

Attachment B – CHE Performance Standards, Network Measurement and Reporting, and Service Level Agreements

1. Performance Standards and Terms

A. Service Level Agreement

An agreement between GCRECD and the Contractor that specifies, in measurable terms, the services that the Contractor will furnish.

B. Help Desk Availability

The time of day resources are available to answer calls from GCRECD, create trouble tickets and dispatch technicians.

Resources must be available (via tollfree telephone number) 24 x 7 x 365 to process requests for service.

C. Technician Availability

Technicians must be available remotely and/or onsite as required, 24 x 7 x 365.

D. Regular Business Hours (RBH)

Hours between 8:00 a.m. and 5:00 p.m. Central.

E. Customer-Generated Data – Transparency and Access Rights

Customer-generated Data (CGD) is defined as any data that is configured within, or consumed or generated by, any of the systems, components, functional elements, services, or software applications provided by the Respondent—specifically, that data which is necessary to, or generated as a result of, providing the services or functionality called for in this RFP and which is unique to the operation and use of the systems, solutions, or services by GCRECD or any ECC in GCRECD. Such data may include, but is not limited to, voice and SMS “call” activity records, traces, or logs; system, component, or software troubleshooting, logs, configuration files, and diagnostics data; diagrams, drawings, or design and implementation documents that record the specific implementation details relating to GCRECD or any GCRECD ECC; as well as any reports or analytics based on, or derived from, CGD.

Limited Use. GCRECD or any ECC in GCRECD will use or disclose the CGD only in furtherance of the existing and identified project or as required by law.

Standard of Care. GCRECD or any ECC in GCRECD shall exercise at least the same degree of care as it uses with its own data and Confidential Information, but in no event less than reasonable care, to protect the CGD from misuse and unauthorized access or disclosure.

Agents and Subcontractors. GCRECD or any ECC in GCRECD shall ensure that any agents, including subcontractors, to whom it provides the CGD agree to the same restrictions and conditions listed in this agreement.

Personal Information. GCRECD or any ECC in GCRECD will not attempt to identify any person whose information is contained in any CGD or attempt to contact those persons.

Required Disclosure. If GCRECD or any ECC in GCRECD is compelled by law to disclose any CGD, it shall provide Contractor with immediate written notice so that Contractor may seek a protective order or other appropriate remedy and/or waive compliance with the provisions of this agreement; if the parties cannot obtain a protective order, other appropriate

remedy, or otherwise fail to quash the legal process requiring disclosure, GCRECD or any ECC in GCRECD will disclose the requested CGD only to the extent necessary to satisfy the request.

In the spirit of transparency and in support of GCRECD's interest in being able to verify and validate the Contractor's compliance with the terms, requirements, and specifications contained herein, GCRECD reserves, for GCRECD and ECC staff (as well as their designated representatives), the right to unfettered access to any and all CGD produced or used while such solutions or services are under contract by GCRECD or any ECC in GCRECD. It is not the intent of this requirement to expose or reveal any proprietary information, intellectual property or trade secrets of the Contractor and requests will be limited to CGD reasonably considered to be probative of compliance, as stated, above. GCRECD is committed to exercising this provision only when needed and always in good faith. The Contractor's responses to such requests will be provided willingly and expeditiously. The Contractor is prohibited from using blanket claims that data is of a proprietary or sensitive nature, in order to shield itself from such requests. In limited cases, the Contractor may require the sharing of data to be under the terms of a non-disclosure agreement (NDA).

F. System Performance Standards and Reporting

Respondents must identify the SLAs and metrics for the system components that will be utilized to formulate the system performance measurements for each performance standard.

G. System Availability

The service must be available at least 99.999 % of the time, measured on a per-ECC basis.

H. Service Level and Service Management Performance Standard

Services referenced here are limited to those provided under the agreement. All times are averages over a rolling 12-month measurement period. However, there are provisions for declaring an SLA violation in cases where repeated instances occur over a short period of time.

All time intervals are calculated to the nearest minute. Performance requirements are applicable to managed and non-managed services.

I. Fault Priority Levels

Fault priority level definitions are the same as those in Acceptance Testing. For the post-cutover environment, some examples are provided, here, of issues which would be considered of the specified priority.

1) Priority One – Critical

Examples of such issues may include:

- Isolation of any single site or sites from the rest of the network, resulting in the inability for affected sites to communicate with the rest of the network.
- Software defect without a workaround that impacts any site or site's ability to maintain business operations.
- A reduction in call processing capacity at a single site of 50% or more.

