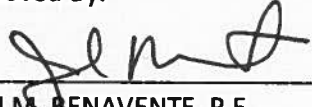


<p align="center">GUAM POWER AUTHORITY STANDARD OPERATING PROCEDURE</p>	<p>NO: SOP- 161</p>
<p>TITLE: INTERIM BUSINESS CONTINUITY PLAN Gloria B. Nelson Public Service Facility</p>	<p>Approved By:</p> <p align="center"> 11/1/17</p> <p>JOHN M. BENAVENTE, P.E. GPA General Manager</p>
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I. PURPOSE

The purpose of this Standard Operation Procedure is to ensure business continuity and establish interim procedures to ensure GPA services and critical data are operational and available at all times.

II. SCOPE

This SOP is applicable to operations at the Gloria B. Nelson Public Service Building GBNPSB located in Fadian, Mangilao.

The following major equipment are included:

- a. Uninterruptible Power Supply located in the GPA/GWA Data Center (UPS)
- b. 1250 KW Generator at GBNPSB
- c. 300 KW Generator at GBNPSB
- d. Associated Generator Equipment
- e. HVAC for Uninterruptible Power Supply and IT Infrastructure

III. RESPONSIBILITIES

3.1 Engineering & Technical Services Division

- a. Overall lead for assessing existing system for best practices and ensuring system upgrades are designed and constructed in accordance with best practices
- b. Review capacity and redundancy of existing UPS system for best practices
- c. Review capacity of current system for adequacy and best practices for both current IT operations and for the SCADA system. Ensure there are two independent UPS systems with no single point of failure not addressed
- d. Review existing 1,200KW generator system for best practices and ensure there is no single point of failure for critical components of the system. Provide recommendations on upgrades necessary to ensure continued AC power for this facility.
- e. Review critical loads and provide updated one-line diagrams to utilize the 300 KW generator to support these critical loads including the HVAC system. The HVAC system must be available at all times for the IT server infrastructure and UPS systems.
- f. Collaborate with GWA IT to ensure their system requirements are addressed

- g. Collaborate with PSCC to ensure their system requirements are addressed
- h. Provide Operations and maintenance instruction manuals of the pertinent assets to Facilities, PSCC, WSD, and IT
- i. Provide design and construction management of system upgrades including providing alarm signals to the dispatch center
- j. Establish and maintain UPS web-based, real-time monitoring capability
 - 1) Configure the Eaton Power Xpert Gateway Card for integration with the Eaton Power Xpert Software and secure operations within the GPWA network
 - 2) Configure the Eaton Power Xpert Software to enable real-time monitoring of Eaton UPS
 - 3) Enable and provide access to real-time monitoring of UPS to GPWA IT and PSCC
 - 4) Patch management for UPS software
- k. Schedule and coordinate UPS maintenance and testing with PSCC
 - 1) Track and report regularly scheduled maintenance of generators, fuel tanks, and appurtenances
 - 2) Schedule and coordinate generator maintenance and testing with WSD including advance notice to GPWA IT and PSCC
 - 3) Schedule and coordinate UPS maintenance and testing with PSCC including advanced notice to GPWA IT and PSCC
 - 4) Ensure that backup generation systems are test operated at least once a month
 - 5) Keep and review copies of backup generation system and UPS maintenance and testing logs
- l. Implement an offsite Disaster Recovery Colocation (COLO) service to prevent loss of critical GPA data and to provide business continuity in the event of a failure of GPA's primary IT infrastructure at the Fadian Main Office.

3.2 Operations Division

- a. Operations shall work with Engineering to review existing drawings and trace wiring and conduits in order to update circuits connected to the following:
 - 1) 1250 KW and 300 KW generator
 - 2) Datacenter loads
 - 3) PSCC loads
 - 4) GWA Dispatch
 - 5) HVAC equipment
- b. Operations will work with Engineering to create as-built drawings of the electrical system at the GBNPSB
- c. Power System Control Center (PSCC)
 - 1) Maintain the UPS (Uninterruptible Power Supply) for the GBNPSB including periodic testing and ensuring technical training is current – Technical training must be provided to PSCC, Engineering, and GPWA IT staff
 - 2) Troubleshoot the unit as necessary
 - 3) Enter into a maintenance contract for technical support
- d. Facilities
 - 1) Obtain training from WSD on generator operations
 - 2) Continuously monitor the generators when they are operational

- 3) Facilities personnel are authorized to switch from island power to generator power as directed by the manager or system dispatcher
- 4) Keep and review copies of backup generation system and UPS maintenance and testing logs.
- e. Water Systems Diesel (WSD)
 - 1) Ensure that backup generation systems are test operated at least once a month in coordination with Facilities, PSCC, IT, and Safety
 - 2) Maintain the generators, fuel tanks, and appurtenances
 - 3) Immediately stock spare parts for the generators and secure the spare parts at the GBNPSB for immediate repairs
 - 4) **Provide training on GBNPSD generator operations to Facilities, PSCC, and GPA Safety immediately upon implementation of this SOP**
 - 5) Provide a Maintenance and Testing Checklist to Facilities and PSCC.

3.3 Administration Division

GPA Safety shall ensure Safety personnel are familiarized with the operations of the main power and standby generator system. Personnel should be familiar with the system in the event there is an emergency requiring immediate action for safety reasons.

IV. TIME PERIOD

- 4.1 This SOP is effective immediately.
- 4.2 Bi-weekly meetings will be set by the AGMETS over the next two months to discuss findings, progress, and recommendations.
- 4.3 Monthly meetings will be scheduled with GPA Executive Management to discuss progress and recommendations.