

**Attachment “C”
Option B
Technical Requirements
Public Service Commission NGCS
Request for Proposal Number 6264 Z1**

Bidders are instructed to complete a Matrix for Next Generation Core Services (NGCS). Bidders are required to describe in detail how bidder's proposed solution meets the conformance specification outlined within each Requirement. The matrix is used to document and evaluate bidder's response to the requirements.

The matrix should indicate how the bidder intends to comply with the requirement and the effort required to achieve that compliance. It is not sufficient for the bidder to simply state that it intends to meet the requirements of the RFP. PSC will consider any such response to the requirements in this RFP to be non-responsive and the bid may be rejected. The narrative should provide The Public Service Commission (PSC) with sufficient information to differentiate the bidder's business solution from other bidders' solutions. Bidder shall not refer to other sections as a response. Even if the response is an exact duplicate of a previous response, the details shall be provided in the same paragraph as the requirement. Bidder shall not include pricing information in the description and shall not refer the reader to pricing.

The bidder must ensure that the original requirement identifier and requirement description are maintained in the matrix as provided by PSC. Failure to maintain these elements may render the bid non-responsive and result in for rejection of the bidder.

The bidder's response to each of the below requirements shall include an indication on the level of compliance that can be met. (Complies, Complies Partially, Complies with Future Capability, Does Not Comply) Bidder shall respond by placing an "X" in only one checkbox per requirement. Failure to complete this process properly will be treated the same as "Does Not Comply," and may result in the rejection of the response form.

1. Complies: Bidder's proposal complies with the RFP requirements and the products/services are included in the base price, are currently developed, generally available, and successfully deployed. Responding with "Complies" or "Complies with Future Capability" shall mean the Bidder's solution meets or exceeds the requirement regardless of any comments included as additional information.
2. Complies Partially: Bidder's proposal addresses the RFP requirements through another method that currently is developed and available for implementation (i.e., shall be generally available), or the solution complies with some, but not all of the requirements. Bidder is responsible for clearly explaining how bidder's proposed solution does not fully comply.
3. Complies with Future Capability: The RFP requirements will be met with a capability delivered at a future date. This response shall include a calendar quarter and year in which the requirement will be met with a generally available product or service at no additional cost.
4. Does Not Comply: Bidder's proposal does not/cannot meet the specific RFP requirement.

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Req. Identifier	Requirement Description				
GEN-1	General Requirements - Bidder Vision of NG911 The Commission is issuing this RFP for the purpose of selecting a qualified bidder that understands and can clearly demonstrate alignment with the industry’s evolution to NENA i3 -compliant ESInet and NGCS solutions. Describe bidder’s vision of NG911 and how bidder’s vision aligns with NENA’s i3 standard, bidder’s approach to monitoring and supporting evolving standards and the bidder’s level of involvement in standards development and Industry Collaboration Events (ICE).	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

GEN-2	Proprietary Solutions and Standards 1. Describe any use of proprietary standards, interfaces, or protocols in bidder’s proposed solution. 2. Describe any patented technology in the proposed solution, who owns the patent and describe any licensing arrangements. Disclose any technological limitations, in the response. .	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

GEN-3	System and Network Architecture The Commission is seeking a Public Safety Grade Next Generation 911 System. System and network architecture, including the design and deployment of interface functions and security measures, shall comply with current NENA i3 requirements as established in NENA-STA-010.2-2016, NENA Detailed Functional and Interface Standards for the NENA i3 Solution. Describe how the solution meets or exceeds the above requirements	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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GEN-4	<p>General Requirements – Capacity- Initial Design and Deployment</p> <p>The bidder's initial design and deployment of the ESInet and NGCS elements, including all components and physical network segments, shall provide capacity that will support current and planned ESInet traffic and usage that occurs as a result of data sharing in, and between, all participating PSAPs, the Commission, and designated support agencies. Additionally, the system and network design shall allow for 50 percent traffic and usage growth for the life of the contract. All current and potential core functions and applications shall be considered, e.g., call-handling systems, CAD, logging, GIS data, streaming media, real-time text (RTT), IP traffic, traffic management systems, communications systems, and incident management systems. Describe how bidder's solution will meet or exceed the above requirements.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

GEN-5	<p>Scalable Deployment</p> <p>As the Commission migrates toward a fully compliant NG911 environment, additional PSAP functions will transition to the systems and network. The bidder's systems and network solution shall be designed and deployed in a way that is easily scalable, with the capability to grow in both capacity and coverage without disruption in service. Describe in detail how the solution meets or exceeds the above requirements.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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SEC 1	<p>Security - Cybersecurity For the purposes of this RFP, cybersecurity (security) is considered to be the established systems and processes focused on protecting computers, networks, programs, and data from unintended or unauthorized access, modification, or destruction.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Security Requirements and Standards The security requirements established in applicable standards listed in Section V.D.1. Table 1 of the RFP apply equally to all elements of the system requested in this RFP, including but not limited to components located in the following building types: 1. Data centers; 2. Network-housing structures; and, 3. Regeneration sites and other buildings housing any element or device that is part of the overall system.</p>				
	<p>Describe how the solution meets or exceeds the above requirements.</p> <p>Bidder Response:</p>				

Any additional documentation can be inserted here:

SEC 2	<p>Security - Cybersecurity Security Plan A comprehensive security plan is a critical component of the Nebraska’s NG911 network solution. Describe the security plan, including the mitigation, monitoring, alerting, and incident-response processes; and, provide information on specific hardware components and software systems incorporated in the proposed security plan. The proposed solution’s security plan is required to utilize the latest NENA specifications and incorporate the intentions of the Communications Security, Reliability and Interoperability Council (CSRIC) and Task Force on Optimal PSAP Architecture (TFOPA) best practices.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Bidder Response:</p>				

Any additional documentation can be inserted here:

SEC 3	<p>Security - Cybersecurity Security Compliance Matrix Indicate compliance with the areas outlined in NENA 75-502, NENA NG-SEC Audit Checklist. The matrix shall identify whether the bidder’s proposed solution Complies (C), Complies Partially (CP), Complies with Future Capability (CFC) or Does Not Comply (DNC), or Not Applicable (N/A) (as indicated in the NENA checklist) with the identified requirement(s) for each category included in the checklist. Bidder shall provide details to support the responses for each category in the response box below.</p>
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Category	Comply	Partially Comply	Comply with Future Capability	Does Not Comply	Not Applicable
1. Senior Management Statement					
2. Acceptable Use Policy					
3. Authentication/Password Policy					
4. Data Protection					
5. Exception Request/Risk Assessment					
6. Hiring Practices					
7. Incident Response					
8. Information Classification and Protection					
9. Physical Security					
10. Compliance Audits & Reviews					
11. Network/Firewall/Remote Access					
12. Security Enhancement Technical Upgrade					
13. Technical Solutions Standards					
14. Wireless Security					

Bidder Detailed Response:

Any additional documentation can be inserted here:

SEC 4	Security - Cybersecurity Predictive Analysis and Monitoring Describe solution's capabilities to provide predictive analysis and modeling to combat security threats.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response				

