

NG911 Upper Peninsula 911 Authority



2015 Annual Report

UP 911 Authority
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July 15, 2015

Dear Reader:

As the chair of the Upper Peninsula 911 Authority Board (UPA), I am pleased to present the second Upper Peninsula 911 Authority Board Annual Report.

The Upper Peninsula 911 Authority was created through an agreement entered into under Michigan's Urban Cooperation Act. This legal Governmental Authority includes all fifteen (15) counties in the Upper Peninsula. The UPA is responsible for coordinating and providing a variety of services with respect to 911 emergency call answering and service dispatching across Michigan's Upper Peninsula. The Upper Peninsula Commission for Area Progress (UPCAP) serves as the Secretary and administrative agent of the UPA.

The focus of this report is the status of 911 in Michigan's Upper Peninsula. It is our goal to provide information about 911 that is useful to our elected officials as well as the citizens of the Upper Peninsula. It is our hope that this report depicts an accurate picture of Michigan's Upper Peninsula 911 system right now, as well as provides a look at the future endeavors that the UPA will pursue.

The UPA continues to be proud of the success of the partnerships with UPCAP, Peninsula Fiber Network and other 911 Service providers. These partnerships involve people that are working hard to ensure that the Upper Peninsula is taking advantage of the latest technology available to ensure that 911 service is working for the citizens. Among the technological advances is the establishment of an Emergency Services IP Network (ESiNet) which connects all of the UP dispatch centers together to provide paths for data sharing and system resiliency. In October 2014, PFN, UPCAP and the UPA announced its roll out of the technologies and establishment of the Next Generation 911 (NG911) Call Management System. The establishment of NG911 was determined to be necessary for enhanced and expanded 911 services, which is crucial to effective 911 response. The Board determined that to wait for a larger governmental initiative to provide these services to our citizens was not in the best interests of the Upper Peninsula. More of this will be explained within the report as will an explanation of the Next Generation 911 (NG911) System that has been created meeting specific standards.

There is a realization that advanced technology has a cost. Cost sharing among the Upper Peninsula Public Safety Answering Points (PSAPs) has resulted in reduced costs while taking advantage of the latest technology. Utilizing shared services is cost effective. The UPA will continue to take full advantage of available grants and other funding opportunities.

I have been at the helm of the UPA as its chair for seven years now. I have the privilege of working with a Board of dedicated individuals whose focus has been ensuring the best and most resilient 911 system for the Upper Peninsula.

I would like to take this opportunity to say thank you to you and our elected leaders for your support of 911 services in the Upper Peninsula.

Sincerely,

A handwritten signature in black ink that reads "Scott A. Ceello". The signature is written in a cursive, flowing style.

Scott Ceello, Sheriff
Chair

Upper Peninsula 911 Authority Board (UPA) Membership

County	Board Appt.
Alger	Robert Hughes Sheriff
Baraga	Bob Larson 911 Coordinator
Chippewa	Tim McKee 911 Director
Delta	Bob Berbohm EM Coordinator
Dickinson	Scott Celello, Chairman Sheriff
Gogebic	Jim Loeper 911 Coordinator
Houghton	Roy Britz Undersheriff/911 Coordinator
Iron	Steve Gagnea 911 Director
Keweenaw	Ronald Lahti Sheriff
Luce	Terry Stark 911 Coordinator
Mackinac	Calvin McPhee County Commissioner
Marquette	Gerald Corkin, Vice-Chairman County Board
Menominee	Debra Wormwood, Treasurer 911 Director
Ontonagon	William Johnson 911 Coordinator
Schoolcraft	Dan LaFolle County Commissioner
UPCAP	Jonathan Mead UP 911 Administrative Agent/Secretary

What is Next Generation 911?

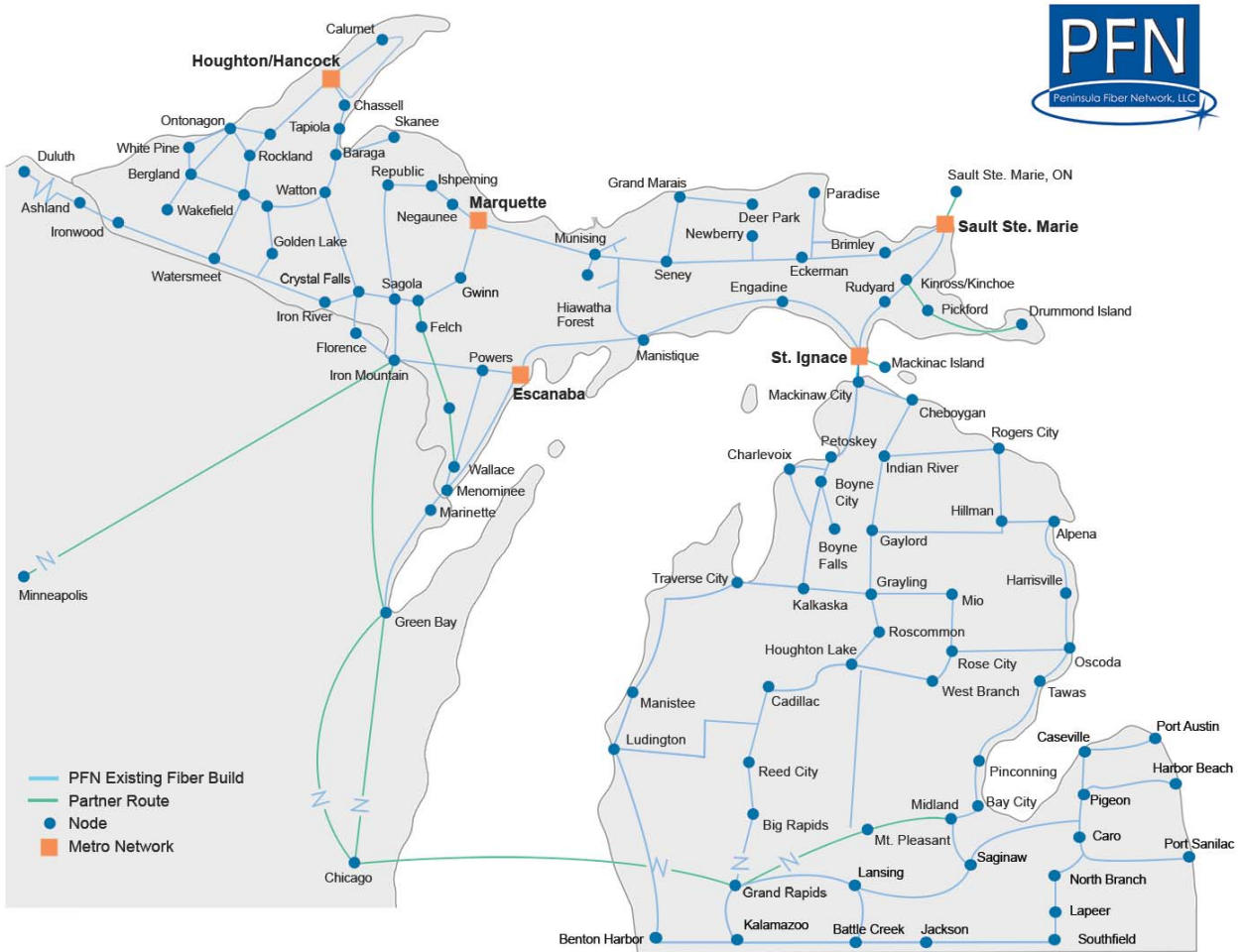
Next Generation 911, known as NG911 in the public safety community, is the future framework for 911 call delivery. NG911 is a closed digital (IP-based) 911 network that is scalable, secure, redundant, and built to meet the needs of public safety. While the state of Michigan has no plan at the present time to fully implement NG911, there are states that have moved to, or are in the process of moving to, IP-based 911 systems in preparation for NG911. Tennessee, Iowa, and Vermont are examples. Not waiting for a larger governmental initiative, the Upper Peninsula 911 Authority has moved in the direction of implementing NG911.

