-Wide Bridge Projects:

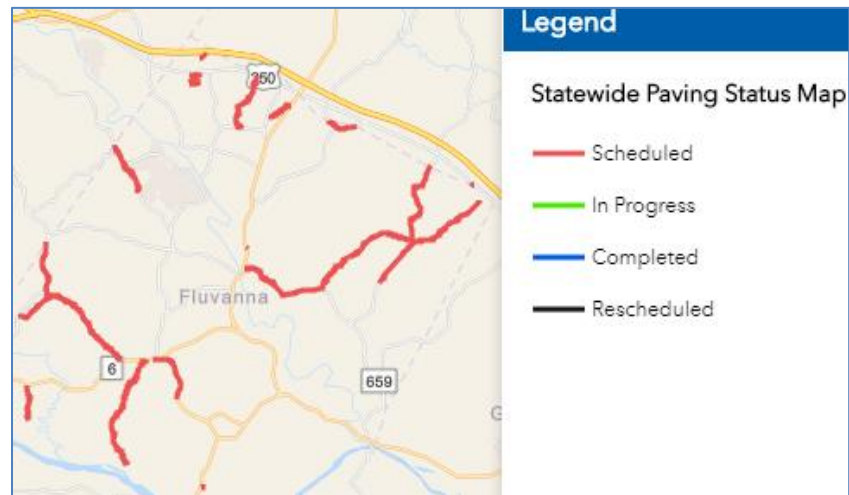
- **District Wide Bridge Deck Cleaning and Washing** (UPC 105980) ;
- **District Wide Bridge Maintenance** (UPC 105979);
- **Route 623 over Venable Creek, Completed;**
- **Route 53, .5 miles S of Lake Monticello Rd - Emergency Pipe Replacement; Completed**
- **Route 616 Soil Nailing Slope Repair; Completed**

Resurfacing Projects:

VDOT provided the County with a list of routes included in the 2019 resurfacing schedule. Customers can review routes to be resurfaced and their status through the following link:

<http://www.virginiadot.org/projects/culpeper/19culpeperdistrictpaving.asp>

Fluvanna County Resurfacing					
Plant Mix			Surface Treatment		
Schedule	Miles	Cost/Estimate	Schedule	Miles	Cost/Estimate
2017	6.76	\$1,093,000	2017	52.29	\$587,000
2018	6.38	\$1,015,000	2018	73.86	\$550,000
2019	4.94	\$863,675	2019	43.65	\$590,849



Traffic Engineering

Studies under Review:

- Route 250 speed study, from Route 631 to Route 15.

Completed Studies:

- Route 53 shoulder safety improvements (proximity 4800 block +/-); Curve warning signs to be installed
- Route 600/616 intersection: sight-distance and pavement marking improvements completed

County Safety and Operational Improvements:

- Route 250 at Route 631 (Troy Rd): grading to improve sight distance is completed
- Route 600 at Broken Island Rd: Request for safety improvements to improve visibility at the curve; Larger chevron signs and puppy track pavement markings have been installed
- Village of Palmyra Traffic Circle: County and VDOT staff plan to simulate EMS response prior to installing pavement markings;
- Route 53 at Route 660 (Cunningham): VDOT continues to evaluate this intersection for interim and long-term safety improvements
- Route 629/631 intersection review completed; VDOT is coordinating with property owners to perform minor grading to improve sight distance

Area Land Use

Fluvanna Plan/Plat Review - Received Apr-May 2019							
Project Name	Routes/Address	Submission Type	VDOT Contact	VDOT Received Date	Locality Due Date	VDOT Comment Date	Status
Catherine Edwards Grey "Gardenkeepers"	15-17934 James Madison Hwy	Site Plan,	Mark Wood	4/4/2019	5/17/2019	4/12/2019	Review Complete - Acceptable
Island Hill Rural Cluster Major Sub	600-South Boston Road	Site Plan, Preliminary Plat Review,	Mark Wood	4/4/2019	5/17/2019	4/29/2019	Review Complete - Revision Required
Proposed Retail Store on Rte. 15	15-6690 James Madsion Hwy, Fork Union, VA 23033	Conditional Use,	John Wilson	4/5/2019	5/20/2019	4/10/2019	Review Complete - Acceptable
Hilsinger Minor Subdivision	636-Nahor Manor Road	Preliminary Plat Review,	Mark Wood	4/11/2019	5/24/2019	4/16/2019	Review Complete - Revision Required
Parrish & Thomas Minor Subdivision	660-2901 Slaters Ford Rd., Palmyra, VA 22963	Final Plat Review,	Mark Wood	4/11/2019	5/24/2019	4/16/2019	Review Complete - Acceptable
Village Oaks Phase 1B&2 Final Plat	618-Lake Monticello Rd	Final Plat Review,	Mark Wood	4/11/2019	5/24/2019	5/6/2019	Review Complete - Revision Required
Megan Harris Minor Subdivision	6-5128 West River Road	Preliminary Plat Review,	Mark Wood	4/25/2019	6/7/2019	5/17/2019	Review Complete - Revision Required
Carbon Core Final Site Plan	1021-Zion Station Road	Site Plan,	Mark Wood	4/25/2019	6/7/2019	4/30/2019	Review Complete - Revision Required
Carbon Core Final Site Plan revised	1021-Zion Station Road	Site Plan,	Mark Wood	5/9/2019	6/21/2019	5/17/2019	Review Complete - Acceptable
VEPCO-Centralized Water Treatment System	656-1038 Breomo Road, Breomo Bluff, VA 23022	Site Plan,	John Wilson	5/6/2019	6/20/2019	5/9/2019	Review Complete - Revision Required

- Colonial Circle Community Meeting @ Effort Baptist Church – April 28, 2019
- Winding Ridge Street Acceptance request has been approved

Maintenance Activities

VDOT crews in Palmyra and Zion Crossroads Area HQ have responded to **573** Work Orders in FY19. Top actives have been tree removal and culvert work.

BOS Manual:

http://www.virginiadot.org/business/resources/local_assistance/BOSmanual.pdf

Alan Saunders, P.E.
Residency Engineer
VDOT Louisa Residency
540-967-3710