GUAM POWER AUTHORITY **STANDARD OPERATING PROCEDURE**	Prepared by: Signature / Peter R. Fejarang (Print) Title: Safety Administrator, Acting
TITLE: Personal Protective Equipment	Reviewed by: Signature / Peter R. Fejarang (Print) Title: Safety Administrator, Acting
NO: SOP-093 Supersedes SP-093 dated 5/25/05	Concurred by: Signature / Melinda R. Camacho, P.E. (Print) Title: Assistant General Manager, Operations
Page 1 of 14	Approved: Joaquin C. Flores, P.E. (General Manager) / Dated 1/30/2014

I. PURPOSE

To establish procedures to ensure that protective equipment, including personal protective equipment for eyes, ears, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers are provided, used, and maintained wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

II. SCOPE

This standard applies to all employees at all work locations within the Authority whose duties require the use of personal protective equipment (PPE). Contractors working on Authority property will be required to meet or exceed the requirements set forth in all applicable sections of Title 29 Code of Federal Regulations.

III. GENERAL REQUIREMENTS

A. Each affected employee shall be provided with the necessary training prior to the assignment of duties that require the use of PPE.

B. PPE shall be provided to affected employees at no cost to the employee.

C. All PPE shall be of safe design and construction for the work to be performed.

D. Expenses for PPE shall be limited to the prevailing standard and usual PPE charges on island.

E. All requisitions for the procurement of PPE must first be reviewed and approved

E. All requisitions for the procurement of PPE must first be reviewed and approved by the Safety Administrator.

IV. RESPONSIBILITIES

A. Safety Office: Under the direction of the Safety Administrator, the Safety Office shall:

1. Be responsible to the General Manager for the overall development, implementation, and enforcement of the PPE program.

2. Provide training and re-training in accordance with Section VI, Part B of this standard to all affected employees.

3. Provide the PPE necessary for each new employee.

4. Conduct fit testing for respirator use as required by Section XI of this standard.

5. Evaluate hearing protector attenuation for the specific noise environment in which the protector will be used.

6. Review all requisitions for the procurement of PPE.

7. Provide technical assistance in the selection, use, and maintenance of PPE.

8. Conduct jobsite/work area inspections to determine the effectiveness of the program and identify employees who require retraining.

9. Review and revise the program as necessary.

B. Supervisors: All supervisors shall:

1. Perform the hazard assessment for their work area(s) in accordance with Section V of this standard.

2. Ensure that all affected employees have attended GPA Safety's PPE training prior to assigning duties requiring the use of PPE.

3. Ensure that all new employees report to the Safety Office within five working days of hire for the issuance of PPE necessary to begin work.

4. Ensure that all affected employees fulfill the requirements of the GPA

Respiratory Protection Program prior to the assignment of duties requiring the use of respirators.

5. Ensure that all affected employees fulfill the requirements of the GPA Hearing Conservation Program when assigned duties requiring the use of hearing protection.

6. Select, and have each employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment (Section V).

7. Select PPE that properly fits each affected employee.

8. Communicate selection decisions to each affected employee.

9. Ensure that PPE is inspected and maintained.

10. Ensure that all defective and/or damaged PPE is replaced at no cost to the employee.

#11. Lost or stolen PPE shall be replaced at the employee's expense.

NOTE: Where employees are allowed to provide their own PPE, supervisors shall be responsible for ensuring its adequacy, including proper maintenance, and sanitation of such equipment.

C. Employee: Each affected employee shall:

1. Use only PPE approved for the protection intended.

2. Care for and maintain the PPE.

3. Report and turn-in all defective and/or damaged PPE.

NOTE: Employees shall make no repairs to PPE.

V. HAZARD ASSESSMENT

The Safety Division shall assess work areas at least every six months to determine if hazards are present, or are likely to be present, which necessitates the use of PPE. Appendix A contains an example of procedures that would comply with the requirement for a hazard assessment.

VI. TRAINING

A. The Safety Division shall provide training to each employee who is required to use PPE. Each such employee shall be trained to know at least the following:

1. When PPE is necessary;

2. What PPE is necessary;

3. How to properly don, doff, adjust, and wear PPE;

4. The limitation of the PPE; and,

5. The proper care, maintenance, useful life and disposal of the PPE.

B. Re-training will be provided when:

1. Changes in the workplace renders previous training obsolete;

2. Changes in type PPE to be used renders the previous training as obsolete;

3. Inadequacies in an employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

VII. EYE AND FACE PROTECTION

A. Each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

B. Each affected employee shall use eye protection that provides side protection where there is a hazard from flying objects. Detachable side protectors (e.g., clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

C. Each affected employee who wears prescription lenses while engaged in operations involving eye hazards shall wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

D. Eye and face PPE shall be distinctly marked to facilitate identification of the

manufacturer.