Recognizing that the previous 911 system, while reliable for the landline, voice-based calls it was built 40 years ago, it cannot continue to meet the expectations of consumers and public safety as our modes of communication become digitized, increasingly mobile, more affordable, and can easily send and receive multi-media information. The past decade's advancements in Voice over Internet Protocol (VoIP) services and the proliferation of cellular phones has resulted in the "retrofitting" of 911 calls from these systems into the landline 911 system. The previous 911 system was also limited in its ability to process additional data that may accompany a call, to transfer calls from jurisdiction to jurisdiction, and to accommodate the advancing technologies and application that are becoming the everyday ways by which people communicate with one another. NG911 implementation across the Upper Peninsula became necessary.

The NG911 system is technologically advanced in order to handle the myriad of devices used to initiate a call for help, is capable of dynamically routing calls based on emergency needs and critical events, is secure and redundant, and was built to meet the needs of the Upper Peninsula and its public safety services. The UPA NG911 system has been designed and implemented with forethought, can accept any 911 call from a device capable of accessing 911 and process it effectively all the way from the caller to the public safety answering point to the emergency responders in the field.

Among the benefits of NG911

- It can accept 911 calls from an array of devices including traditional landline phones, wireless phones, VoIP, and other devices such as automatic vehicular crash notification devices (telematics) and video relay services.
- In addition to the call itself, other information and media such as caller location, pictures, and data files can eventually be sent to the PSAP from the 911 caller.
- Calls, and the media that may accompany those calls, can be routed to and from different PSAPs with that information intact.
- Media received via a 911 call can be quickly provided to emergency responders in the field. (For example, a 911 caller taking a picture of a suspect's vehicle leaving a crime scene can move from the caller to the PSAP to police officers in their patrol units.)
- NG911 can allow for the prioritization of calls based on location. (For example, an accident on the freeway that creates an overload at a PSAP can be directed to work stations dedicated to that incident, freeing up work stations for other emergencies occurring at the same time.)
- Policies for automatically re-routing 911 calls may be established in advance within the NG911 system so 911 call management, in response to a critical event, can be pre-planned. (i.e., re-routing 911 calls if a PSAP has to be evacuated or experiences a call overload.)
- NG911 is a scalable IP-based backbone system that is robust and redundant, resilient and survivable making it less vulnerable to system downtime or failure.
- Processing 911 calls from text messaging.



Upper Peninsula Fiber Optic Network / UP NG911 ESInet

Demonstrating a true public / private partnership between the UP 911 Authority and Peninsula Fiber Network (PFN), all eight 911 Dispatch Centers are virtually connected on a robust fiber optic network. The network allows all centers to share Computer Aided Dispatch (CAD) information, 911 Telephone services and applications seamlessly. The network also allows for pre-determined call routing for back-up and/or overflow of 911 call delivery, thus ensuring that a 911 call is answered by any one of the twenty six (26) seated 911 dispatcher positions in the UP. Future considerations for reverse 911 or emergency notification, enhanced information sharing and shared radio console controlling are being outlined, defined and set for implementation as practical.

Upper Peninsula NG911 Project Report

The Upper Peninsula 911 Authority (UPA) was created through a collaborative agreement entered into under Michigan's Urban Cooperation Act. This governmental authority includes representatives from all fifteen (15) counties in the Upper Peninsula. The UPA is responsible for coordinating and providing a variety of services with respect to 911 emergency call answering and service dispatching across Michigan's Upper Peninsula. The Upper Peninsula Commission for Area Progress (UPCAP) serves as the secretary and administrative agent of the UPA.

The UPA continues to be proud of the success of the public-private partnerships with UPCAP, Peninsula Fiber Network (PFN) and other 911 Service providers. These partnerships involve people that are working hard to ensure that the Upper Peninsula (UP) is taking advantage of the latest technology available to provide 911 services to the citizens of the region.

Among the technological advances through the UPA is the establishment of an Emergency Services IP Network (ESInet) that connects each of the UP dispatch centers together to provide paths for data sharing and system resiliency. In October 2014, PFN, UPCAP, and the UPA announced its rollout of the technologies and establishment of the Next Generation 911 (NG911) Call Management System. NG911 is a system comprised of managed IP-based networks and elements that augment present-day E9-1-1 features and functions while adding new capabilities. It is designed to provide access to emergency services from all sources and provide multimedia data capabilities for 911 dispatch centers and emergency service providers.

The establishment of NG911 was determined to be necessary for enhanced and expanded 911 services which are crucial to effective 911 response in the Upper Peninsula. The Upper Peninsula ESInet was constructed to meet NENA I3 standards and comply with the FCC Report and Order requirements that a network maximize availability, reliability and resiliency of 911 networks as well as the accountability of all participants in the 911 call completion process.

Starting in 2007, the Upper Peninsula embarked on a virtual consolidation of the 911 centers which to date has been an overwhelming success. A shared Computer Aided Dispatch (CAD) system for all 7 County-operated dispatch centers along with a shared 911 telephone and call answering system with NG 911 capabilities was completed in 2012. Elimination of the old single selective router process and transition to two emergency services routing proxies (ESRPs) with redundancy providing for a more reliable network was achieved in mid-2014. Building the automatic back-ups and fail-overs resulted in a secure network that is robust, resilient and reliable.

Moving forward, the Upper Peninsula will be rolling out its text-to-911 services in 2015. The UPA has selected the Textty solution through INdigital as the method for receiving and processing text to 911.

The shared solution approach in the UP has resulted in cost savings while taking advantage of the latest technologies for the Upper Peninsula citizens. Additional information on the Upper Peninsula 911 Authority can be obtained at www.upcap.org.