2) Priority Two – Major

Examples of such issues may include:

- Loss of network or functional element redundancy, including PSAP or data center connectivity.

- System or component problem that could result in loss of a site without timely repair.
- A reduction in call processing capacity at a single site of 20% or more.
- Inability to accurately display caller location on the map.

3) **Priority Three – Minor**

Examples of such issues may include:

- Failure of a speed dial to route calls to the proper destination, requiring manual dialing or other additional steps to affect the same result.
- Misrouted calls
- Location failures, resulting in default routing of calls.

4) **Priority Four – Non-service-impacting**

Examples of such issues may include:

- Errors in data display/presentation within a user's application (layout, colors, data identification, etc.)
- Errors with peripheral systems such as recorders, MIS, auxiliary keypads, etc.
- Errors with monitoring systems, dashboards, etc.

J. **Response Time**

The time elapsed between identification (by monitoring staff) or reporting (by GCRECD, agency(ies), or PSAP(s)) of an issue and commencement of investigation or repair activity by Contractor.

Table 1: Maximum Response Time

Incident Severity	Maximum Response Time
Priority One	15 minutes
Priority Two	30 minutes
Priority Three	8 hours
Priority Four	12 hours

K. **Notification Time**

The time elapsed between issue identification (by monitoring personnel) and notification of the affected agencies or PSAPs. Contractor shall have the ability to provide customized notifications based on desires of GCRECD, agency, or PSAP.

Table 2: Maximum Notification Time

Incident Severity	Maximum Notification Time
Priority One	15 minutes
Priority Two	30 minutes
Priority Three	8 hours
Priority Four	Next Business Day

L. Repair Time

The time elapsed between identification (by monitoring staff) or reporting (by GCRECD, agency(ies), or PSAP(s)) of an issue and the resolution of that issue, with full functionality and capacity restored to normal. At the discretion of the reporting party(ies), “resolution of that issue” may be achieved by the deployment of a workaround, if accompanied by a mutually agreeable written plan for definitively resolving the original issue.

Table 3: Maximum Repair Time

Incident Severity	Maximum Repair Time
Priority One	2 hours
Priority Two	4 hours
Priority Three	48 hours
Priority Four	96 hours

M. Escalation

A request for assistance to the next higher level of technical support must be executed whenever the Escalation Interval (in the following table) has elapsed since the issue was identified or reported and issue remains unresolved. Once an escalation has occurred, the Offeror will provide GCRECD and affected parties with a status update at the Update Interval until the issue has been resolved.

Table 4: Expected Escalation Intervals

Incident Severity	Escalation Interval	Update Interval
Priority One	1 hour	2 hours
Priority Two	4 hours	8 hours
Priority Three	48 hours	24 hours
Priority Four	96 hours	As agreed to

2. IP Network Measurement and Reporting Requirements**A. Network Performance**

The Contractor must measure and report on the network performance against the service levels monthly. For any circuit downtime, outages, or interruptions, the Contractor must provide a written report describing the degradation of service or outage, including the root cause and the plan to prevent similar occurrences in the future. Trend data must be supplied with this report that shows current and previous monthly performances.

B. Outage Reporting

In the event of an unplanned outage, the Contractor must provide GCRECD a reason for outage (RFO) report. This report will include a timeline of the outage, the cause of the outage, actions taken to resolve the issue, and any actions/processes undertaken by the Contractor and its subcontractors to prevent similar outages from occurring in the future or to mitigate their impact, if they do. GCRECD requires a preliminary report within five business days and a final report within 30 calendar days to be measured from detection of the outage.

As defined in 47 CFR § 4.5, the Contractor is responsible for complying with all federal reporting requirements for any outages or interruptions to 9-1-1 voice or SMS routing, delivery, and/or processing systems and services provided under a contract. The Contractor is required to electronically report significant network outages and information about outages that exceed specific thresholds—in terms of duration and magnitude—to the FCC’s Network Outage Reporting System (NORS). The electronic report shall also include information regarding communications disruptions affecting any Enhanced 9-1-1 facilities.

C. Bandwidth Management

The Contractor shall provide monthly bandwidth performance and network utilization reports.