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SEC 5	Security - Cybersecurity Credentialing Process Solution shall provide a process so that devices and carriers outside the IP network shall not have credentials, per NENA-STA-010.2-2016. Provide details regarding how the solution ensures that devices and carriers outside the IP network are not provided credentials.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SEC 6	Security - Cybersecurity Third-Party Security Audits Bidder shall allow for annual third-party security audits at the request and cost of the Commission. Describe bidder’s current process for third party security audits.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SEC 7	Security - Cybersecurity Physical Security All structures outside the Commission’s control that will house components of the ESInet and NGCS shall have security and access-control systems that ensure that only duly authorized individuals can access the areas housing the Commission’s systems and network equipment. Any workstations or other equipment connected to, or capable of accessing, the ESInet and NGCS systems shall be housed in secured, access-controlled areas. Any devices, power distribution, and cross-connect panels feeding the cages or rooms housing the Commission’s systems similarly shall be protected. Identify any elements that are not under the direct control of the bidder, and a description of the building’s security and access-control systems shall be provided.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NOC/ SOC 1	<p>General Requirements – Network Operations Center (NOC)/Security Operations Center (SOC) Centralized NOC/SOC All services and components deployed and interconnected as part of the solution shall be monitored 24 hours a day, 7 days a week, 365 days a year (24 x 7 x 365) by a centralized Network Operations Center (NOC) and Security Operations Center (SOC). These functions may be in separate buildings or combined in a single building located in the continental United States.</p> <p>NOC/SOC Interoperability Contractor shall have the ability to communicate, troubleshoot and connect with other vendors NOCs should there be a different ESInet and NGCS provider. In addition the Contractor shall interface with the NOCs that support the regions throughout the state. This shall include ebonding of the ticket systems to support transparency throughout the troubleshooting process.</p> <p>NOC/SOC Operations Model Provide documentation including organizational structure and procedures that describe bidder’s</p> <ol style="list-style-type: none"> 1. NOC/SOC operations model; 2. Continuity Of Operations Plan (COOP); 3. problem and change management systems; 4. reporting system; 5. escalation plan; and, 6. conformance with best practices (Information Technology Infrastructure Library (ITIL) or equivalent methodology)) for service-delivery management. The Contractor shall confirm the requirement compliance of any interconnected network utilized by the Contractor not previously identified to the Commission. 	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 2	<p>NOC/SOC - Remote Connectivity Required Contractor shall provide any network connectivity required to support proposed NOC/SOC services. Describe any remote connectivity required by the solution including, but not limited to, Virtual Private Network (VPN), phone-home connection, and tech support remote access</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NOC/ SOC 3	<p>NOC/SOC - Network Security Monitoring and Management Security Management Solution</p> <p>The bidder’s security management solution shall control access to network resources in accordance with public safety network security best practices such as NIST, NENA and the FCC to prevent sabotage, service interruption (intentional or unintentional) and the compromise of sensitive information. Security management shall comply with security- and data-integrity standards listed in Section V.D.1. Table 1 in the RFP, to monitor users logging into network resources and to refuse access to those who enter inappropriate access codes. The proposed IP network and systems shall support standard security policies that may include the use of firewall rules, Access-Control Lists (ACLs), Virtual Local-Area Networks (VLANs), VPNs, and Transport Layer Security (TLS) protocols to control network traffic and access. The systems shall support the use of software to detect and mitigate viruses, malware, and other attack vectors. Describe how the solution meets or exceeds the above requirement.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 4	<p>NOC/SOC - Connected Systems Compliance</p> <p>Any system that connects to an IP network shall be required to comply with listed standards in Table 1, including security standards, and demonstrate compliance through an initial and recurring audit.</p> <p>A. Security Reports and Recommendations</p> <p>Contractor shall provide, within 30 days of the end of each calendar month, security summary reports and recommended improvements on a monthly basis (at a minimum), including incidents and incident response; building, facility, and network access reports, including failed attempts; and updates or changes to security systems and software. All related data shall be retained for the period of the contract and provided to the Commission electronically at the end of the contract. Describe how the solution meets or exceeds the above requirement.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 5	<p>NOC/SOC – Connected Systems Compliance</p> <p>A. Support for Similar Solutions</p> <p>Provide details concerning how bidder provides security monitoring and management for similarly deployed production solution. Provide details, including drawings, which explain how the proposed solution meets or exceeds the above requirements.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
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NOC/ SOC 6	NOC/SOC - Physical Access Monitoring and Management Physical Access Monitoring and Reporting Contractor shall track and log all physical access to structures housing IP network components serving the Commission or have the capability to obtain access logs for structures not under immediate control of the bidder. Reports may be requested and shall be made available for review upon request. All related data shall be retained for the period of the contract and provided to the Commission electronically at the end of the contract. Provide a detailed explanation of bidder's processes and procedures for logging physical access to ESInet /NGCS components, and how the bidder's solution generates the required reports.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 7	NOC/SOC - Incident Management System The bidder's incident management system shall log all support requests, both from users and those automatically generated. 1. Provide examples of monthly reports detailing tickets opened, pending, resolved, and closed. 2. Provide a matrix outlining Service Impact Levels in a detailed response, to include notification times and response times.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 8	NOC/SOC - Change Management System Change Management Review System Describe bidder's change management system and the ability to provide the Commission's program manager and designated PSAP representatives with the ability to review proposed change requests and the client approval process. The Contractor shall provide monthly reports detailing change tickets opened, pending, resolved, and closed.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
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NOC/ SOC 9	NOC/SOC - Change Management System A. Change Management Tools Provide detailed descriptions of any other tools bidder intends to use to provide access to the change management system, such as web portals and client software.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 10	NOC/SOC – Change Management System A. Change Testing and Training Environment A non-production ESInet replica, test lab, or similar system shall be established to test, and exercise proposed upgrades, third-party interfaces, and applications prior to release in live production. This system also could be leveraged for training purposes. Provide detailed descriptions of how the solution satisfies this function in the change management process.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 11	NOC/SOC – Change Management System A. Change Management Process 1. Outline bidder’s proposed change management process. The ITIL change management standard methods and procedures are preferred. 2. Include a description of the process for notifying the Commission and affected PSAPs. Notification shall be made no less than ten (10) business days in advance of the change, except in emergency situations, in which case notification shall be provided immediately. 3. Include explanation of solution’s Fault, Configuration, Accounting, Performance, and Security (FCAPS) procedures. 4. Provide a detailed explanation describing how the proposed solution meets or exceeds the requirements for the ITIL and FCAPS processes.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
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NOC/ SOC 12	NOC/SOC - Network Management System System and Network Management Software Software packages are widely available for capturing, analyzing, and reporting the network's health based on the Simple Network Management Protocol (SNMP) traffic it receives. Provide the name and description of the management software that will be implemented including all functional modules associated with it (e.g., reporting, backup, and IP address management).	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 13	NOC/SOC - NMIS Interworking with Elements and Services Provide a detailed explanation and associated drawings explaining how the proposed solution interworks with all of the various elements and services of the proposed systems and network elements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 14	NOC/SOC - NMIS - Network Event Logging System and Network Event Logging and Reporting The network management system shall capture real-time and historical tracking of network and system events, as well as event resolution of the IP network and attached systems. This is for logging errors and statistical information related to the health of the network and attached systems. Events shall include, but are not limited to, hardware (power, processor, interface cards, ports), software (operating system errors, database errors, application errors and failures), network (Quality of Service (QoS), Mean Opinion Score (MOS), jitter, latency, and packet loss)).	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	The events recorded in this section are not related to the event logging of 911 requests for service in as part of NGCS option B requirement NGCS 13 Event Logging. Describe how the solution meets or exceeds the above requirement. Bidder Response:				

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NOC/ SOC 15	NOC/SOC - NMIS - Management System Interface to Incident Management System This system should be part of, or interfaced with, the bidder's incident management system, or contain cross-reference abilities. Contractor shall maintain historical information for the term of the contract and provide copies of the data to the Commission on request, and at the end of the contract. Describe how the solution meets or exceeds the above requirement.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 16	NOC/SOC - NMIS -Interfacing Between Solutions Provide a detailed explanation and associated drawings explaining bidder's processes, tools, and procedures for interfacing with the bidder's monitoring solutions.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 17	NOC/SOC - Access to Technical Staff 1. Detail the procedures by which bidder communicates with technical personnel from participating subcontractors, the Commission, and the participating PSAPs. 2. Specify the level of assistance required from such technical personnel to resolve service-related issues.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NOC/ SOC 18	NOC/SOC - Notification Specify how the bidder's NOC informs the Commission and the affected PSAPs or their designees of problems with the network, scheduled service and maintenance outages, and upgrades. Include all methods of notification used. Notifications for scheduled maintenance or outages shall be made no less than ten (10) business days in advance, except for emergency situations in which case, notification will be given immediately. Tickets related to the services delivered to subcontractors shall be forwarded automatically. Notification shall be provided via multiple communications means to the Commission and applicable PSAPs. Entities requiring notification may change, depending on the alarm or incident. Provide a detailed explanation explaining how the solution meets or exceeds the above requirements, including the methods of communications used.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 19	NOC/SOC - Executive Dashboard Contractor shall provide a web-based executive dashboard or similar tool, providing near real-time visibility of network status displayed geographically with service impact levels color-coded. Open ticket status shall be available to users through this dashboard. Describe how the solution meets or exceeds the above requirement.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 20	NOC/SOC - Escalation Procedures 1. Outline a detailed regional-level escalation process to be used during incidents that affect service, particularly those that result in critical service outages. 2. Describe how discrepancies in the perception of service level agreement (SLA) incident levels may be escalated and addressed. These procedures shall be maintained and accessible via an online portal. This escalation notification process shall be integrated with the notification processes described above, based on the problem reported.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NOC/ SOC 21	<p>NOC/SOC -Statement on Standards for Attestation Engagement Number 16 Bidder shall demonstrate compliance with the Statement on Standards for Attestation Engagements Number 16 (SSAE 16). The applicable report from an SSAE 16 engagement is the Service Organization Controls 1 (SOC 1) report.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>1. If bidder is proposing services, provide a detailed explanation of how bidder has complied with SSAE 16 for similar solutions, and how this would be implemented with the Commission's NG911 implementation.</p> <p>2. Provide with the detailed explanation and graphical representation explaining how the solution meets or exceeds the above requirement</p>				
	Bidder Response:				

Any additional documentation can be inserted here:

NOC/ SOC 22	<p>NOC / SOC - Configuration Backup and Restoration 1. The bidder shall deploy and provide detailed descriptions of bidder and any subcontractors' capabilities to automatically or routinely back up configuration data and define the conditions under which the configuration of network elements, such as routers or switches, will be restored, and the process that will be used. A reporting process shall confirm regularly scheduled (e.g., monthly, quarterly) backup and restoration, and provide sufficient details on backup and restoration activity.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>2. Describe the bidder's abilities to perform on-demand backups, such as at the end of a successful configuration change. A reporting process shall confirm on-demand backup and restoration and provide sufficient details on backup and restoration activity.</p> <p>3. Describe bidder's COOP as it applies to the NGCS and delivery of 911 traffic via IP network to the respective host locations.</p> <p>4. Provide a detailed explanation and any associated drawings explaining how the proposed processes and procedures provide the ability to manage these configuration backup and restoration processes in a manner that has no negative impact on the total Commission ESInet and NGCS solution.</p>				
	Bidder Response:				