Appendix 1

UP 911 PSAP's 911 Centers & County 911 Call Taking Detail

Alger County Sheriff's Department (Munising)

- OSSI CAD, Intrado VIPER Telephony

Chippewa County Central Dispatch (Kincheloe – Chippewa, Luce & Mackinac Counties)

- OSSI CAD, Intrado VIPER Telephony

Delta County 911 (Escanaba)

- OSSI CAD, Intrado VIPER Telephony

Dickinson County Central Dispatch (Iron Mountain)

- OSSI CAD, Intrado VIPER Telephony

Iron County Central Dispatch (Crystal Falls – Gogebic & Iron Counties)

- OSSI CAD, Intrado VIPER Telephony

Marquette County Central Dispatch (Negaunee)

- OSSI CAD, Intrado VIPER Telephony

Menominee County Central Dispatch (Menominee)

- OSSI CAD, Intrado VIPER Telephony

Negaunee Regional MSP Dispatch

(Negaunee – Baraga, Houghton, Keweenaw, Ontonagon & Schoolcraft Counties)

- Motorola PremiereOne CAD, Intrado VIPER Telephony

County	Wireline 911 Calls Rec'd	Wireless 911 Calls Rec'd	VoIP 911 Calls Rec'd	PSAP Calls Not on 911 Lines	Incidents Dispatched
Alger	3,656	1,942	0	10,482	2,538
Baraga	890	1,735	6	112,935	6,624
Chippewa	4,406	16,387	178	44,621	26,447
Delta	3,468	7,874	135	-	25,737
Dickinson	1,732	5,392	254	36,100	15,834
Gogebic	4,899	1,061	67	94,210	13,313
Houghton	3,801	9,335	81	112,935	24,469
Iron	2,888	1,074	32	94,210	12,586
Keweenaw	172	698	6	112,935	1,426
Luce	762	1,689	0	760	3,575
Mackinac	2,085	4,374	0	7,187	9,795
Marquette	7,687	18,112	264	65,215	45,798
Menominee	1,631	6,325	948	27,179	11,301
Ontonagon	627	888	14	112,935	4,158
Schoolcraft	960	2,007	11	112,935	6,391
Totals - 2014	39,664	78,893	1,996	944,639	209,992
2013 Reported Totals	32,450	70,741	2,993	1,058,066	186,664

Appendix 2

Current Upper Peninsula 911 Authority Financial Statement

2:07 PM
06/08/15
Accrual Basis

**Upper Peninsula 911 Authority
Balance Sheet
As of May 31, 2015**

	<u>May 31, 15</u>
ASSETS	
Current Assets	
Checking/Savings	
1100 · Cash - Operating	285,154.75
Total Checking/Savings	285,154.75
Accounts Receivable	
1200 · Accounts Receivable	72,941.32
Total Accounts Receivable	72,941.32
Total Current Assets	358,096.07
Fixed Assets	
1500 · Equipment	5,123.29
Total Fixed Assets	5,123.29
TOTAL ASSETS	<u>363,219.36</u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
2050 · Deferred Revenues	263,739.66
Total Other Current Liabilities	263,739.66
Total Current Liabilities	263,739.66
Total Liabilities	263,739.66
Equity	
3950 · R/E Equipment Reserve	103,829.11
Net Income	-4,349.41
Total Equity	99,479.70
TOTAL LIABILITIES & EQUITY	<u>363,219.36</u>

BUDGET
UP 911 AUTHORITY
10/01/2015 to 09/30/2016

		Original Budget
Budgeted Cash Inflows		
County Dues	\$	10,000
County Contributions	\$	254,895
Grant Revenue	\$	57,157
Interest Income	\$	30
Total	\$	322,082
 Budgeted Cash Outflows		
Insurance Expense	\$	800
Travel Expense	\$	1,000
Audit	\$	4,200
Service Maintenance Expense		
Iron Mountain IP	\$	800
Intrado	\$	86,700
OSSI	\$	54,475
Neverfail	\$	11,124
Stratus	\$	20,832
TOPCOMP	\$	6,500
Anti-Virus Protection	\$	507
Empiric	\$	16,800
PFN Network Costs	\$	57,157
Increase Equipment Reserves	\$	57,000
	\$	317,895
 Budgeted Excess (Deficit)	 \$	 4,187

The Budget for Fiscal Year 2016 has been reviewed and approved
 by the UP 911 Authority Board on June 11, 2015

Appendix 3

2015 UPA 911 Systems Cost Share

	Alger	Chippewa	Delta	Dickinson	Iron	Marquette	Menominee	22 Workstations
Percentage	9.00%	18.00%	13.75%	13.75%	13.75%	22.75%	9.00%	100%
IM	\$72.00	\$144.00	\$110.00	\$110.00	\$110.00	\$182.00	\$72.00	\$800.00
Neverfail	\$1,001.16	\$2,002.32	\$1,529.55	\$1,529.55	\$1,529.55	\$2,530.71	\$1,001.16	\$11,124.00
OSSI	\$4,902.75	\$9,805.50	\$7,490.31	\$7,490.31	\$7,490.31	\$12,393.06	\$4,902.75	\$54,475.00
Stratus	\$1,874.88	\$3,749.76	\$2,864.40	\$2,864.40	\$2,864.40	\$4,739.28	\$1,874.88	\$20,832.00
TopComp	\$585.00	\$1,170.00	\$893.75	\$893.75	\$893.75	\$1,478.75	\$585.00	\$6,500.00
Anti-Virus	\$41.40	\$82.80	\$63.25	\$63.25	\$63.25	\$104.65	\$41.40	\$460.00
Telephony	\$10,200.00	\$20,400.00	\$15,300.00	\$10,200.00	\$13,800.00	\$15,300.00	\$15,300.00	\$100,500.00
PFN	\$5,144.13	\$10,288.26	\$7,859.09	\$7,859.09	\$7,859.09	\$13,003.22	\$5,144.13	\$57,157.00
Empiric	\$1,512.00	\$3,024.00	\$2,310.00	\$2,310.00	\$2,310.00	\$3,822.00	\$1,512.00	\$16,800.00
Sub Total	\$25,333.32	\$50,666.64	\$38,420.35	\$33,320.35	\$36,920.35	\$53,553.67	\$30,433.32	\$268,648.00
Iron Co.	0	0	0	0	\$4,901.91	0	0	\$4,901.91
OSSI Extra	0	\$109.87	\$109.87	0	0	0	\$109.87	\$329.61
TOTAL	\$25,333.32	\$50,776.51	\$38,530.22	\$33,320.35	\$41,822.26	\$53,553.57	\$30,543.19	\$273,879.52

The Upper Peninsula PSAP's, excluding Negaunee Regional, share costs for dispatch center equipment maintenance. These costs are divided among the PSAP's based on the number of workstations.

Iron County has placed their Viper on the UPA Network and costs includes a half year of maintenance. OSSI Extra refers to CAD and Core TIMS connections.