GCRECD must be able to monitor overall bandwidth usage and specific usage between sites. GCRECD must be able to view real-time or near-real-time bandwidth performance and utilization reports. Users of the monitoring tools should be able to filter on various traffic characteristics (e.g., protocol, QoS classification, media type, etc.). A web-based portal or browser-enabled viewer is preferred.

The Contractor's call-processing capacity shall be capable of 125% busy hour call traffic for each ECC and the NGCS as a whole.

The Contractor's service shall be able to increase call-processing capability by up to 50% over contract duration with minimal hardware upgrades required.

D. Voice Quality and Quality of Service

Voice quality must be maintained at traditional public switched telephone network (PSTN) levels. Voice data (RTP¹) must have priority over any other IP traffic and this priority must be respected and enforced by all network infrastructure elements, end-to-end. The service shall use an uncompressed, high quality voice codec. The ESInet/NGCS must not degrade the Mean Opinion Score (MOS) of calls traversing the ESInet by more than two-tenths (0.2) point, from the point of network ingress to the point of delivery (network-to-network interface) to a call-handling system.

E. Network Management and Monitoring

The Contractor must provide a NOC to respond to network issues and meet the service levels stated within this RFP, including requirements for a secondary or backup NOC.

F. Proactive Monitoring

The Contractor must provide active monitoring of its circuits and functional elements. The Contractor must proactively generate incident tickets and alert GCRECD and affected ECCs in accordance with the fault priority tables above regarding Notification and Response Times.

3. Service Level Agreement

Respondents shall provide a description of their SLA reporting tool. A secure online SLA reporting dashboard is preferred. SLA reporting tools are expected to include both real-time and near-real-time performance statistics calculated at no greater than 5-minute intervals. The SLA reporting tool shall summarize network performance metrics by hour, day, week, month, quarter, and year. The mechanism must deliver automated SLA results to GCRECD monthly. QoS reporting shall present traffic by type. Reports shall include, at a minimum, statistics for latency, jitter, packet loss, and bandwidth utilization, and shall be available on demand with near real-time data. A web-based portal is preferred. Other relevant data also may be reported.

Respondents shall specify how they will conduct and provide end-of-month and end-of-quarter reviews, accounting for any degradation of service to include service failures, as well as incidents and problems, and their resolution.

¹ Real-time Transport Protocol

Service level requirements (SLR) remedies shall be tracked to their full amount, but the maximum credit per month shall not exceed 25% of the total amount at risk (as defined, below).

Incidents shall be tracked via tickets and the ticket contents shall be made available to GCRECD and the affected ECC(s) via an online portal with the ability to download or print reports.

The Contractor shall have automated systems to track all SLA deliverables and provide GCRECD with monthly reports detailing the Contractor's performance.

The monthly SLA compliance report shall include the following detail and a one page summary of the detail:

- 1) Report period
- 2) Contractor's trouble ticket number
- 3) Name(s) of affected ECC(s)
- 4) FCC ID(s) of affected ECC(s)
- 5) Service type
- 6) Brief trouble symptom
- 7) Brief restoration description
- 8) Trouble symptom category
- 9) Ticket open date and time
- 10) Priority level
- 11) Problem resolution date and time
- 12) Total outage duration
- 13) Yes/no if qualified for SLR remedy
- 14) Yes/no if FCC reporting required; and
 - a. If Yes, link to FCC report and FCC response, if any
- 15) Applicable SLA

The following table details GCRECD's SLRs, providing a description of each, the metric or measurement to be used to confirm compliance, the target measurement, and the affected party or parties' (GCRECD or ECC[s]) rights and remedies, in the event that the Contractor fails to achieve the SLR.

For SLR violations, the remedy listed in the table, below, may be a portion of "the amount at risk". For the purposes of this section, "amount at risk" is defined, as follows:

- For services (i.e., ESInet, NGCS, CHaaS) or solutions (i.e., CHaaS and CHE) incurring a monthly recurring charge (MRC), "amount at risk" shall be the MRC for that service or solution for the month in which the SLR violation occurs.
- For services (i.e., ESInet, NGCS, CHaaS) or solutions (i.e., CHaaS and CHE), the price for which includes a non-recurring charge (NRC) component, "amount at risk" shall be the total NRC for that service or solution for the duration of the contract divided by the number of months in the contract – in other words, one month's portion of the NRC for that service or solution.
- For services (i.e., ESInet, NGCS, CHaaS) or solutions (i.e., CHaaS and CHE), the price for which includes both NRC and MRC, "amount at risk" shall be the total of the two amounts described above.