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NOC/ SOC 23	<p>NOC/SOC - Third-Party Management</p> <p>The Commission is seeking the optimum value provided by best-of-class products and services integrated as part of the total IP network solution. This may present a situation where no single manufacturer or supplier can provide a public safety-grade, unified NOC/SOC accountable for all components, products, and services that comprise the Commission’s total IP network solution. Consequently, the Commission may find it beneficial to have a third party provide that overarching NOC/SOC service.</p> <p>A third-party NOC/SOC provider may be responsible for functioning as an umbrella for monitoring all of the Contractor’s products and services, including collaboration with the Contractor’s NOC/SOC. To facilitate that capability, the third-party NOC/SOC shall have a view into all elements that are under SLAs. Bidder’s NOC/SOC NMIS and/or incident-tracking tools shall have the ability to perform eBonding, which enables bidirectional data synchronization.</p> <p>2. Provide a detailed narrative discussing bidders experience in providing access to third-party NOC/SOC, overarching support as well as for each of the requirements in Third-Party NOC/SOC Support below.</p>				
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In support of the Commission’s consideration of such an option, bidder shall indicate the compliance level of bidder’s experience in providing access to third-party NOC/SOC overarching support, as related to the requirements identified in the table below.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Change management processes				
Coordinating and managing trouble tickets to resolution from bidder and multiple suppliers.				
Trouble ticket report management (reports may be daily, weekly, monthly, quarterly, or yearly).				
Notification processes for bidder and suppliers, and any other entities or people designated by the Commission.				
System alarm access in the form of SNMP or syslog data.				
Experience and processes for interworking of multiple public safety data system suppliers.				

Bidder’s Detailed Response:

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SLA 1	General Operations - Service Level Agreements System Capacities and Performance 1. Provide capacity levels of each element of the IP Network This may be in terms of busy-hour calls, network bandwidth, or any other applicable measure. The proposed solution shall be capable of handling current and planned IP traffic and usage plus 50 percent capacity growth over the term of the contract. 2. Specify lead times required to increase capacities on each element of the IP network.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SLA 2	Service Level Agreements - System Performance Network Latency Specify the guaranteed maximum latency across the backbone network under a full-load condition, and include how that information will be gathered, calculated and provided to the Commission and the affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SLA 3	Service Level Agreements - System Performance Point of Presence (POP) to POP Specify the guaranteed maximum latency from interconnection facility to interconnection facility, and include how that information will be gathered, calculated and provided to the Commission and the affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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SLA 4	Service Level Agreements - System Performance POP to Endpoints Specify the guaranteed maximum latency from interconnection facilities to the network interface device located at the entrance to the hosts' premises, and include how that information will be gathered, calculated and provided to the Commission and the affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 5	Service Level Agreements - System Performance Mean Opinion Score (MOS) Bidder shall guarantee, in the response, a consistent MOS of 4.0 or better across all network links transporting media streams from interconnection facilities to the network interface device located at the entrance to the hosts' premises, and include how that information will be gathered, calculated and provided to the Commission and affected PSAPs monthly or as requested. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 6	Service Level Agreements - System Performance Packet Loss Specify the guaranteed maximum end-to-end packet loss across the network. This specification also shall include any loss characteristics associated with another carrier's network or any applicable wireless links, including how that information will be gathered, calculated and provided to the Commission and affected PSAPs monthly or as requested.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 7	Service Level Agreements - System Performance Network Latency Specify the guaranteed maximum end-to-end network latency across the network. This specification also shall include any latency associated with another carrier's network or any applicable wireless links, including how that information will be gathered, calculated and provided to the Commission and affected PSAPs monthly or as requested.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
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Any additional documentation can be inserted here

SLA 8	Service Level Agreements - System Performance Jitter Specify the guaranteed maximum end-to-end jitter across the network. This specification also shall include any jitter characteristics associated with another carrier’s network or any applicable wireless links, including how that information will be gathered, calculated and provided to the Commission and affected PSAPs monthly or as requested.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 9	Service Level Agreements - System Performance Network Traffic Convergence Specify convergence protocols and the estimated or guaranteed network convergence time (less than 54 ms) of IP traffic at any point within the proposed solution, including how convergence information will be gathered, calculated and provided to the Commission and affected PSAPs monthly or as requested.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 10	Service Level Agreements - System Performance Mean Time to Repair (MTTR) Specify the MTTR characteristics of the proposed solution. These specifications shall reflect the end-to-end solution, as well as components or subsystems that are subject to failure. Include how MTTR information will be gathered, calculated and provided to the Commission and affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 11	Service Level Agreements - System Performance Mean Time Between Failures (MTBF) Specify the MTBF characteristics of the proposed solution. These specifications shall reflect the end-to-end solution, as well as components or subsystems that are subject to failure. Include how MTBF information will be gathered, calculated and provided to the Commission and affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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Any additional documentation can be inserted here

SLA 12	Service Level Agreements - System Performance Network Reliability Network reliability is defined as the ability for system end-points to effectively communicate with each other, and all associated data and information is exchanged in usable formats. An IP-based network looks at reliability as an overall redundancy design, rather than component by component.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Specify in the response the overall reliability service level of the IP network, including all bidder-provided components and facilities.				
	Bidder Response:				

Any additional documentation can be inserted here

SLA 13	Network Availability 1. Specify the service level offered as a percentage of time when the service is available, and the maximum period of total outage before remedies are activated. Availability is defined as MTBF/(MTBF+MTTR). 2. Include how system availability information will be gathered, calculated and provided to the Commission and affected PSAPs.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 14	Service Level Agreements - System Performance End-of-Support Equipment Contractor shall proactively replace, at Contractor’s expense, any hardware that has reached end of support (EOS) no later than 90 calendar days prior to the manufacturer’s EOS date. All equipment must be new and of current manufacture, not refurbished. Describe your procedures for End-of-Support Equipment.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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SLA 15	<p>Service Level Agreements – SLAs for Incident Management</p> <p>The Commission requires the Contractor to establish processes and procedures for supporting a NOC/SOC that can rapidly triage and manage reported network incidents. Bidder shall develop an ITIL compliant severity-level scale that includes levels one through four, with level one being the most severe incident. The top two levels shall capture all incidents affecting the level of service of one or more end-points. Include a description of incident severity-level attributes, including response and resolution times for each severity level, and how response and resolution times are measured.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 16	<p>Service Level Agreements – Outage Notification and Reason for Outage (RFO) Report</p> <p>Outage Summary and Lessons Learned</p> <p>Provide a summary of FCC reportable outage situations that interrupted 911 service to bidder’s clients over the past three years, where 911 calls were not delivered or not delivered to the appropriate PSAP as a result of the issue. The response shall include the deployment type (legacy, ESInet, and NGCS), month, year, duration, number of PSAPs or population impacted, number of PSAPs or population served by the impacted system, impacted system, and lessons learned from each outage.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Regulatory Compliance</p> <p>Contractor shall comply with all applicable local, state, and federal outage and notification rules throughout the term of the contract.</p>				
Bidder Response:					

Any additional documentation can be inserted here

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SLA 17	Service Level Agreements – Outage Notification and Reason for Outage (RFO) Report Outage Notification Contractor shall notify the Commission and affected PSAPs within a maximum 30 minutes of discovering an event or outage that may impact 911 services. All events that meet criteria for local, state, or federal reporting shall also be completed by the Contractor. At the time of initial notification, the Contractor shall convey all available information that may be useful in mitigating the effects of the event or outage, as well as a name, telephone number, ticket or reference number, and email address at which the service provider can be reached for follow-up. The Contractor is responsible for coordinating data gathering, troubleshooting and reporting on behalf of bidder’s subcontractors. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 18	Service Level Agreements – Outage Notification and Reason for Outage (RFO) Report Status Updates The Contractor shall communicate any updated status information to the Commission and affected PSAPs no later than two hours after the initial contact, and at intervals no greater than two hours thereafter until normal 911 service is restored. This information shall include the nature of the outage, the best-known cause, the geographic scope of the outage, the estimated time for repairs, and any other information that may be useful to the management of the affected operations. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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SLA 19	Service Level Agreements – Outage Notification and Reason for Outage (RFO) Report Reason For Outage (RFO) Reporting Following the restoration of normal 911 service, Contractor shall provide a preliminary RFO report to the Commission and affected PSAPs no later than three (3) calendar days after discovering the outage. An in-depth RFO report, including a detailed root-cause analysis, shall be provided to the Commission and affected PSAPs no later than ten (10) calendar days after discovering an outage. 1. Describe how bidder will comply with the notification and reporting requirements above. 2. Describe the NOC/SOC tools and techniques at bidder's disposal to ensure that bidder's various subcontractor perform troubleshooting and post-event analysis and provide associated reports.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