County 911 Financial Detail Report

Appendix 4

All UPA Member Counties

County	Population	State 911 Surcharge Receipts (all devices)	Local 911 Surcharge Receipts (all devices)	911 Millage Receipts	General Fund Monies	Other Receipts	911 Funding from all Sources	Allowable PSAP Expenses from 911 Surcharge Funds	Allowable Non- PSAP Expenses from 911 Surcharge Funds	Unexpended 911 Surcharge Funds	Carryover of Unexpended 911 Surcharge Funds Prior to 2013
Alger	9,459	\$127,990.00	\$41,987.44	\$0.00	\$0.00	\$1,195.00	\$171,172.440	\$226,190.00	\$0.00	\$14,639.00	\$0.00
Baraga	8,654	\$123,609.00	\$0.00	\$0.00	\$0.00	\$1,624.00	\$125,233.00	\$140,912.00	\$0.00	\$0.00	\$0.00
Chippewa	38,321	\$168,684.00	\$492,521.74	\$0.00	\$8,196.09	\$212,061.31	\$895,951.14	\$675,693.74	\$0.00	\$0.00	\$0.00
Delta	36,559	\$162,128.00	\$243,286.00	\$376,874.00	\$0.00	\$22,149.00	\$815,148.00	\$405,414.00	\$0.00	\$0.00	\$0.00
Dickinson	29,957	\$151,013.00	\$164,097.67	\$380,466.16	\$210,167.00	\$0.00	\$916,888.00	\$330,034.40	\$0.00	\$0.00	\$0.00
Gogebic	15,737	\$137,078.00	\$154,704.68	\$0.00	\$0.00	\$0.00	\$291,782.68	\$314,640.23	\$0.00	\$0.00	\$143,114.54
Houghton	36,495	\$162,502.00	\$342,871.00	\$0.00	\$0.00	\$2,886.00	\$506,259.00	\$386,848.00	\$0.00	\$121,411.00	\$0.00
Iron	11,387	\$130,483.00	\$331,711.50	\$0.00	\$173,000.00	\$98,392.88	\$733,587.38	\$462,194.50	\$0.00	\$0.00	\$0.00
Keweenaw	2,217	\$116,722.00	\$0.00	\$0.00	\$0.00	\$0.00	\$116,722.00	\$13,522.00	\$0.00	\$46,869.00	\$453,987.00
Luce	6,424	\$123,063.00	\$69,927.98	\$0.00	\$0.00	\$1,987.37	\$194,978.35	\$140,038.82	\$56,330.00	\$21,065.18	\$276,659.06
Mackinac	11,042	\$124,475.00	\$181,870.79	\$0.00	\$0.00	\$0.00	\$306,345.79	\$425,771.00	\$30,886.98	\$0.00	\$384,598.20
Marquette	67,676	\$209,537.00	\$0.00	\$1,073,463.00	\$0.00	\$3,541.00	\$1,298,800.00	\$209,537.00	\$0.00	\$0.00	\$0.00
Menominee	23,714	\$144,856.00	\$536,753.00	\$0.00	\$0.00	\$223.00	\$687,302.00	\$696,189.00	\$0.00	\$0.00	\$350,178.00
Ontonagon	6,172	\$120,694.00	\$35,003.07	\$0.00	\$0.00	\$0.00	\$155,697.07	\$100,185.51	\$0.00	\$55,511.56	\$752,770.14
Schoolcraft	8,171	\$123,083.00	\$32,830.90	\$0.00	\$0.00	\$5,676.14	\$161,590.04	\$259,204.10	\$0.00	\$0.00	\$418,217.85

Appendix 5

Distribution of State Emergency 911 Funds to Counties

Equal & Per Capita

Quarterly payment to Counties from State of Michigan from \$.19 collection formula 4/2015

County	Net Payment
Alger	\$31,947
Baraga	\$31,681
Chippewa	\$42,329
Delta	\$41,808
Dickinson	\$37,894
Gogebic	\$34,397
Houghton	\$41,649
Iron	\$32,742
Keweenaw	\$29,274
Luce	\$30,881
Mackinac	\$32,490
Marquette	\$52,581
Menominee	\$37,126
Ontonagon	\$30,974
Schoolcraft	\$31,546
Total	\$542,319

Appendix 6

UP County 911 Surcharges

As compiled by the Michigan Public Service Commission Staff
 Rates Effective July 1st 2015

County	Technical Charge: Recurring	Technical Charge: Nonrecurring	County Charge	Total
Alger	\$ 0.60	\$ 0.03	\$ 0.42	\$1.05
Baraga	\$	\$	\$	
Chippewa	\$ 0.58	\$ 0.04	\$ 1.50	\$2.12
Delta	\$ 0.57	\$ 0.06	\$ 0.80	\$1.43
Dickinson	\$ 0.80	\$ 0.06	\$ 0.68	\$1.54
Gogebic	\$ 0.48	\$ 0.05	\$ 1.30	\$1.83
Houghton	\$ 0.58	\$ 0.06	\$ 1.10	\$1.74
Iron	\$ 0.43	\$ 0.00	\$ 2.10	\$2.53
Keweenaw	\$	\$	\$	
Luce	\$ 0.48	\$ 0.04	\$ 0.99	\$1.51
Mackinac	\$ 0.52	\$ 0.03	\$ 1.48	\$2.03
Marquette	\$ 0.74	\$ 0.07	\$	\$0.81
Menominee	\$ 0.69	\$ 0.05	\$ 2.20	\$2.94
Ontonagon	\$ 0.65	\$ 0.01	\$ 0.51	\$1.17
Schoolcraft	\$ 0.66	\$ 0.02	\$ 0.40	\$1.08

Appendix 7

County Certifications & Compliance

The Certification subcommittee serves to ensure that requirements and deadlines that are defined in the 9-1-1 statute are met. This includes reviewing county 9-1-1 plans and confirming that the plans are in compliance to receive funding through 9-1-1 mechanisms. The subcommittee also performs compliance reviews of counties to ensure that expenditures of 9-1-1 funds meet the criteria established by the State 9-1-1 Committee as "allowable" expenditures.

