

FFPO Procedure Blue Sheet Form

A. Procedure Title (list manual, procedure series, or specific procedure #)

SPR Accident Prevention Manual

Section 25 Hearing Conservation Program

B. Procedure Name/series type (i.e., operations, maintenance, etc.) E S & H

C. Check (✓) one of the following:

1. Procedure(s) accepted “as is” with terminology replaced as denoted in the Site Procedures Approved Terminology Replacement List for the FFPO SPR M&O contract.

2. In addition to the changes in approved terminology for the FFPO SPR M&O contract, improvements to the procedure are warranted:

Category 1 Finding (Resolution prior to contract start)

Category 2 Finding (Resolution within 90 days of contract start)

Category 3 Finding (Resolution to the Issues Management program)

D. Comments/Notes:

E. Forward a copy of this form to the FFPO Director, Business Management for revision tracking.

Signed

FFPO Reviewer Signature

02/27/14

Date

Steve Mahan

FFPO Reviewer Print Name

Site Procedures Approved Terminology Replacement List

Approved Terminology Replacements	
Terminology to be Replaced	Substituted Verbiage
AGSC	M&O Contractor or MOC
Boeing	M&O Contractor or MOC
Construction Management Services or CMS contractor	M&O Contractor or MOC
DynMcDermott or DM or Company	M&O Contractor or MOC
DM Contract No.	M&O Contract
Organizational Changes	
William Gibson or "Hoot"	DOE Project Manager or DOE PM
Robert (Bob) McGough or DM Project Manager or CEO	MOC Project Manager or MOC PM
Randy Sutton (Acting) or DM General Counsel	MOC General Counsel or MOC GC
Scott Landry or DM APM, O&M and COO	MOC APM, O&M
APM, Cavern Integrity	Senior Director, Cavern Integrity
Colleen Yates or DM APM, Business Operations and CFO	MOC APM, Business Operations and CFO
APM, Security and Emergency Preparedness or Director, Security and Emergency Preparedness Division	Senior Director, Security & Emergency Preparedness
Henry Schmidt, Jordan Jones, or Duane Johnson	Senior Director, Security & Emergency Preparedness
Leslie Williams or APM, Data Systems or Data Systems Director	Senior Director, Data Systems
William Bozzo or DM APM, ES&H	MOC APM, ES&H
Walt Newcomb or DM Director, Energy & Sustainability	Director, Environmental
J.P. Martinez or DM APM, Engineering	MOC APM, Engineering

ACRONYMS

- AGSC ASRC Gulf States Constructors
- APM Assistant Project Manager
- ASRC Arctic Slope Regional Corporation
- CAS Contractor Assurance System
- CFO Chief Financial Officer
- COO Chief Operating Officer
- ES&H Environment, Safety, and Health
- GC General Counsel
- M&O Management and Operating
- MOC Management and Operating Contractor
- O&M Operations and Maintenance
- PM Project Manager

25. HEARING CONSERVATION PROGRAM

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25.1. INTRODUCTION

The Hearing Conservation Program is intended to prevent employee hearing impairment and to protect employees from hazardous noise levels. It identifies what constitutes hazardous noise levels and establishes requirements and responsibilities for implementing feasible engineering controls and administrative procedures to prevent and control high noise levels. This includes such measures as noise exposure monitoring, audiometric testing, protective equipment, training, and recordkeeping.

NOTE

A Hearing Conservation Program will be implemented and administered whenever employee noise exposure equals or exceeds an 8-hour time-weighted average (TWA) of 85 decibels or above, measured on the A-scale weighting (dBA) at (SLOW response).

For the Protective Force, in accordance with DOE O 473.3, *Protection Program Operations*, any employee involved in regular firearms training must be entered into the M&O Contractor’s Hearing Conservation Program.

25.2. HAZARDS ASSOCIATED WITH EXCESSIVE NOISE

25.2.1. General

- a. Excessive noise can produce temporary or permanent hearing loss.

- b. The ear can sustain permanent damage through long-term exposure to loud noise or brief exposure to loud noise bursts.
- c. Exposure to noise levels greater than 120 dB will likely result in discomfort or pain and cause permanent hearing loss.