SLA 20	Service Level Agreements – Outage Notification and Reason for Outage (RFO) Report PSAP Notifications Outage notifications and follow-up analysis of outages are a critical element to understanding overall system health and preventing future service interruptions. Having awareness of issues that exist in a neighboring PSAP provides valuable insight into potential issues that may begin impacting another PSAP's operations. The Commission is seeking an outage notification service that allows for each PSAP to elect the outage notification types and PSAPs for which it will receive outage notifications, outage updates and RFO reports. A web portal for authorized users to select/deselect outage notifications is required. Provide a detailed description of how bidder will support such an outage notification service.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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SLA 21	<p>Service Level Agreements – Media Contact 1. Contractor shall provide a 24 x 7 spokesperson who will be available for media contact regarding ANY outage of 911 service due to any failure of 911 call delivery to the Commission’s host equipment and to the affected PSAPs.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Government & Regulatory Contact 2. Contractor shall provide a 24 x 7 representative who will be available for government and regulatory contact regarding ANY outage of 911 service due to any failure of 911 call delivery to the Commission’s host equipment and to the affected PSAPs</p> <p>Describe bidder’s experience in providing both a Media Contact and Government & Regulatory Contact for similar contracts.</p> <p>Bidder Response:</p>				

Any additional documentation can be inserted here

SLA 22	<p>Service Level Agreements – SLA Violations An SLA violation shall have occurred whenever: A. The Contractor fails to meet any single performance level; or, B. The average of any single performance item over the preceding two-month period fails to meet the service level stated in response to requirements SLA 1 through SLA 21. Contractor shall deliver an SLA violations report to the Commission on a monthly basis.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>SLA Reporting Provide a detailed description of how bidder measures and reports incidents, including immediate notifications and regularly scheduled reports. SLA results shall be delivered to the Commission on the 10th business day of the month. The report shall include all performance items identified in the bidder’s proposal and documented in contract negotiations.</p> <p>Bidder Response:</p>				

Any additional documentation can be inserted here

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SLA 23	<p>Service Level Agreements – SLA Violation Financial Remedies</p> <p>Contractor shall provide financial remedies to the Commission for each event in which service levels are not maintained. The Commission requires that all of the Contractor’s network facilities, devices, and services will be measured on a rolling, 12-month calendar. Failure to meet SLAs shall be measured per service-affecting outage. Financial remedies shall be assessed for failure to meet SLAs.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>For service-affecting incidents, a 10 percent (10%) discount shall be assessed against the Monthly Recurring Charge (MRC) applicable to the source of the failure, whenever the initial period of resolution is exceeded. If the resolution period length of time doubles, then the discount shall increase to 20 percent of the MRC. If the resolution period length of time quadruples the initial period, then 50 percent of the MRC shall be assessed. The amount related to the damages is to be credited to the invoice for the month immediately following the violation. Bidder shall include how uptime information will be gathered, analyzed and provided to the Commission.</p>				
Bidder Response:					

Any additional documentation can be inserted here

Operational Scenarios

Safeguards shall be established to minimize the impact of human or system error. Describe bidder’s risk-mitigation and issue-resolution strategies for the following hypothetical scenarios:

GEN SCEN 1	<p>Scenario 1</p> <p>At 0300 hours, a series of SBC alarms previously unseen by the NOC staff on duty begin to increase in volume and frequency. At 0330, multiple critical alarms are received. At 0345, a few PSAPs start reporting garbled audio while others report an inability to obtain location information. At 0600, some PSAPs are reporting that they have not received a call in the last 15 minutes.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Bidder Response:</p>				

Any additional documentation can be inserted here

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GEN SCEN 2	<p>Scenario 2 All originating service providers in the state are connected directly via Signaling System Number 7 (SS7) protocol to the bidder’s LNGs that serve the PSAPs in Nebraska, as well as others outside the Commission’s footprint. Each LNG consistently processes about 10,000 calls per day, but each is capable of processing in excess of 100,000 calls per day. One of the LNGs experiences a catastrophic failure and is unable to process any calls. In a review of the prior day’s logs, it is found that the two surviving LNGs only are processing 2,000 calls each.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

GEN SCEN 3	<p>Scenario 3 As part of normal data-maintenance procedures, the bidder has uploaded six minor recent changes. The bidder’s Quality Assurance/Quality Integrity (QA/QI) process provides a discrepancy report detailing 15,000 errors resulting from the updated file.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

GEN SCEN 4	<p>Scenario 4 At 0700, the NOC has received an alarm reporting loss of connectivity for a single path to PSAP A. At 0705, the NOC contacts PSAP A to confirm the loss of connectivity. The PSAP has found that the link lights are off, but the system appears to be operational. At 0725, the redundant link appears to be bouncing for PSAP A. At 0900, the PSAP is reporting a decrease in typical call volume.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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PM 1	Project Management and Ongoing Client Management Services Project Management Methodology 1. Describe bidder’s project management methodology and support structure. 2. Describe the daily, weekly, and monthly interactions during the migration. 3. Include a proposed high-level project plan. 4. Include a schedule for the through implementation of this project.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

PM 2	Project Management and Ongoing Client Management Services Post-Deployment Client Management Describe the post-deployment client management service, including client management reports, executive briefings and the fielding of ad hoc support requests.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

TRN 1	General Requirements – Training Comprehensive Training Contractor shall provide comprehensive training to designated Commission representatives responsible for varying layers of network/system monitoring and system maintenance. Describe bidder’s training program for system implementation and ongoing operation and maintenance, including but not limited to the following topics: 1. user-configurable elements; 2. NOC/SOC procedures; 3. escalations; 4. trouble reporting; 5. help desk portal; 6. executive dashboard; and, 7. service monitoring tools. Training shall be available at the user level and delivered to the PSC and each region (up to 10) and also the train-the-trainer level (up to 25 individuals).	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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TRN 2	<p>General Requirements – Training Attendees and Curriculum</p> <p>1. Describe the number and types of attendees required to attend training, training curriculum, number of training attendees included in the proposed price, and the duration of the training program per attendee (expressed in hours per day and number of days), as well as the location of the training and whether such training is available online or onsite. Preference is given to training that can be conducted in an onsite setting for attendees.</p> <p>2. Provide Examples of the proposed training plans.</p> <p>3. Provide a sample of the training materials to be used. Training classes shall be recorded for future reference and training of new Commission and PSAP employees.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SRAR 1	<p>General Requirements – Service, Repair and Advance Replacement</p> <p>The Commission shall not be responsible for the replacement and maintenance of hardware and software required to provide the NGCS or ESInet connectivity provided as part of the bidder’s solution. The Contractor shall resolve all faults or malfunctions at no additional cost to the Commission.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	<p>Support Maintenance</p> <p>1. Describe in detail bidder’s 24 x 7 x 365 maintenance support for the life of the contract.</p> <p>2. Describe bidder’s understanding of public safety maintenance windows and associated notification processes.</p> <p>3. Describe bidder’s problem resolution and change management processes, the supporting systems, and adherence to best practices, such as those described in the ITIL version 3 or most current version.</p>				
Bidder Response:					

Any additional documentation can be inserted here:

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SRP 1	General Requirements – Software Release Policy Scheduled Releases Frequency of Scheduled Releases 1. Describe the frequency of scheduled software releases, the feature release testing process, and the decision-making processes involved in deciding what features and defect resolutions to include in a scheduled release. 2. Include a current roadmap of feature updates and additions with projected release by quarter and year.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SRP 2	General Requirements – Software Release Policy Maintenance Releases Describe the frequency of defect-resolution software releases, as well as the decision-making processes involved in selecting which software defects to fix.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

SRP 3	General Requirements – Software Release Policy Test Environment Prior to install of new releases, bidder shall explain how Contractor replicates the production environment for software release testing to provide assurances that future software releases will not negatively impact PSAP operations.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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SRP 4	General Requirements – Software Release Policy Access to Defect Tracking System Contractor shall provide the Commission with access to the Contractor's defect tracking system for the Commission to track the progress of defect resolutions.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Software Defect Tracking Process Provide a detailed description of the software defect tracking process and describe how bidder will provide training for no more than ten (10) people to Commission staff prior to Final Acceptance Testing.				
	Bidder Response:				

Any additional documentation can be inserted here:

SRP 5	General Requirements – Software Release Policy Software Defect Aging Describe how service-affecting software defects are aged. If minor problems (from the Contractor's perspective) are not identified and resolved immediately, these minor problems can become major or critical problems. Describe in detail how/when this minor problem gets scheduled or automatically escalated, and the feedback mechanism in place for keeping the Commission informed.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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DOC 1	<p>General Requirements – Documentation The Contractor shall provide the Commission with all pertinent documentation for the ESInet and/or NGCS connectivity provided as part of the Contractor’s solution as implemented, No more than 30 days after completion of the network construction, and update the Commission as configurations change over the term of the contract. The required documentation shall include the following:</p> <ol style="list-style-type: none"> 1. Detailed project plan; 2. Escalation procedures; 3. Circuit identification; 4. Single points of failure; 5. Network path diversity drawings into each PSAP; 6. Network path diversity drawings into each non-PSAP site or structure housing any element or device that is part of the overall system; 7. PSAP backroom as-built drawings; 8. PSAP demarcation point drawings; and, 9. All user interface training and reference materials. <p>Network As-Built Documentation Upon implementation, Contractor shall provide a network or solution diagram that clearly depicts the Contractor’s solution as implemented.</p> <p>The Contractor shall provide all documentation in agreed-upon electronic format via a Contractor-hosted web portal. Please describe how bidder’s solution meets or exceeds this requirement.</p> <p>Bidder Response:</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply

Any additional documentation can be inserted here:

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	Next Generation Core Services Elements (NGCS)	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
NGCS 1	<p>Provide a network or solution diagram that clearly depicts the bidder's proposed transitional and end state for the Commission's ESInet and NGCS, taking into account the hosts and PSAPs listed in Attachment A - PSAP Host End-Point Locations. The following functional elements and services shall be included:</p> <ul style="list-style-type: none"> a. Originating Service Provider (OSP) Connectivity; b. Legacy Network Gateway (LNG); c. Border Control Function (BCF); d. Emergency Services Routing Proxy (ESRP); e. Policy Routing Function (PRF); f. Emergency Call Routing Function (ECRF); g. Location Validation Function (LVF); h. Spatial Interface (SI); i. Location Database (LDB); j. Discrepancy Reporting; k. Logging and Recording; l. Time Server; m. Alarm Integration; and, n. Message Session Relay Protocol (MSRP). <p>Originating Service Provider (OSP) Connectivity Due Authorization Bidder shall possess a certificate of public necessity to operate as a telecommunications provider in the state of Nebraska. The Contractor shall provide a copy of current certificate of public necessity prior to award of contract.</p> <p>Identification of Service Providers Connected to the Legacy Selective Router Contractor shall be responsible for identifying and for connecting all wireline, wireless, Voice over IP (VoIP), telematics, and other third-party service providers currently connected to the existing legacy selective router. Contractor shall be responsible for updating this information quarterly for the term of the contract. Bidder shall identify each service provider that will be utilized by Contractor.</p>				
	Bidder Response:				

Any additional documentation can be inserted here

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NGCS 2	<p>Next Generation Core Services Elements (NGCS) Interconnection and Commercial Agreements, and Trunking Originating Service Provider (OSP) Connectivity</p> <p>Contractor shall be responsible for negotiating interconnection or commercial agreements, and for data and network connection arrangements with each service provider identified in requirement NGCS 1. Interconnection or commercial agreements shall cover subjects including, but not limited to, split rate centers and cell sectors, tandem-to-tandem connections to legacy selective routers and NGCS, Local Number Portability (LNP), National Number Portability (NNP), and Function of Code R (FoCR). Describe the process and provide timelines for meeting the requirements of this section, as well as the expected process for resolution of disputes.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 3	<p>Next Generation Core Services Elements (NGCS) Originating Service Provider (OSP) Connectivity Management of OSP Connectivity</p> <p>Contractor shall be responsible for managing moves, adds, changes, and deletions of the connections from the OSPs to the Contractor’s systems for the term of the contract. Contractor shall allow for both Time-Division Multiplexing (TDM) and IP ingress to the network, proactively monitor these connections, and work with the respective service providers to resolve problems as they arise. Describe the process and provide timelines for meeting these requirements.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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NGCS 4	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) LNG Description The LNG is a signaling and media interconnection point between callers in legacy call-originating networks, i.e., Enhanced 911 (E911), and the NENA NG911 i3 architecture. The LNG shall log all calls it receives and processes and shall permit the uploading of daily log files to a network monitoring and management system for analysis. The LNG shall allow for ad hoc uploads of log files for troubleshooting and incident response. All call activity on both the legacy side (TDM) and the IP side of the LNG shall be logged. The LNG shall have Intrusion Detection System (IDS)/ Intrusion Prevention System (IPS) functionality to detect and mitigate Distributed Denial of Services (DDoS) attacks from both the TDM side and the IP side. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

NGCS 5	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Contractor shall provide redundant, resilient LNGs with legacy selective router gateway (LSRG) functionality to allow the legacy selective routers to transfer calls with Automatic Number Identification (ANI) and Automatic Location Identification (ALI) information to deployed NGCS and vice versa. Legacy functionality and components shall be in place and operational during the NG911 transitional phase until all 911 authorities and PSAPs served by the legacy selective router have completed the transition.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Describe the steps bidder will take to meet the transition timelines and minimize overlapping network costs.				
Bidder Response:					

Any additional documentation can be inserted here

NGCS 6	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Previous Work on Similar Solutions 1. Explain how bidder has worked with legacy OSPs with similar solutions on similar projects. 2. Submit specific plans for working with established legacy 911 service providers in Nebraska.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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NGCS 7	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Traffic Engineering Process Describe the process that will be utilized to analyze the current trunk engineering for 911 traffic, and to validate any applicable trunk rebalancing for public-safety grade service.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 8	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Location Information The LNG shall obtain location information to define, create, populate and send the correct Presence Information Data Format Location Object (PIDF-LO) parameter to the correct ESRP or terminating PSAP, as described within NENA-STA-010.2-2016. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

NGCS 9	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Location Information The LNG shall obtain location information to define, create, populate and send the correct Presence Information Data Format Location Object (PIDF-LO) parameter to the correct ESRP or terminating PSAP, as described within NENA-STA-010.2-2016. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NGCS 10	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Protocol Conversion External Interfaces	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	The LNG external interfaces shall comply with NENA-STA-010.2-2016, requirements SLA 1-23, and other applicable standards and requirements. Describe how the solution meets or exceeds the above requirements.				
	Bidder Response:				

NGCS 11	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Baudot Code Transcoding	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	The bidder's BCF solution shall support transcoding of Baudot tones to real-time text (RTT), as described in IETF RFC 4103. Describe how the solution meets or exceeds the above requirements.				
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 12	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Callback Number	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	The LNG shall support obtaining the callback number associated with any pseudo ANI data that does not include the callback number. This may require the Contractor to obtain the callback number from the wireless or VoIP provider and may include additional recurring and non-recurring costs that are independent of this RFP. The Contractor shall be responsible for all recurring and non-recurring costs associated with this requirement. Describe how the solution meets or exceeds the above requirements.				
	Bidder Response:				

Any additional documentation can be inserted here

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NGCS 13	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Event Logging The LNG shall facilitate logging of all significant events and 911 calls received and processed. Each call log shall contain all relevant parameters defined in Section 5.13.3 of NENA-STA-010.2-2016. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 14	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Extraction of Log Files All LNG log files shall be capable of being extracted in near real-time and shall be in a format suitable for importing into a spreadsheet or word-processing program. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 15	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) High-Availability Design The LNG solution shall be deployed in a high-availability design to meet public safety-grade resiliency and redundancy requirements, Section V.D.1.b. (General Requirements – Technical – Public Safety Grade). Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 16	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Legacy Selective Router Gateway (LSRG) Functionality The LSRG functionality shall support selective transfer, commonly referred to as “star code” transfers, made by legacy PSAPs for calls destined for the NextGen911 PSAPs or to neighboring legacy PSAPs outside of the ESnet. Describe how bidder’s LNG solution provides for LSRG functionality.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

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NGCS 17	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Proposed LNG Locations Provide the proposed locations for hosting the primary LNGs for the NextGen911 system, including the data center tier level for the host sites.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 18	Next Generation Core Services Elements (NGCS) Legacy Network Gateway (LNG) Charges for Dual Service The bidder shall be responsible for meeting the timelines outlined above in requirement NGCS 2 and 3. If the transition from the legacy selective routers to NGCS exceeds the committed timeline, and is attributable to the acts or omissions of the Contractor, the Contractor will accept responsibility for financial support of the legacy network until such time as the full transition is complete. Describe how bidder's solution meets this requirement.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) BCF Description	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
NGCS 19	<p>The BCF shall provide logical network security functions between external networks and the ESInet, and between the ESInet and PSAP networks. The BCF is responsible for numerous functions, including the following:</p> <ul style="list-style-type: none"> a. Border firewall; b. VPN; c. IDS/IPS; d. Session Border Control (SBC); e. Opening and closing of pinholes; f. Limiting access to critical components through the use of VLANs; g. Call admission control; h. Media transcoding; i. Signaling protocol normalization and interworking; j. Network Address Translation (NAT); k. Codec negotiation; l. Support for QoS and priority markings; and, m. Media proxy. <p>Provide details, including drawings, describing how the proposed BCF meets or exceeds all functions listed above and the requirements described in NENA-STA-010.2-2016, as well as additional firewall requirements described in NENA 04-503, NENA-INF-015.1-2016, and NENA 75-001, or the next subsequent version of the NENA documents listed that are publicly available at the proposal release date.</p>				
Bidder Response:					

Any additional documentation can be inserted here

	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) High-Availability Design	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
NGCS 20	<p>The BCF solution shall be deployed in a manner to achieve 99.999 percent availability. Describe how the solution meets or exceeds the above requirements.</p>				
Bidder Response:					