The State 911 Committee Certification Subcommittee is comprised of members appointed by the State 911 Committee. Those members include Mr. Richard Feole, Calhoun County Consolidated Dispatch, who serves as the chair of the Certification Subcommittee. Other members of the subcommittee include:

- Mr. Philip Bates, INdigital Telecom
- Mr. Greg Clark, Charlevoix-Cheboygan-Emmet Counties (CCE)
- Ms. Yvette Collins, State 911 Committee, AT&T
- Mr. Rich Feole, State 911 Committee, Calhoun County Consolidated Dispatch
- Sheriff Dale Gribler, State 911 Committee, Van Buren County Sheriff Department
- Mr. Ray Hasil, Mason Oceana 911
- Mr. Chris Izworski, Bay County 911
- Mr. Gary Johnson, Marquette County Central Dispatch
- Mr. Ronald Bonneau, Kent County Dispatch Authority
- Mr. James Loeper, State 911 Committee, Gogebic County
- Mr. Vic Martin, Lapeer County Central Dispatch
- Mr. Mel Maier, Oakland County Sheriff Department
- Mr. Tim Smith, Ottawa County 911
- Mr. Robert Stewart, Frontier Communications

Non-Voting:

Ms. Harriet Miller-Brown, Michigan State Police
Ms. Amanda Kennedy, Michigan State Police

The following compliance reviews have been conducted in the Upper Peninsula:

3/10/11	Chippewa County
8/07/13	Negaunee Regional
8/07/13	Baraga County
8/07/13	Schoolcraft County
8/22/13	Houghton County
8/22/13	Keweenaw County
8/22/13	Ontonagon County
7/29/14	Marquette County
7/30/14	Dickinson County

The Compliance reviews have all been either random or at the request of the Counties. In 2013, the Certification Subcommittee asked the State 911 Committee to approve language to maximize efficiency of the subcommittee. When a County is chosen at random for compliance review, if the PSAP for that county serves multiple counties, those counties are also reviewed.

Appendix 8

PSAP (Dispatcher) Training Fund Distribution

State Dispatcher Training Fund Distribution to Upper Peninsula PSAP's

NAME	2010	2011	2012	2013	2014
Alger County Sheriff's Department	\$1,801	\$1,930	\$1,117	\$0	\$3,343
Chippewa County Central Dispatch	\$12,608	\$13,511	\$14,527	\$17,186	\$14,488
Delta County Central Dispatch	\$7,204	\$7,720	\$10,057	\$11,048	\$10,711
Dickinson County Central Dispatch	\$9,005	\$8,685	\$10,057	\$11,048	\$11,145
Iron County Central Dispatch	\$9,006	\$10,616	\$13,409	\$0	\$0
Marquette County Central Dispatch	\$10,806	\$10,616	\$12,292	\$13,504	\$12,259
Menominee Co. Central Dispatch	\$9,005	\$9,650	\$11,174	\$0	\$5,470
** Michigan State Police	\$74,747	\$60,797	\$63,695	\$71,202	\$60,180

** Michigan State Police total includes the amount of training funds for all State Regional Dispatch Centers.

Attachment 1

**ALLOWABLE/DISALLOWABLE USAGE OF 9-1-1 SURCHARGE FUNDS
BY WAY OF EXAMPLE, BUT NOT LIMITATION, THE FOLLOWING COSTS ARE
ALLOWABLE OR DISALLOWABLE
(As approved by the STATE 9-1-1 COMMITTEE on June 23, 2009):**

ALLOWABLE - 9-1-1 SURCHARGE FUNDS / 9-1-1 SURCHARGE EXPENDITURES

Personnel Costs directly attributable to the delivery of 9-1-1 service
(i.e.; directors, supervisors, dispatchers, call-takers, technical staff, support staff):

Salaries, MSAG Coordination, Uniforms, Fringe Benefits, Addressing/Database, EAP

Note: If 9-1-1 staff serves dual functions (i.e.; a director who is also in charge of Emergency Management, a dispatcher who is also a police officer) then only those portions of personnel costs attributable to their 9-1-1 functions should be allowable.

Facility Costs of the dispatch center directly attributable to the delivery of 9-1-1 service:

Capital improvements for construction, remodeling, or expansion of dispatch center

Electrical/Heat/AC/Water

Fire Suppression System

Cleaning, Maintenance, Trash Removal

Telephone

Generator/UPS and Grounding

Insurance

Office Supplies

Printing and copying

Furniture

Note: If a shared facility, only those portions of facility costs attributable to the 9-1-1 functions should be allowable.

Training and Memberships directly related to 9-1-1 service:

On the job training (OJT)

Vendor provided training

Conferences

Travel and lodging as necessary

Membership in associations (APCO, NENA, etc.)

ALLOWABLE 9-1-1 SURCHARGE FUNDS 9-1-1 SURCHARGE EXPENDITURES

Hardware, software, connectivity and peripherals directly attributable to the delivery of 9-1-1 service:

Customer Premise Equipment
Remote CPE Hardware/Modems
Computer-Aided Dispatch
Radio system (consoles, infrastructure, field equipment)
LEIN costs for dispatch purposes
Paging System, pagers and related costs
Voice logging equipment
Mobile Data Systems
GIS/Mapping Systems/AVL Systems
Alarms/Security Systems
Connectivity for any of the above
Maintenance and service agreements of above
Software licensing of the above
Associated database costs

Vehicle costs (staff vehicle, pool car, mileage reimbursement, fuel, etc.) directly attributable to the delivery of 9-1-1 service:

Travel for meetings, training and conferences
Travel for MSAG verification and testing
Travel for 9-1-1 Public Education purposes

Professional Services

Attorneys Consultants Insurance
Architects, Auditor

Public Information/Education Expenses directly attributable to the delivery of 9-1-1 service.

Miscellaneous

THE BELOW DISALLOWABLE EXPENSES ARE MEANT TO SERVE AS EXAMPLES ONLY - PLEASE REFER TO THE STATE 9-1-1 COMMITTEE APPEALS PROCESS FOR QUESTIONS.

Personnel Costs of law enforcement, fire, and EMS responders, emergency management staff, shared support or technical staff, except for portions of time directly functioning as 9-1-1 allowable staff.

Facility Costs of law enforcement, fire, EMS, emergency management, or other municipal facilities, except for that portion housing the 9-1-1 center or back-up center, or leased to the 9-1-1 center for allowable training or meeting facilities. Capital costs and furnishing for facilities for which the primary purpose is other than 9-1-1 (i.e.; a conference room used primarily for the City Council but occasionally leased/loaned to the 9-1-1 center for meetings).

Training for staff not involved directly in the delivery of 9-1-1 service, or for any staff for courses not directly attributable to 9-1-1 or dispatching services.

Memberships for staff not involved directly in the delivery of 9-1-1 service, or for associations with a primary purpose other than public safety communications (i.e., sheriff's associations, police or fire chief associations, etc.)

**DISALLOWED 9-1-1 SURCHARGE FUNDS
9-1-1 SURCHARGE EXPENDITURES**

Hardware, software, connectivity and peripherals not attributable to the delivery of 9-1-1 service:

Law Enforcement Record Management Systems
Fire Records Management Systems
EMS Records Management Systems
Jail Records Management Systems
LEIN costs for non-9-1-1 functions (e.g., Records unit)
Word processing, databases, etc. not directly attributable to 9-1-1 service
GIS not directly related to the delivery of 9-1-1 service
Court Information Systems
Connectivity for any of the above
Maintenance and service agreements for any of the above
Software licensing for any of the above
Non-Emergency N-1-1 systems

Vehicle costs (fleet vehicle, pool car, mileage reimbursement, etc.) for law enforcement, fire, or EMS responders, such as patrol cars, fire apparatus, ambulances, etc.