E. Each affected employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.

F. Criteria for protective eye and face devices: OSHA 1910.133 and ANSI Z87.1-2003.

VIII. HEAD PROTECTION

A. Affected employees shall wear ANSI approved Type 1, Class C. E. G. protective helmets when working in areas where there is a potential for injury to the head from falling objects, electrical shock, or burns from exposed electrical conductors.

B. Criteria For Protective Helmets

#1. All protective helmets shall meet the requirements of ANSI Z89.1-2009, "American National Standards for Industrial Head Protection," or shall be demonstrated to be equally effective.

2. The following information must be marked inside the hard hat:

a. The manufacture's name or identifying mark
b. Date of manufacture
c. The legend, ANSI Z89.1
d. The applicable Type and Class designation;
e. The appropriate headband size range

C. Color recognition:

1. For the purpose of easily recognizing supervisory/non-supervisory personnel and the section/division they are from, the following color coding is implemented:

Blue – Generation White – Leaders/Supervisory Personnel

Yellow – T&D/#PSCC Green – Safety

Red – Engineering/P&R

*Orange – Customer Service, Procurement/Supply, Transportation, Computer Service, Internal Auditor, Facilities, etc.

*2. All protective helmets shall have the GPA logo on the front side to be easily recognizable to the public. GPA logo will be provided by individual sections/departments.

IX. FOOT PROTECTION

Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or falling objects, or objects piercing the sole, and where such employees' feet are exposed to electrical hazards. The following is an example of an ASTM F2413-5 marking that may be found on protective footwear:

ASTM-F2413-5 PT 05
F I/57 C/75
Mt/75 EH
PR

#Line No. 1 ASTM F2413-5 PT 99:
This line identifies the ASTM standard. The letters PT indicate the protective toe section of the standard. This is followed by the last two digits of the year the standard with which the footwear meet compliance (2005).

#Line No. 2: F I/75 C/75:
This line identifies the applicable gender [M (Male) or F (Female)] for which the footwear is intended. It also identifies the existence of impact resistance (I), the impact resistance rating (75, 50 or 30 foot-pounds), compression resistance (C) and the compression resistance rating (75, 50 or 30 which correlates to 2500 pounds, 1750 pounds, and 1000 pounds of compression respectively).

#Lines No. 3 & 4: Mt Cd EH PR & SD:
Lines 3 and 4 are used to reference additional sections in the standard. They are used to designate metatarsal (Mt) resistance and rating, conductive (Cd) properties, electrical hazard (EH), puncture resistance (PR) and static dissipative (SD) properties, if applicable. Line 4 is only used when more than three sections of ANSI Z41 apply.

X. HAND PROTECTION, CHEMICAL PROTECTIVE CLOTHING

A. Each affected employee shall use the appropriate hand protection and chemical protective clothing when skin is exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns, and harmful temperature extremes.

B. Selection of the appropriate hand protection and chemical protective clothing

shall be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

XI. RESPIRATORY PROTECTION

A. In the control of those occupational diseases caused by breathing air contaminated with dust, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to PREVENT atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (e.g., enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used in accordance with this standard and the GPA Respiratory Protection Program.

B. Selection

1. Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 42 CFR Part 84.

2. Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2-1969 and the National Institute for Occupational Safety & Health (NIOSH), "Guide to Industrial Respiratory Protection".

C. Each affected employee shall fulfill the following requirements prior to the assignment of duties requiring respirator use:

1. Undergo a medical examination by a licensed physician to determine whether the employee has any medical condition that would preclude the use of respirators (The local physician shall determine what health and physical conditions are pertinent. Medical examination is required initially, prior to fit testing, and whenever an employee reports medical signs or symptoms that are related to the ability to use a respirator. Other situations that require additional medical evaluations include:

a. A PLHCP, supervisor, or respirator program administrator informs the employer that an employee needs to be reevaluated:

b. Information from the respiratory protection program, including observations made during fit testing and program evaluation indicates a need for employee reevaluation: or

c. A change in the workplace conditions (e.g., physical work effort, protective clothing, temperature) that may result in a substantial increase in the physiological burden placed on an employee

d. The examination shall be provided at no cost to the employee.