Any additional documentation can be inserted here

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NGCS 21	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) Auditing of System Log Files Management of the BCF shall include continuous auditing of the system log files for anomalies, and processes for responding to and managing security incidents. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here

NGCS 22	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) Silence Suppression Detection The BCF shall be capable of detecting when silence suppression is present in the 911 call and of disabling silence suppression if it is detected in the call. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 23	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) SIP Call Mediation The BCF shall mediate all incoming 911 calls from VoIP providers to Session Initiation Protocol (SIP) calls and should be done in accordance with NENA-STA-010.2-2016. Any specific variations or non-compliance with this requirement shall be identified and documented below. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 24	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) Event Logging The BCF shall provide the functionality to maintain logs of all 911 sessions and all additional BCF logging and recording requirements, as specified in NENA-STA-010.2-2016. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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Any additional documentation can be inserted here:

NGCS 25	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) NAT/NAPT Detection and Mediation Provide details on how the proposed Session Border Control (SBC) will recognize that a Network Address Translation (NAT) or Network Address and Port Translation (NAPT) has been performed on Open Systems Interconnection (OSI) Layer 3, but not above, and correct the signaling message for SIP.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 26	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) IPv4/IPv6 Interworking Provide details on how the proposed SBC shall enable interworking between networks utilizing IPv4 and IPv6 through the use of dual stacks, selectable for each SBC interface, based on NENA-STA-010.2-2016. All valid IPv4 addresses and parameters shall be translated to/from the equivalent IPv6 values.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 27	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) SIP Support Over Multiple Protocols Provide details on how the proposed SBC shall support SIP over the following protocols: 1. Transmission Control Protocol (TCP), 2. User Datagram Protocol (UDP), 3. Transport Layer Security over TCP (TLS-over-TCP), and 4. Stream Control Transmission Protocol (SCTP). Protocols supported shall be selectable for each SBC interface to external systems. These transport layer protocols are generated and terminated at each interface to external systems.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 28	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) Packet Prioritization Based on Session Type Provide details on how the proposed SBC shall be capable of populating the Layer 3 headers, based on call/session type (e.g., 911 calls) in order to facilitate priority routing of the packets.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 29	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) Encryption of Unencrypted Calls Provide details on how the proposed SBC supports encryption for calls that are not protected entering the ESInet, based on NENA-STA-010.2-2016.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 30	Next Generation Core Services Elements (NGCS) Border Control Function (BCF) BCF Elements 1. Provide details, including drawings, describing the different BCF elements that the proposed solution comprises. 2. As part of the details, identify all of the elements and/or interfaces to be provided by the Commission and/or PSAPs to the bidder.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 31	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) ESRP Description The ESRP routes a call to the next hop. It also evaluates the originating policy rules set for the queue the call arrives on, extracts the location of the caller from the SIP signaling, queries the Emergency Call Routing Function (ECRF) for the nominal next-hop route, evaluates the route based on policy rules and queue states of the downstream entity queues, and then forwards the call to the resulting next hop. Bidder’s proposed ESRP must meet or exceed NENA-STA-010.2-2016. Describe how the proposed solution meets or exceeds the standards.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 32	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) Transition to Geospatial Routing Bidder understands that all PSAPs and regions may not be ready for geospatial routing on day one of operations and shall provide tabular routing services, also known as Internet Protocol Selective Routing (IPSR), until such time as PSAPs and regions are ready for geospatial routing. In bidder’s separate cost proposal response, indicate the pricing difference between tabular and geospatial routing. Describe the process for transitioning each PSAP or region from tabular routing to geospatial routing as PSAP’s becomes ready and the manner in which the solution provides for routing by both means simultaneously.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 33	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) Policy Routing Function (PRF) Description The PRF is a required function of the ESRP. The ESRP interacts with the PRF to determine the next hop of a call or event. Before the ESRP sends the call to the next hop, it first queries the PRF to check the status of the next hop to determine if a unique routing rule or policy is in place that would direct the call to another location. The destination of the next hop is typically a queue. The PRF monitors the downstream queues of ESRPs for active understanding of the entity’s queue status. Describe how the solution meets or exceeds the standards.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 34	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) PRF Policy Store and User Interface The PRF shall allow defining of policy rules for distributing a wide range of calls in an efficient manner. 1. Describe the solution’s Policy Store and the PSAP’s ability to effect changes to the PRF. 2. Describe the user interface, role-based authentication, the ability of each PSAP or region to manage PSAP’s own policy rules, and the types of policy rules available at the time of proposal submission, as well as those on the product roadmap. Roadmap items must include an estimated time of feature availability.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 35	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) Next-Hop Queues A next-hop queue may be a Uniform Resource Identifier (URI) that routes the call to an interactive multimedia response system (as described in IETF RFC 4240) that plays an announcement (in the media negotiated by the caller) and potentially accepts responses via Dual-Tone Multi-Frequency (DTMF) signaling or other interaction protocols. Describe how the bidder’s solution implements next-hop queueing.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 36	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) High-Availability Design The ESRP/PRF solution shall be designed with resiliency and redundancy to provide a minimum of 99.999 percent availability. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 37	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) Keep-Alive Signaling Between Elements Provide an explanation of how the proposed ESRPs use the SIP “options” transactions for maintaining “keep -alive” signaling between ESRPs, LNGs, Legacy PSAP Gateways (LPGs) and session recording services.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 38	Next Generation Core Services Elements (NGCS) Emergency Service Routing Proxy (ESRP) and Policy Routing Function (PRF) TCP/TLS Implementation The upstream interface on the proposed non-originating ESRPs shall implement Transmission Control Protocol/Transmission Layer Security (TCP/TLS), but shall be capable of fallback to UDP, as described in NENA-STA-010.2-2016. Stream Control Transmission Protocol (SCTP) support is optional. The ESRP shall maintain persistent TCP and TLS connections to the downstream ESRPs or User Agents (UA) that it serves.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Provide detailed documentation describing how the non-originating ESRP interface supports TCP/TLS with fallback to UDP. Bidder Response:				

Any additional documentation can be inserted here:

NGCS 39	Next Generation Core Services Elements (NGCS) NENA Compliance Chart Provide a description of how the proposed ESRPs meet or exceed all functional requirements below as defined in NENA-STA-010.2-2016, which are listed below.				
	Bidder Response:				

Any additional documentation can be inserted here:

	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Overview Section 5.2.1.1				
Call Queueing Section 5.2.1.2				

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Queue State Event Package Section 5.2.1.3				
De-queue Registration Event Package Section 5.2.1.				
Policy Routing Function Section 5.2.1.5				
ESRP Notify Event Package Section 5.2.1.6				
INVITE Transaction Processing Section 5.2.1.7				
BYE Transaction Processing Section 5.2.1.8				
CANCEL Transaction Processing Section 5.2.1.9				
OPTIONS Transaction Processing Section 5.2.1.10				
Upstream Call Interface Section 5.2.2.1				
Downstream Call Interface Section 5.2.2.2				
ECRF Interface Section 5.2.2.3				
Location Information Server (LIS) Dereference Interface Section 5.2.2.4				
Additional Data Interfaces Section 5.2.2.5				
ESRP, PSAP, Call-Taker State Notification and Subscriptions Section 5.2.2.6				
Time Interface Section 5.2.2.7				
Logging Interface Section 5.2.2.8				
Data Structures Section 5.2.3				
Policy Elements Section 5.2.4				
Provisioning Section 5.2.5				

NGCS 40	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Describe how the ECRF interfaces with other ECRF solutions which may interface with the bidder's solution. Awarded Contractor shall coordinate with other ECRF solution providers to ensure interoperability between the respective solutions.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 41	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) ECRF Description The ECRF shall be designed according to NENA-STA-010.2-2016 and be implemented using diverse, reliable and secure IP connections. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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Any additional documentation can be inserted here:

NGCS 42	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) High-Availability Design Bidder shall supply an ECRF function that meets a minimum of 99.999 percent availability. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Bidder Response:					

Any additional documentation can be inserted here:

NGCS 43	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Accessibility by Outside Functional Elements Contractors providing an ECRF shall ensure that it is accessible from outside the ESInet and that the ECRF permits querying by an IP client/endpoint, an LNG, an ESRP in a next-generation emergency services network, or by some combination of these functions. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Bidder Response:					

Any additional documentation can be inserted here:

NGCS 44	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Accessibility Inside the ESInet Contractor shall provide an ECRF accessible inside an ESInet, which shall permit querying from any PSAP (or future entity authorized to connect to the ESInet) inside the ESInet. ECRFs provided by other entities may have their own policies regarding who may query them. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Bidder Response:					

Any additional documentation can be inserted here:

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NGCS 45	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Origination Network ECRF An origination network may use an ECRF, or a similar function within its own network, to determine an appropriate route—equivalent to what would be determined by the authoritative ECRF—to the correct ESInet for the emergency call. Describe the functionality of such an ECRF equivalent and document where this functional element resides within the proposed solution.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 46	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Routing Query Interface The ECRF shall support a routing query interface that can be used by an endpoint, ESRP or PSAP to request location-based routing information from the ECRF. Additionally, it shall support both iterative and recursive queries to external ECRF sources. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 47	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) LoST Protocol Support The ECRF shall interface with the Location-to-Service Translation (LoST) protocol (as described in IETF RFC 5222) and support LoST queries via the ESRP, PSAP CHE, or any other permitted IP host. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 48	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Query Rate-Limiting The proposed ECRF shall allow for rate-limiting queries from sources other than the proposed ESRP(s), and provide logging of all connections, connection attempts, and LoST transactions. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 49	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Supported Functions The ECRF shall support each of the following items. Describe how the solution meets or exceeds each of the requirements below:	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Logging of all connections, connection attempts, data updates, ECRF query results, and LoST transactions				
Location error correction.				
Updates from the SI in near real-time with no degradation of LoST services				
Routing of calls based on geographic coordinates, geodetic shapes, and civic addresses				
Utilization of common GIS boundaries, including, but not limited to, PSAP, law enforcement, fire and emergency medical services (EMS).				
Permitting of LoST queries for find service request association with each layer.				
Compliance with NENA 02-010 and NENA 02-014.				
Dynamic updates to GIS without disruption of the ECRF.				
Validation of GIS updates before they are provisioned into the ECRF.				