Professional Services not directly attributable to the delivery of 9-1-1 service.

Public Information not directly attributable to the delivery of 9-1-1 service.

Miscellaneous:

Road Signs/Addressing Implements

Emergency Telephone Service Committee

6/21/2005

State 9-1-1 Committee revised

6/23/2009

Attachment 2

Glossary of Terms

911 - A three-digit telephone number to facilitate the reporting of an emergency requiring response by a public safety agency.

911 Network - Literally, the dedicated circuits and switching components used to transport voice from the originating central office, PBX, or other equivalent point to the 911 controller unit at the PSAP.

911 Service - The delivery of 911 dialed calls from the originating switch to the PSAP call taker, with associated delivery of ANI and ALI data.

911 System - The set of network, database and CPE components required to provide 911 services.

AR Alternate Routing

A standard feature provided to allow E911 calls to be routed to a designated alternate location if **(1)** all E911 exchange lines to the primary PSAP are busy, or **(2)** the primary PSAP is closed down for a period of time (night service).

Analog

As applied to 911, call transport using signaling involving a physical change, such as voltage or frequency. Analog trunking using multi-frequency tones (MF).

APCO Association of Public Safety Communications Officials

The Association of Public Safety Communications Officials International, Inc. is a not-for-profit professional organization dedicated to the enhancement of public safety communications. APCO exists to serve the people who manage, operate, maintain, and supply the communications systems.

ACN Automatic Collision Notification

A service provided by vendors such as OnStar and ATX that allows sensors in vehicles to automatically initiate a call to a central answering point upon specific levels of vehicle impact, air bag deployment, etc.

ALI Automatic Location Identification

The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone, and supplementary emergency services information.

ANI Automatic Number Identification

Telephone number associated with the access line from which a call originates.

Basic 911

An emergency telephone system, which automatically connects 911 callers to a designated answering point. Call routing is determined by originating central office only. Basic 911 may or may not support ANI and/or ALI.

CAS Call Associated Signaling

Allows for the device position or location information to be delivered to the emergency services network in the call signaling as part of the call set-up information. With CAS, the originating network pushes the position information to an Emergency Services Network Entity (ESNE)

CBN Callback Number

The VoIP subscriber's telephone number

CTIA Cellular Telecommunications and Internet Association

The Cellular Telecommunications and Internet Association is the international organization that represents all elements of wireless communication such as cellular, personal communication services, enhanced specialized mobile radio, and mobile satellite services serving the interests of service providers, manufacturers, and others.

CO Central Office

The Local Exchange Carrier facility where access lines are connected to switching equipment for connection to the Public Switched Telephone Network.

CMRS Commercial Mobile Radio Service includes all of the following:

1. A wireless 2-way communication device, including a radio telephone used in cellular telephone service or personal communication service.
2. A functional equivalent of a radio telephone communications line used in cellular telephone service or personal communication service.
3. A network radio access line.

CMRS Connection - Each number assigned to a CMRS customer.

Company Identifier (Company ID)

A 3 to 5 character identifier chosen by the Local Exchange Carrier that distinguishes the entity providing dial tone to the end user. The Company Identifier is maintained by NENA in a nationally accessible database.

Consolidated Dispatch

A countywide or regional emergency dispatch service that provides dispatch service for 75% or more of the law enforcement, firefighting, emergency medical service, and other emergency service agencies within the geographical area of a 911 service district or serves 75% or more of the population within a 911 service district.

CRN Contingency Routing Number

A 10-digit, 24x7 PSAP emergency telephone number used for fallback routing if a call cannot be routed through the selective router to the PSAP.

CPE Customer Premise Equipment

Communications or terminal equipment located at a subscriber's premises and connected with a carrier's telecommunication channel at the demarcation point.

Database

An organized collection of information, typically stored in computer systems, comprised of fields, records (data) and indexes. In 911, such databases include master street address guide (MSAG), telephone number/emergency service number (ESN), and telephone customer records.

Database Service Provider

A service supplier who maintains and supplies, or contracts to maintain and supply an ALI database or a MSAG.

Dedicated Trunk

A telephone circuit used for a single purpose such as transmission of 911 calls

DR Default Routing

The capability to route a 911 call to a designated (default) PSAP when the incoming 911 call cannot be selectively routed due to an ANI failure or other cause.

ECRF Emergency Call Routing Function

A functional element in an ESInet which is a LoST protocol server where location information (either civic address or geo-coordinates) and a Service URN serve as input to a mapping function that returns a URI used to route an emergency call toward the appropriate PSAP for the caller's location or towards a responder agency.

EMS Emergency Medical Service

The emergency medical response group established under the Emergency Medical Systems Act of 1972.

ENP Emergency Number Professional

A certification program for telecommunicators to encourage professional growth, promote a standard of competence, ensure an awareness of current issues in the 911 field and provide formal recognition of individuals for professional achievement.

ESN Emergency Service Number

A number defining the primary PSAP and up to five secondary PSAPs serving a particular telephone number. It is used in conjunction with the selective routing feature of E911 service.

ESRP Emergency Services Routing Proxy

Is a SIP Based Proxy Server for location based call routing in the ESInet.

ESZ Emergency Service Zone

The designation assigned by a county to each street name and address range that identifies which emergency response service is responsible for responding to an exchange access facility's premises.

ESGW Emergency Services Gateway

A component, residing in the VoIP service provider's network, responsible for integrating the SIP network with the emergency services network and routing 911 calls to the appropriate selective router, based on the ESRN/ESQK it receives from the regional call server on the 911 call server.

ESInet Emergency Services Internet Protocol Network

An ESInet is a managed IP network that is used for emergency services communications, and which can be shared by all public safety agencies. It provides the IP transport infrastructure upon which independent application platforms and core functional processes can be deployed, including, but not restricted to, those necessary for providing NG911 services. ESInets may be constructed from a mix of dedicated and shared facilities. ESInets may be interconnected at local, regional, state, federal, national and international levels to form an IP-based inter-network (network of networks).

ESME Emergency Services Message Entity

The ESME routes and processes the out-of-band messages related to emergency calls. This functionality is sometimes incorporated into the ALI database engine of a selective router.

ESNE Emergency Services Network Entity

The ESNE routes and processes the voice band portion of the emergency call. The ESNE is composed of selective routers, which are also known as routing, bridging, and transfer switches.

ESQK Emergency Services Query Key

A digit string that uniquely identifies an ongoing emergency services call and is used to correlate the emergency services call with the associated data messages. It may also identify an emergency services zone and may be used to route the call through the network, similar to an ESRK in wireless E911 networks.

ESRN Emergency Services Routing Number

A 10-digit number that specifies the selective router to be used to route a call.