2. Attend the Safety Office "Respiratory Protection" training seminar.

3. Undergo initial fit testing conducted by the Safety Office and annually thereafter to ensure continued adequate fit.

XII. HEARING PROTECTION

A. When employees are subjected to sound levels exceeding an 8-hour time weighted average (TWA) of 85 decibels, feasible engineering or administrative controls shall be utilized. If such controls fail to reduce sound levels below 85 decibels, each affected employee shall use the appropriate hearing protection in accordance with this standard and the GPA Hearing Conservation Program.

B. Hearing protection shall be worn by all employees:

1. Exposed to an 8-hour TWA of 85 decibels or greater; or

2. Who enter areas designated as requiring the use of hearing protection

C. Selection

1. The Safety Office shall evaluate hearing protector attenuation for the specific noise environment in which the protector will be used. One of the evaluation methods described in Appendix B, "Methods for Estimating the Adequacy of Hearing Protection Attenuation," shall be used.

2. Hearing protectors must attenuate employee exposure at least to an 8-hour TWA of 85 decibels.

3. The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that hearing protectors provided may no longer provide adequate attenuation.

D. Within 6 (six) months of an employee's first exposure at or above an 8-hour TWA of 85 decibels, the Authority shall provide, at no cost to the employee, an

audiometric test to establish a baseline against which subsequent audiogram can be compared. Thereafter, each affected employee's hearing shall be medically examined at least once a year.

E. Custom Hearing Protection and Hearing Aids

1. If the result of a medical examination described in Section XII.D of this standard indicates that the employee requires custom made hearing protection and/or hearing aids to perform his/her duties, the Authority shall provide such equipment at no cost to the employee.

2. The Authority shall replace, at no cost to the employee, hearing aids and custom made hearing protection as deemed necessary by a licensed physician.

XIII. POST DISASTER ISSUE OF PERSONAL PROTECTIVE EQUIPMENT

The Safety Division shall provide all necessary PPE(s) for employees temporarily assigned to assist in post disaster power restoration and recovery operations.

APPENDIX A

GUIDELINES FOR HAZARD ASSESSMENT AND PERSONAL PROTECTIVE EQUIPMENT (PPE) SELECTION

This Appendix is intended to provide compliance assistance for supervisors and employees in implementing requirements for a hazard assessment and selection of personal protective equipment.

I. Controlling hazards. PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls and sound work practices.

II. Assessment and selection. It is necessary to consider certain general guidelines for assessing the hazards that exist in an occupational operation, and to match the protective devices to the particular hazard. It is the responsibility of the supervisor to exercise common sense and appropriate expertise to accomplish these tasks. Supervisors should contact the Safety Office whenever technical assistance is required.

III. Assessment guidelines. In order to assess the need for PPE, the following steps should be taken:

A. Survey. Conduct a walk-through survey of the areas in question. The purpose of the survey is to identify sources of hazards to workers and co-workers. Consideration should be given to the basic hazard categories:

1. Impact
2. Penetration
3. Compression (roll-over)
4. Chemical
5. Heat
6. Harmful dust
7. Light (optical) radiation

B. Sources. During the walk-through survey, the supervisor should observe:

1. Sources of motion, i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects.

2. Sources of high temperatures that could result in burns, eye injury, or ignition of protective equipment, etc.

3. Types of chemical exposures.
4. Sources of harmful dust.

5. Sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.

6. Sources of falling objects or potential for dropping objects.

7. Sources of sharp objects which might pierce the feet or cut the hands.

8. Sources of rolling or pinching objects which could crush the feet.

9. Layout of workplace and location of co-workers.

10. Any electrical hazard.

In addition, injury/accident data should be reviewed to help identify problem areas.

C. Organize data. Following the walk-through survey, it is necessary to organize the data and information and use it in the assessment of hazards. The objective is to prepare an analysis of the hazards in the environment to enable proper selection of protective equipment.

D. Analyze data. Having gathered and organized data on a workplace, an estimate for the potential for injury should be made. Each of the basic hazards (Appendix A, paragraph III.A) should be reviewed and a determination made as to the type, level of risk, and seriousness of potential injury from each of the hazards found in the area. The possibility of exposure to several hazards simultaneously should be considered.