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NGCS 50	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) User Interface and Provisioning Define bidder’s method for: 1. provisioning the ECRF; 2. updating the ECRF (including the frequency of updates); 3. validating data provisioning; 4. performing error logging; 5. performing gap and overlap analysis; and 6. supporting LoST queries from ESRPs, the PSAP CHE, and other authorized hosts within the ESInet. 7. Provide a clear description of the functionality of the ECRF; list features and capabilities; 8. describe the error handling, default mechanisms, and logging; and 9. provide an overview of deployment recommendations to achieve 99.999 percent reliability.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 51	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Hierarchical Integration with Other ECRFs The ESInet will be part of an overall hierarchical plan that includes interconnectivity to other regions and ECRFs. Provide details regarding bidder’s vision for how this interconnection will include replicas of ECRF/LVF at different levels of the hierarchy, as well as access/origination networks.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 52	Next Generation Core Services Elements (NGCS) Emergency Call Routing Function (ECRF) Forest Guide Provide explanations of any tradeoffs between aggregations of data at higher-level ECRFs versus the use of Forest Guides (as defined in NENA-INF-009.1-2014) to refer requests between ECRFs that possess different levels of data. As part of that explanation, provide details on how the appropriate ECRF/LVF data will be managed and provisioned for use in overload and backup routing scenarios in the current environment, and any dependencies that might impact provisioning.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 53	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) An LVF is a LoST protocol server where civic location information for every call originating endpoint is validated against the SI-provisioned GIS data Describe how the LVF solution interfaces with other LVF solutions which may interface with bidder’s solution. Contractor shall coordinate with other LVF solution providers to ensure interoperability between the respective solutions.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 54	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) LVF Description . The SI is responsible for provisioning and updating the information used for location validation in the LVF, which shall contain a standardized interface to the SI. Describe how the LVF solution meets the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 55	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) Location Validation The LVF shall be available to validate civic locations at the time a wireline device is ordered— e.g., Service Order Interface (SOI) validation—when a nomadic device is connected to the network, and when a PSAP or other authorized entity makes a civic location validation request. The LIS/LDB shall be allowed to periodically revalidate the civic location information against the GIS data contained within the LVF. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 56	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) High-Availability Design The LVF shall support all functionality as defined in NENA-STA-010.2-2016, shall be designed with resiliency and redundancy to provide a minimum of 99.999 percent availability, and shall be provisioned with the same data as the ECRF. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 57	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) Public-Facing LVF Outline options for a public-facing LVF provisioned for use by service providers outside the ESInet.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 58	Next Generation Core Services Elements (NGCS) Location Validation Function (LVF) User Interface and Security Describe the functionality of the proposed LVF solution in sufficient detail to address the requirements outlined in NENA-STA-010.2-2016, with particular attention to: 1. the arrangement of the proposed components; 2. user interface and features; 3. and security aspects.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 59	Next Generation Core Services Elements (NGCS) Spatial Interface (SI) SI Description The SI is responsible for provisioning and updating authoritative GIS data to the ECRF, the LVF, the map viewer, the PSAP tactical map display, CAD systems, and similar applications that consume GIS data. GIS data provisioned by the SI shall undergo data-quality and data-integrity checks to ensure that the data complies with all applicable requirements of NENA 02-010, NENA 02-014, and Attachment B of NENA-STA-010.2-2016. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 60	Next Generation Core Services Elements (NGCS) Spatial Interface (SI) Web Feature Service and Updates The SI shall convert the GIS data into the format (data structure and projection) used by the ECRF and LVF, in real-time or near real-time, using a web feature service. The SI shall be able to provision and perform incremental updates, in near real-time, to the ECRF, LVF, the map viewer service, the PSAP tactical map display and similar applications that consume GIS data. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 61	Next Generation Core Services Elements (NGCS) Spatial Interface (SI) Data Provisioning and Validation Describe the functionality of the proposed SI solution in sufficient detail to explain the validation of GIS data and data updates prior to provisioning into the ECRF and LVF, along with the means of real-time or near real-time provisioning of incremental updates to the GIS data provisioned to the ECRF and LVF.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 62	Next Generation Core Services Elements (NGCS) Spatial Interface (SI) Use of the Commission’s GIS Data Model 1. Describe how the bidder’s solution will use the Commission’s GIS data model (Attachment D) without modification to the schema. 2. Define bidder’s processes and methods to receive and incorporate the updated SI datasets. 3. Describe bidder’s proposed workflow for receiving GIS updates from regions to allow for a smooth transition. 4. Describe all security and monitoring aspects, and any additional features supported by the proposed SI.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 63	Next Generation Core Services Elements (NGCS) Location Database (LDB) Describe how the solution interfaces with other LDB solutions which may participate in or interface with bidder’s solution. Contractor shall coordinate with other LDB solution providers to ensure interoperability between the respective solutions.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 64	<p>Next Generation Core Services Elements (NGCS) Location Database (LDB) LDB Description A LDB serves as both a legacy ALI database and as a LIS in an i3-compliant NG911 environment. The LDB retains all of the current information, functionality, and interfaces of today's ALI, but also can utilize the new protocols required in an NG911 deployment. The LDB supports the protocols for legacy ALI query and ALI query service, the protocols required to obtain information for wireless calls by querying the mobile positioning center (MPC) or Gateway Mobile Location Center (GMLC), and the protocols required for i3 location information retrieval and conveyance, such as HTTP-Enabled Location Delivery (HELD) or other proprietary protocols.</p> <p>Describe the functionality of the proposed LDB, including additional features and capabilities, error handling, FoCR capabilities, logging and deployment recommendations in detail to address the requirements outlined, with particular attention to the arrangement of the proposed components, user interface, and features, and security aspects.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

The LDB shall meet the following requirements:	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
Shall support all relevant sections of NENA 02-010, 02-011, 02-015, 04-005, 08-501 and 08-502 related to ALI Database Management System (DBMS).				
Shall be capable of assuming the role of a location DBMS as defined in NENA-INF-008.2-2013, NENA NG9 1-1 Transition Plan Considerations.				
Shall support NENA standards J-036, E2, E2+, non-call-associated signaling (NCAS) and call-associated signaling (CAS).				
Shall be able to provide LIS functionality and interfaces as defined in NENA-STA-010.2-2016				
Shall be able to seamlessly interact with a NENA i3-compliant ECRF, as described in NENA-STA-010.2-2016.				
Shall be able to dereference a location by reference, as defined in NENA-STA-010.2-2016.				
Shall be able to dereference requests for additional information, as defined in NENA-STA-010.2-2016.				
Shall be able to interface simultaneously with multiple wireless callers.				
Shall be able to interface simultaneously with multiple remote ALI databases.				
Shall automatically detect, import and validate customer records (SOI records).				
Shall have the ability to be used simultaneously by both NG911-capable and E911 capable PSAPs.				
Shall allow different PSAPs to use different ALI formats based on individual needs.				

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Shall utilize LVFs to validate civic addresses.				
Shall support PIDF-LO location data formatting as defined in NENA-STA-010.2-2016.				
Shall periodically reevaluate the location information using LVF functions within the system.				
Shall be able to communicate with NG911 functional elements using the SIP and HELD protocols.				
Shall be able to provide a PIDF-LO based on both the wireless and VoIP E2 response.				
Shall be able to dereference additional data requests.				
Shall consistently respond to all requests within 400 milliseconds (ms).				