Emergency Telephone Charge

Emergency telephone operation charge and emergency telephone technical charge.

Emergency Telephone District

The area in which 911 service is provided or is planned to be provided to service users under a 911 system implemented under this act. Also referred to as "911 service district"

Emergency Telephone District Board

The governing body created by the board of commissioners of the county or counties with authority over an emergency telephone district.

Emergency Telephone Operation Charge

A charge for non-network technical equipment and other costs directly related to the dispatch facility and the operation of one or more PSAPs including, but not limited to, the costs of dispatch personnel and radio equipment necessary to provide 2-way communication between PSAPs and a public safety agency. Emergency telephone operation charge does not include non-PSAP related costs such as response vehicles and other personnel.

Emergency Telephone Technical Charge

A charge for the network start-up costs, customer notification costs, billing costs including an allowance for uncollectable technical and operation charges, and network nonrecurring and recurring installation, maintenance, service, and equipment charges of a service supplier providing 911 services under this act.

E911 Enhanced 911

An emergency telephone system which includes network switching, database and CPE elements capable of providing Selective Routing, Selective Transfer, Fixed Transfer, ANI, and ALI.

Final 911 Service Plan

A tentative 911 service plan that has been modified only to reflect necessary changes resulting from any exclusions of public agencies from the 911 service district of the tentative 911 service plan under section 306 and any failure of public safety agencies to be designated as PSAPs or secondary PSAPs under section 307.

First Responder

Police, fire, or medical resource that is dispatched to handle 911 calls and deliver emergency services.

GIS Geographical Informational System

A computer software system that enables one to visualize geographic aspects of a body of data. It contains the ability to translate implicit geographic data (such as street address) into an explicit map location. It has the ability to query and analyze data in order to receive the results in the form of a map. It also can be used to graphically display coordinates on a map i.e. Latitude/Longitude from a wireless 911 call.

HCAS Hybrid CAS

A combination of CAS (Call Associated Signaling) and NCAS (Non-Call Associated Signaling).

Hypertext Link

A way to connect two Internet resources via a simple word or phrase on which a user can click to start the connection and easily access cross-references.

ISDN Integrated Services Digital Network

A digital interface providing multiple channels for simultaneous functions between the network and CPE.

Internet Protocol Telephony

Blending of voice, data, and video using Internet Protocol for each across the Internet or other existing IP-based LANs and WANs, effectively collapsing three previously separate networks into one.

I2 - NENA Defined VoIP Solution

I2 routes VoIP calls into the current E911 systems and to the correct PSAP with correct ANI and ALI. I2 accommodates both stationary and nomadic users and provides MSAG valid location information and provides a method for nomadic user location either through an automated process or user input via a service prompted, web-based form or equivalent. Intended migratory path from i1.

I3 - NENA Defined VoIP Phase E911 Solution

Also referred to as Long Term, Next Generation 911. This enables end to end IP based E911 design, supporting VoIP originated call delivery and the transition of current wireline and wireless service providers to IP interface technology. Support IP mobility users, and all capabilities of I2. Utilizes extended capabilities of IP to provide location and other information with the call, as well as other sub-sets of relevant.

LRO Last Routing Option

Routing information sent by the VPC that provides a “last chance” destination for a call, for example the CRN or a routing number associated with a national call center.

Lat/Lon Latitude and Longitude

Latitude and Longitude are a coordinate system by means of which the position or location of any place on the earth’s surface can be described. Also known as x,y.

LAN Local Area Network

A transmission network encompassing a limited area, such as a single building or several buildings in close proximity.

LEC Local Exchange Carrier

A Telecommunications Carrier (TC) under the state/local Public Utilities Act that provide local exchange telecommunications services. Also known as Incumbent Local Exchange Carriers (ILECs), Alternate Local Exchange Carriers (ALECs), Competitive Local Exchange Carriers (CLECs), Competitive Access Providers (CAPs), and Local Service Providers (LSPs).

LIS Location Information Server

A Location Information Server (LIS) is a functional entity that provides locations of endpoints. A LIS can provide Location-by-Reference, or Location-by-Value, and, if the latter, in geo or civic forms. A LIS can be queried by an endpoint for its own location, or by another entity for the location of an endpoint. In either case, the LIS receives a unique identifier that represents the endpoint, for example an IP address, circuit-ID or MAC address, and returns the location (value or reference) associated with that identifier. The LIS is also the entity that provides the dereferencing service, exchanging a location reference for a location value.

LNP Local Number Portability

A process by which a telephone number may be reassigned from one Local Exchange Carrier to another.

LoST Location to Service Translation

A protocol that takes location information and a Service URN and returns a URI. Used generally for location-based call routing. In NG911, used as the protocol for the ECRF and LVF.

MSAG Master Street Address Guide

A perpetual database that contains information continuously provided by a service district that defines the geographic area of the service district and includes an alphabetical list of street names, the range of address numbers on each street, the names of each community in the service district, the emergency service zone of each service user, and the primary service answering point identification codes.

MCDCA Michigan Communication Directors Association

An organization for Public Safety Managers and Directors to support the development and management of their Public Safety Communications Centers.

Mobile Subscriber

A subscriber who uses a wireless device that can be in motion during the call. Wireless Fidelity (Wi-Fi) VoIP is expected to eventually allow the end user to take a home-based telephony connection and roam within an interconnected wireless network, much as cellular technologies allow today.

MLTS Multi-Line Telephone System

A system comprised of common control unit(s), telephone sets, control hardware and software, and adjunct systems used to support the capabilities outlined herein. This includes network and premises based systems. E.g., Centrex, VoIP, as well as PBX, Hybrid, and Key Telephone Systems (as classified by the FCC under Part 68 Requirements) and includes systems owned or leased by governmental agencies and non-profit entities, as well as for-profit businesses.

NASNA National Association of State 911 Administrators

The National Association of State 911 Administrators is a not-for-profit corporation of full time state 911 coordinators whose primary responsibility is to administer 911 programs in their respective states. NASNA members review public policy issues, federal regulations, technology issues and funding mechanisms that impact 911 delivery.

NENA National Emergency Number Association

The National Emergency Number Association is a not-for-profit corporation established in 1982 to further the goal of “One Nation—One Number.” NENA is a networking source and promotes research, planning, and training. NENA strives to educate, set standards, and provide certification programs, legislative representation, and technical assistance for implementing and managing 911 systems.

NOC Network Operations Center

A location from which the operation of a network or internet is monitored. Additionally, this center usually serves as a clearinghouse for connectivity problems and efforts to resolve those problems.

NG911 Next Generation 911

NG911 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E911 features and functions, and provide additional capabilities. NG911 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations.

Nomadic Subscriber

A subscriber who uses a device that is static during a call but does not have a static IP address assigned to it. Nomadic subscribers use Internet Service Provider (ISP) VoIP, which allows the end user to establish a telecommunications connection wherever he/she can obtain an Internet- based connection to her ISP provider.