Table 5: Service Level Requirements, Metrics, and Remedies

#	Definition	Measurement Method	Objective	Rights and Remedies
1	Final master project plan (MPP) shall be delivered to GCRECD (for ESInet/CHE) or PSAP(s) (for call handling) within 60 calendar days of contract execution.	Calendar Days	Delivery of MPP within 60 days	Failure to meet the objective shall result in a \$5,000 credit or adjustment for each calendar day that the report is not delivered after the objective.
2	Contractor shall achieve all milestone dates identified in the MPP.	Calendar Days	Completion of MPP milestones on or before the date agreed by GCRECD and Offeror.	Any failure to meet the objective shall result in a \$5,000 credit or adjustment for each calendar day that the milestone is not delivered after the objective (for milestones with a majority of the underlying task ownership being that of the Contractor and/or its subcontractors).
3	SLA Remedy Delivery – Timely credit or adjustment of remedies due to GCRECD or ECC(s) for missed SLR objectives.	Calendar Days	Contractor's credit or adjustment shall be issued no more than 60 calendar days after written notice from GCRECD or ECC(s) of a service level failure.	Each occurrence of an SLR remedy (credit or adjustment) that is not issued within 60 calendar days shall result in a \$5,000 credit or adjustment for each calendar day that the credit or adjustment is not issued.

#	Definition	Measurement Method	Objective	Rights and Remedies
4	Contractor shall provide a ticketing interface and monitoring dashboard 24 x 7 x 365.	<p>The monthly availability percentage equals the Scheduled Uptime less Unavailable Time divided by Scheduled Uptime per month multiplied by 100. Scheduled Uptime is based on 24 hours x number of days in the month x 60 minutes.</p> <p>The monthly Availability percentage shall be based on the cumulative total of all outage durations for each calendar month.</p>	99.9%	Failure to meet the SLR objective for one month shall result in a \$2,500 credit or adjustment.
5	<p>When a manual (i.e., via phone call to NOC) emergent request is made to reroute calls to alternate PSAP, call rerouting will be effective within three minutes, from the time the PSAP call is answered by the NOC for pre-provisioned routes.</p> <p>If the request is for standard maintenance, the reroute will be effective within seven minutes for pre-provisioned routes, and if a new route is required, that will be completed within 20 minutes of request.</p>	Time from NOC call received by human to time the routing change becomes effective.	<p>3 minutes (emergency)</p> <p>7 minutes (maintenance)</p> <p>20 minutes (new route)</p>	Failure to meet the SLR objective shall result in a \$5,000 credit or adjustment.
6	Contractor shall report all outages that potentially impact the delivery of 911 traffic to every affected PSAP within and GCRECD 15 minutes of the occurrence.	Any outage that potentially impacts the delivery of 911 traffic, regardless of traffic type.	Notification of PSAPs and GCRECD within 15 minutes or less.	<p>Any failure to meet the objective shall result in a \$5,000 credit or adjustment.</p> <p>For each additional minute that the Contractor fails to meet the SLR objective, an additional \$1,000 credit or adjustment will be due.</p>
7	Redundant ESInet connectivity shall be provided to each end point CHE core or host site connection (except as described in the following requirement).	<p>The monthly availability percentage equals the Scheduled Uptime less Unavailable Time divided by Scheduled Uptime per month multiplied by 100.</p> <p>Scheduled Uptime is based on 24 hours x number of</p>	<p>99.999% availability</p> <p><i>(less than 5.26 minutes per year or 26.3 seconds per month of unplanned downtime)</i></p>	<p>Failure to meet the SLR objective for one month shall result in a 25% credit or adjustment of the amount at risk for the ESInet for all affected ECCs.</p> <p>Failure to meet the SLR objective for a second consecutive month shall result in a 50% credit or adjustment of the amount at</p>