NGCS 65	Next Generation Core Services Elements (NGCS) Location Database (LDB) Integration of Multi-Line Telephone System Data The LDB shall support the Integration of Multi-Line Telephone System (MLTS) databases. As part of this migration, Contractor shall be responsible for migrating records from the current MLTS databases to the LDB. Provide details on the database migration process and the user interface for management of these MLTS data records.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 66	Next Generation Core Services Elements (NGCS) Discrepancy Reporting 1. Provide details regarding the proposed solution's report functions for notifying PSAPs any time a discrepancy is detected concerning the BCF, ESRP, PRF, ECRF, LVF, and SI. As part of the detail, explain how a report will be sent for the purpose of reporting the discrepancy to multiple responding PSAPs, as determined by the Commission. Discrepancy reporting is outlined in Section 4.7 of NENA-STA-010.2-2016. 2. Describe the functionality of the proposed discrepancy reporting function in sufficient detail to address the requirements outlined, with particular attention to the user interface and features, and the security aspects.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 67	Next Generation Core Services Elements (NGCS) Event Logging and Management Information System (MIS) PSAPs may have a variety of logging recorders capable of recording SIP traffic and associated media. PSAPs will use the Emergency Call Tracking System (ECaTS) for call logging and capture event details. The Commission will gather statistical data from PSAPs through ECaTS. Describe how the solution interfaces with logging recorders and ECaTS.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 68	Next Generation Core Services Elements (NGCS) Event Logging and Management Information System (MIS) Event Logging Description Extensive logging of NG911related events, transactions, media, and operations is required. All log entries shall be accurately time-stamped. Logging must include all elements in the call flow including logging of NG911related events within ESInets, the NGCS, the PSAP, and related operations, and is a standardized function used throughout ESInets, NG911 functional elements, and PSAPs. Logged events include ingress and egress to an ESInet, ingress, and egress to a PSAP, all steps involved in call processing, and processing of all forms of media. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 69	Next Generation Core Services Elements (NGCS) Event Logging and Management Information System (MIS) Integration with Call-Handling Equipment 1. Describe how bidder’s event-logging solution may integrate with the each PSAP’s call-handling equipment, to provide a complete, end-to-end view of a call. 2. Describe how the Commission can gain access to information in the event-logging solution. 3. Describe the requirements of the PSAP’s call-handling equipment, software license agreements, and interfaces required to support integration with the bidder’s event-logging solution.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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	Next Generation Core Services Elements (NGCS) Event Logging and Management Information System (MIS) Access to Event Logging Data	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
NGCS 70	<p>1. Describe how the PSAPs and the Commission will gain access via role-based authentication to the event-logging solution data and run statistical and other MIS reports. The PSAP is the custodian of such data for purposes of the Nebraska Public Records Statutes, Neb. Rev. Stat. §§ 84-712 to 84 712.09. The PSAP is responsible for maintaining such data pursuant to the PSAP record-retention schedule applicable to such data as provided in the Nebraska Public Record Statutes, Neb. Rev. Stat. §§ 84 1201 to 84 1229.</p> <p>The state is implementing the ECaTS MIS solution statewide. Upon deployment, the Contractor shall coordinate with ECaTS, the state, and the PSAPs to deliver event logging data to the ECaTS solution. An existing data-sharing agreement (DSA) between the state and the PSAPs governs what data the state may access along with notifications of records requests. This DSA will govern data collected by the NGCS and ESInet provider whether that data is delivered to ECaTS or directly to the state or PSAPs.</p> <p>2. Describe the reports, MIS tools, and performance metrics made available to each PSAP, the user interface for retrieving or receiving reports, role-based authentication to limit access to data and reports, and the ability to customize reports based on individual PSAP needs. These reports may be used as a basis for changes to bandwidth and capacity. The required reports and metrics will include, but is not limited to:</p> <ul style="list-style-type: none"> a. Timing b. Call-delivery time c. Call-processing time between elements d. Volumes e. Call volumes by call type f. Alternate-routed calls g. Text-to-911 h. All NGCS element usage volumes i. Bandwidth/trunk utilization j. Calls per trunk k. Trunk utilization l. Circuit utilization 				
	Bidder Response:				

Any additional documentation can be inserted here:

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NGCS 71	Next Generation Core Services Elements (NGCS) Event Logging and Management Information System (MIS) NENA Standards Compliance The bidder's proposed logging solution shall meet the requirements set forth in NENA-STA-010.2-2016.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Third-Party Certification Fees Bidder is responsible for any third-party certification fees. Describe how the solution meets or exceeds these above requirements.				
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 72	Next Generation Core Services Elements (NGCS) Network Time Protocol (NTP) and Time Source Bidder's solution shall sync with existing time sources to maintain consistent time stamps across the network and systems. Describe how bidder's solution complies with this requirement.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 73	Next Generation Core Services Elements (NGCS) Network Time Protocol (NTP) and Time Source Master Clock Description The bidder shall provide redundant, resilient network-attached Stratum 2 time sources (“master clocks”) capable of supplying standard time to all systems, network devices, and functional elements that comprise the ESInet and the NGCS. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NGCS 74	Next Generation Core Services Elements (NGCS) Network Time Protocol (NTP) and Time Source Accessibility by PSAP Equipment The master clock time source(s) shall be accessible to the PSAPs for synchronizing call-handling systems and other related systems. All systems, network devices, and functional elements shall support the use of the NTP for maintaining system clock accuracy. Describe how the solution meets or exceeds the above requirements.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 75	Next Generation Core Services Elements (NGCS) NG911 Application Integration Bidder shall describe other NG911 applications, additional data integrations, and personal safety applications that may be integrated with the NGCS solution. The bidder's system must be capable of integration with Additional Data Repositories (ADR), Identity-Searchable Additional Data Repositories (IS-ADR) or commercial third-party LIS, as described in NENA STA-010.2-2016, within two years of the deployment of the first PSAP. Describe how the solution will accomplish integration, information storage, and use/transmission of data to PSAP CHE.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 76	Next Generation Core Services Elements (NGCS) Message Session Relay Protocol Text (MSRP) Integration The PSAPs have deployed short messaging service (SMS)-to-911 service. 1. Describe the ability to integrate existing web-based and MSRP-integrated SMS-to-911 and Real-Time Text (RTT) services into the solution. 2. Explain whether the solution supports location-by-reference and/or location-by-value. This requirement is for the integration of text messaging with MSRP and not a requirement for procuring text services.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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NGCS 77	Next Generation Core Services Elements (NGCS) 1. Make-Busy Functionality Some PSAPs have a physical make-busy switch that can be activated in the event of an emergency evacuation. Bidder's solution shall support this functionality to all PSAPS.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	2. Ringdown Functionality Bidders' solution shall support ringdown functionality, either through the call-handling system or through the NGCS.				
	3. Near-Simultaneous Transfer The solution shall support near-simultaneous conference and transfer capability, with up to at least 12 parties in the conference. This feature shall allow transfer or conference buttons to be programmed to automatically establish a conference with multiple parties. For instance, one button at a police department might establish a conference between the police, fire, and EMS PSAPs and the original caller, without having to add each additional party individually. Describe how bidder's solution meets or exceeds these requirements.				
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 78	Next Generation Core Services Elements (NGCS) PSAP Interfaces and Backroom Equipment Requirements Support of PSAP Interfaces Bidder's solution shall have the ability to support PSAP interfaces specified in NENA STA-010.2-2016, Section 4, including the following:	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	a. SIP calls b. NGCS call delivery c. Web services d. All baseline media and multimedia (as described in NENA STA-010.2-2016, Section 4) e. NTP time services interface, accurate to 1 ms f. Transport layer security g. Discrepancy reporting Describe the functionality of the PSAP interfaces in detail to address the requirements outlined above, with particular attention to the user interface, additional features, and security aspects.				
Bidder Response:					

Any additional documentation can be inserted here:

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NGCS 79	Next Generation Core Services Elements (NGCS) PSAP Interfaces and Backroom Equipment Requirements Support of Call Handling Equipment (CHE) Platforms 1. Provide a list of CHE platforms for which bidder has successfully implemented the interfaces listed above in a live production environment, noting any interfaces that have not yet been tested with each CHE vendor/model. 2. Where interfaces with CHE vendors/models have yet to be deployed and/or tested, please describe the integration testing process that the bidder will perform prior to acceptance testing of the solution. 3. Describe the physical interface handoff required at the PSAP CHE demarcation point.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

NGCS 80	Next Generation Core Services Elements (NGCS) Transfer to 7/10-Digit Numbers The bidder's solution shall be capable of transferring 911 calls to 7 or 10-digit numbers with the Calling Party Number (CPN). Describe how the solution meets or exceeds this requirement.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

Any additional documentation can be inserted here:

OPTIONAL SERVICE

NGCS 81	Next Generation Core Services Elements (NGCS) OPTIONAL SERVICES NG911 Applications and Alarm Integration Alarm Integration Description NG911 provides for the capability to have alarm companies integrate directly with the ESInet and use the NGCS for routing of the alarm and associated data. Describe bidder's experience with integrating alarms, sensors, and other non-interactive call types with bidder's NGCS solution and include separate pricing.	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				

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SVAL- 1	<p>Service Validation Throughout the life of the contract, upon request of the Commission, Bidder shall allow for network testing and validation by a third-party entity, to verify that the service(s) and/or solution(s) are in compliance with the contract's scope.</p>	Comply	Partially Comply	Complies with Future Capability	Does Not Comply
	Bidder Response:				