IV. Selection guidelines. After completion of the procedures in Appendix A, paragraph III, the general procedure for the selection of protective equipment is to:

A. Become familiar with the potential hazards and the type of protective equipment that is available and what it can do, i.e., splash protection, impact protection, etc.

B. Compare the hazards associated with the environment, i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment.

C. Select the protective equipment that ensures a level of protection greater than the

minimum required to protect employees from the hazards.

D. Provide the user with the protective device and give instructions on the care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitation of their PPE.

V. Fitting the device. Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

VI. Devices with adjustable features. Adjustments should be made on an individual basis for a comfortable fit that will maintain the protective device in the proper position. Particular care should be taken in fitting devices for eye protection against dust and chemical splash to ensure that the devices are sealed to the face. In addition proper fitting of helmets is important to insure that it will not fall off during work operations. In some cases a chin strap may be necessary to keep the helmet on an employee's head. (Chin straps should break at a reasonably low force, so as to prevent strangulation hazard). Where manufacturer's instructions are available, they should be followed carefully.

VII. Reassessment of hazards. It is the responsibility of the supervisor to reassess the workplace hazard situation as necessary (at least every six months), by identifying new equipment and processes, reviewing accident records, and re-evaluating the suitability of previously selected PPE.

APPENDIX B

METHODS FOR ESTIMATING THE ADEQUACY OF HEARING PROTECTOR ATTENUATION

Hearing protector attenuation must be sufficient to reduce employee exposure to a time weighted average (TWA) of 85 decibels. One of the following methods shall be used to estimate the adequacy of hearing protector attenuation.

The most convenient method is the Noise Reduction Rating (NRR) developed by the Environmental Protection Agency (EPA). According to EPA regulation, the NRR must be shown on the hearing protector package. The NRR is then related to an individual worker's noise environment in order to assess the adequacy of the attenuation of a given hearing protector. This appendix describes four methods of using the NRR to determine whether a particular hearing protector provides adequate protection within a given exposure environment. Selection among the four procedures is dependent upon the noise measuring instrument used.

Instead of using the NRR, the adequacy of hearing protector attenuation may be evaluated by using one of the three methods developed by the National Institute of Occupational Safety and Health (NIOSH), which are described in the "List of Personal Hearing Protectors and Attenuation Data", HEW Publication No. 76-120, 1975, pages 21-37. These methods are known as NIOSH methods No. 1, 2, and 3. The NRR described below is a simplification of method No. 2. The most complex method is NIOSH method No. 1, which is probably the most accurate since it uses the largest amount of spectral information from the individual employee's noise environment. As in the case of the NRR method described below, if one of the NIOSH methods is used, the selection method must be applied to an individual's noise environment to assess the adequacy of the attenuation. Care should be taken to obtain sufficient number of measurements in order to achieve a representative sample for each time segment.

NOTE: Calculated attenuation values reflect realistic values only to the extent that the protectors are properly fitted and worn.

When using the NRR to assess hearing protector adequacy, one of the following methods must be used:

A. When using a dosimeter that is capable of C-weighted measurements:

1. Obtain the employee's C-weighted dose for the entire work shift, and convert to TWA.

2. Subtract the NRR from the C-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

B. When using a dosimeter that is not capable of C-weighted measurements, the following method may be used:

1. Convert the A-weighted dose to TWA.

2. Subtract 7 from the NRR.

3. Subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

C. When using a sound level meter set to the A-weighting network:

1. Obtain the employee's A-weighted TWA.

2. Subtract 7 dB from the NRR, and subtract the remainder from the A-weighted TWA to obtain the estimated A-weighted TWA under the ear protector.

D. When using a sound level meter set on the C-weighted network:

1. Obtain a representative sample of the C-weighted sound levels in the employee's environment.

2. Subtract the NRR from the C-weighted average sound level to obtain the estimated A-weighted TWA under the ear protector.

E. When using area monitoring procedures and a sound level meter set to the A-weighted network:

1. Obtain a representative sound level for the area in question.

2. Subtract 7 dB from the NRR and subtract the remainder from the A-weighted sound level for that area.

F. When using area monitoring procedures and a sound level meter set to the C-weighted network:

1. Obtain a representative sound level for the area in question.

2. Subtract the NRR from the C-weighted sound level for that area.