NCAS Non Call Associated Signaling

A method for delivery of wireless 911 calls in which the Mobile Directory Number and other call associated data are passed from the Mobile Switching Center to the PSAP outside the voice path.

Phase I Wireless E911 Service

Dispatch center receives call back number of the wireless phone used to dial 911 and the location of the cell site used to handle the call.

Phase II Wireless E911 Service

Dispatch center receives specific location information of the wireless caller dialing 911, within parameters set by the Federal Communications Commission

Primary PSAP

A PSAP to which 911 calls are routed directly from the 911 Control Office. (See PSAP below.)

PBX Private Branch Exchange

A smaller version of the phone company central switching office, usually privately owned by a non-telephone business. A PBX connects to the larger telephone network for external call handling, and usually requires dialing an access digit such as 9 or 8 to make an external call.

Public Safety Agency

An entity that provides firefighting, law enforcement, emergency medical or other emergency service.

PSAP Public Safety Answering Point

A facility equipped and staffed to receive 911 calls. A Primary PSAP receives the calls directly. If the call is relayed or transferred, the next receiving PSAP is designated a Secondary PSAP.

PSTN Public Switched Telephone Network

The international telephone system based on copper wires carrying analog voice data.

Redundancy

Duplication of components, running in parallel, to increase reliability.

Relay Method

A PSAP notes pertinent information and relays it by telephone, radio, or private line to the appropriate public safety agency or other provider of emergency services that has an available emergency service unit located closest to the request for emergency service for dispatch of an emergency service unit.

Secondary PSAP Answering Point

A communications facility of a public safety agency or private safety entity that receives 911 calls by the transfer method only and generally serves as a centralized location for a particular type of emergency call.

Selective Router (Used in Legacy E911 Routing Systems, not in the UP)

The node in the emergency services network that performs enhances call routing for 911 calls. Usually operated by the LEC.

SR Selective Routing (Used in Legacy E911 Routing Systems, not in the UP)

The routing of a 911 call to the proper PSAP based upon the location of the caller.

Service Provider

An entity providing one or more of the following 911 elements: network, CPE, or database service.

Service Supplier

A person providing a telephone service or a CMRS to a service user in this state.

Service User

An exchange access facility or CMRS service customer of a service supplier within a 911 system.

SIP Session Initiation Protocol

SIP is the IP-based protocol defined in IETF RFCs 3261 and 2543. SIP is one of the two dominant messaging protocols used by the VoIP industry.

SS7/ Signaling System 7 (SS7)/Common Channel Signaling (CCS7)

CCS7 An inter-office signaling **CCS7** network separate from the voice path network, utilizing high-speed data transmission to accomplish call processing. (The Public Switched Telephone Network is in the process of upgrading from MF Signaling to SS7.)

SNC State 911 Committee

Effective at its June 24, 2008, meeting, the Emergency Telephone Service Committee changed its name to reflect current systems and technology. Its original creation and purpose remains the same.

Static Subscriber

A subscriber who uses a device that is static during a call and has a static IP address assigned to it. Static subscribers use cable and DSL VoIP, often deployed in static configurations in which the end user stays at a fixed location and uses the standard North American Numbering Plan. Examples of this service include residential landline replacements using cable or DSL connections.

Switch

Telephone company facility where subscriber lines or inter-switch trunks are joined to switching equipment for connecting subscribers to each other, locally, or long distance.

(911) System Service Provider

The entity that manages, maintains and provides various 911 elements such as ALI database, MSAG to Public Safety Answering Points. This function is often performed by the LEC.

Tariff

The rate approved by the Public Service Commission for 911 service provided by a particular service supplier. Tariff does not include a rate of a commercial mobile radio service by a particular supplier.

Telecommunicator

As used in 911, a person who is trained and employed in public safety telecommunications. The term applies to call takers, dispatchers, radio operators, data terminal operators, or any combination of such functions in a PSAP.

Tentative 911 Service Plan

A plan prepared by one or more counties for implementing a 911 system in a specified 911 service district.

TCC Text Control Centers

Nationally, the wireless carriers and their vendors are establishing a small network of TCC's to interface between carrier-originated wireless 911 text users and the PSAP environment.

Transfer Method

A PSAP transfers the 911 call directly to the appropriate public safety agency or other provider of emergency service that has an available emergency service unit located closest to the request for emergency service for dispatch of an emergency service unit.

Trunk

Typically, a communication path between central office switches, or between the 911 Control Offices and the PSAP.

Universal Emergency Number Service

Public telephone service that provides service users with the ability to reach a public safety answering point by dialing the digits "911." Also referred to as "911 Service."

Universal Emergency Number Service System

A system for providing 911 services under P.A. 80 of 1999. Also referred to as "911 System."

V-E2 An extension to the E2 ALI interface (specified in TIA J-STD-036)

V-E2 is defined by the NENA VoIP Location Working Group. V-E2 provides support for a "VoIP" class-of-service indicator in the response message from the VPC to the ALI.

VoIP Voice Over Internet Protocol

VoIP is a system for providing telephone service over the internet.

VPC VoIP Positioning Center

The application that determines the appropriate PSAP, based on the VoIP subscriber's position, returns associated routing instructions to the VoIP network, and provides the caller's location and the callback number to the PSAP through the ALI.

VoIP Provider

A generic term to describe a company that provides VoIP call services. Some VoIP providers provide direct service to the consumer (VoIP service providers). Others provide backbone and PSTN access services (VoIP carriers). Still others provide ESGW (ESGW operators). Some VoIP providers provide more than one of these Services.

WAN Wide Area Network

A network that covers a broad area (i.e., any telecommunications network that links across metropolitan, regional, or national boundaries) using private or public network transports.

Wireless

A phone system that operates locally without wires, using radio links for call transport.

Wireless Emergency Service Order

The order of the Federal Communications Commission. FCC docket No. 94-102, adopted June 12, 1996, with an effective date of October 1, 1996.

Wireless Phase I

Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rule Making (NPRM) 94-102. the delivery of a wireless 911 call with callback number and identification of the cell- sector from which the call originated. Call routing is determined by cell-sector. (April 1998.)

Wireless Phase II

Required by FCC Report and Order 96-264 pursuant to Notice of Proposed Rule Making (NPRM) 94-102. Delivery of a wireless 911 call with Phase I requirements plus location of the caller within 100 meters 67% of the time for network-based caller location systems and within 50 meters 67% of the time for handset-based location systems. (October 2001.)

Wireless Telecommunications

The family of Telecommunications services under the heading of Commercial Mobile Radio Service. Includes Cellular, Personal Communications Services (PCS), Mobile Satellite Services (MSS), and Enhanced Specialized Mobile Radio (ESMR).

Wireline

The transmission of speech or data using wired connection.