#	Definition	Measurement Method	Objective	Rights and Remedies
		<p>days in the month x 60 minutes.</p> <p>The ESInet connectivity availability requires two diverse IP network connections to each PSAP. For those PSAPs where diverse IP network connections are not available and when approved by the GCRECD, the Individual ESInet connectivity SLR applies.</p> <p>The monthly Availability percentage shall be based on the cumulative total of all outage durations for each calendar month.</p>		<p>risk for the ESInet for all affected ECCs for that month.</p> <p>Failure to meet the SLR objective for each additional consecutive month shall result in a 100% credit or adjustment of the amount at risk for the ESInet for all affected ECCs for all such consecutive months plus an additional \$25,000.</p>
8	Non-redundant ESInet connectivity shall be provided to each end point CHE core or host site and will only apply when diverse NG911 trunks are not available and when approved by the GCRECD.	<p>The monthly availability percentage equals the Scheduled Uptime less Unavailable Time divided by Scheduled Uptime per month multiplied by 100.</p> <p>Scheduled Uptime is based on 24 hours x number of days in the month x 60 minutes.</p> <p>The monthly Availability percentage shall be based on the cumulative total of all outage durations for each calendar month.</p>	<p>99.999% availability</p> <p><i>(less than 5.26 minutes per year or 26.3 seconds per month of unplanned downtime)</i></p>	<p>Failure to meet the SLR objective for one month shall result in a 25% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month.</p> <p>A second consecutive month failure to meet the SLR objective shall result in a 50% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month.</p> <p>Each additional consecutive month failure to meet the SLR objective shall result in a 100% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month.</p>
9	Failure to provide updates to solution to conform to NENA i3 standards within 18 months of ratification.	Identification by the GCRECD or its designee of i3 functionality not supported.	100% conformance to NENA i3 standards within 18 months of ratification.	20% credit or adjustment of amount at risk for the ESInet and/or call handling, as applicable, until conformance issue is resolved to GCRECD's or an ECC's satisfaction.

#	Definition	Measurement Method	Objective	Rights and Remedies
10	ESInet and CHE must handle voice calls with little or no degradation of voice quality of the call from the ingress demarcation point to the workstation, as measured and monitored by an automated MOS measurement tool at the endpoint.	Ingress demarcation point shall be defined as the handoff point to the call handling equipment hosts.. Egress demarcation point shall be the call-handling workstation.	Egress MOS measurements shall be maintained at 4.0 or better.	Failure to meet the SLR objective for one month shall result in a 25% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month. A second consecutive month failure to meet the SLR objective shall result in a 50% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month. Each additional consecutive month failure to meet the SLR objective shall result in a 100% credit or adjustment of the amount at risk for the ESInet for all affected ECCs that month.
11	CHE will receive and handle all call type traffic with minimal service interruption.	Single outage with a duration of six minutes or more.	Preventing CHE outages of six minutes or more.	100% credit or adjustment of the amount at risk for call handling for the affected ECC(s).
12	CHE will receive and handle all call type traffic with minimal service interruption.	Single outage of greater than two minutes and less than six minutes.	Preventing CHE outages greater than two minutes, but less than six minutes.	50% credit or adjustment of the amount at risk for call handling for the affected ECC(s).
13	Contractor shall provide SLA reports required by this contract for each month of activity during the term of the contract by the 10 th business day of the following month.	Business Days	Contractor shall deliver accurate and complete reports by the 10 th of the month following the end of the applicable reporting month.	Failure to meet the objective shall result in a \$5,000 credit or adjustment for each business day that the report is not delivered after the objective.
14	Contractor shall provide a cybersecurity vulnerability notification upon recognition of a cybersecurity threat or breach within three business days of issue identification.	Business Days	Within three business days of the recognition of a vulnerability or identified cybersecurity threat or breach, Contractor shall notify the GCRECD and the impacted ECC(s) of the event and measures taken to mitigate impact and avoid future risk.	Failure to meet the objective shall result in a \$5,000 credit or adjustment for each business day that the report is not delivered after the objective.
15	Contractor shall provide an RFO report for Priority One and Two issues within five business days.	Business Days	Contractor shall deliver initial root cause analysis to the GCRECD and the affected ECCs within five business days of service affecting issue.	Each occurrence of a failure to meet the objective shall result in a \$5,000 credit or adjustment for each business day that the report is not delivered after the objective.

#	Definition	Measurement Method	Objective	Rights and Remedies
16	Contractor shall provide a final RFO report within 30 calendar days from the beginning of the service affecting issue.	Calendar Days	Contractor shall deliver final RFO to the GCRECD and the affected ECCs within 30 calendar days from the beginning of the service affecting issue.	Each occurrence of a failure to meet the objective shall result in a \$5,000 credit or adjustment for each business day that the report is not delivered after the objective.