25.2.2. Workplace Noise

Exposure to high levels of workplace noise can first affect the ability to hear high-frequency sounds. This means speech or other sounds may become unclear or distorted when there are background noises or many people talking.

- a. Noise can contribute to accidents by masking warning signals, and excessive noise exposure can reduce job performance by causing fatigue or sleeplessness.
- b. Workers exposed to excessively high noise levels may also experience continual ringing in their ears, called "tinnitus," for which there is currently no cure.
- c. When information indicates that any employee's exposure may equal or exceed an 8-hour time-weighted average (TWA) of 85 dBA, the employee shall be admitted into the hearing conservation program.

25.3. COMPONENTS OF THE HEARING CONSERVATION PROGRAM

- a. Components of the Hearing Conservation Program will include the following:
 - 1. Workplace noise exposure evaluations,
 - 2. Audiometric testing,
 - 3. Provision of hearing protective devices,
 - 4. Employee training and fitting,
 - 5. Notification of affected employees,
 - 6. Posting warnings,
 - 7. Recordkeeping,
 - 8. Provision of information to governmental agencies, and
 - 9. Program audits.
- b. Whenever technically and economically feasible, all newly acquired equipment will be designed so operating noise does not exceed 80 dBA when the equipment is operated normally.
- c. Whenever employee noise exposure exceeds 8-hour TWA of 85 dBA or above, control measures will be initiated in the following order of precedence:
 - 1. Engineering controls,
 - 2. Administrative controls,
 - 3. Personal protective equipment (PPE).

25.4. WORKPLACE NOISE EXPOSURE EVALUATIONS

25.4.1. Establishing Noise Exposure

- a. When reasonable information indicates that any employee may be exposed to an 8-hour TWA of 85 dBA or above, exposure measurements will be obtained for all employees who may be exposed to that level of noise.
- b. The Site Safety Specialist, with help from New Orleans Industrial Hygiene, will:

1. Design a sampling strategy to identify all employees who will be required to participate in the Hearing Conservation Program and to enable the proper selection of hearing protective devices.
 2. Establish noise exposures using 29 CFR 1910.95 (Occupational Noise Exposure).
- c. The Site Safety Specialist or, if requested, NO Industrial Hygiene will identify noise sources exceeding 85 dBA by using a handheld sound level meter. These areas will be posted as outlined in the Other Program Requirements section.

NOTE
 In the event of drawdown, employees that will be exposed to an 8-hour TWA of 85 dBA and above will be added to the program.

25.4.2. Monitoring Employees

- a. Noise dosimeters or sound level meters will conform to the following requirements:
 1. Noise dosimeters will meet the Class 2A-90/80-5 requirements of the American National Standards Institute (ANSI) specification for personal noise dosimeters, S1.25-1978.
 2. Sound level meters will meet the Type 2 requirements of the ANSI specification for sound level meters, S1.4-1983.
- b. Dosimeters and sound level meters used to monitor employee noise exposure will be calibrated using the manufacturer's calibration instruction before and after each day's use.
- c. Monitoring will be repeated whenever a change in production, process, equipment, or controls increases or decreases noise exposures.
 1. Equipment age and use may contribute to an increase in noise levels.
 2. Replacement or modification of equipment may affect noise levels.
 3. Whenever such an increase is observed, the person observing the increase will request through their supervisor that sound level readings be taken of the equipment.

NOTE
 Whenever possible, ensure that replacement equipment does not raise noise levels.

- d. All continuous, intermittent and impulse sound levels from 80 to 130 dBA shall be integrated into the noise measurements.
- e. Affected employees or their representatives may observe measurements of employee noise exposure monitoring.

25.5. AUDIOMETRIC TESTING

25.5.1. Mandatory Audiometric Testing Program

A mandatory audiometric testing program will be established and maintained for all employees whose exposures equal an 8-hour TWA of 85 dBA or above. Audiometric tests will be performed by a company-contracted medical provider at the frequencies noted below.

- a. A baseline audiogram, against which subsequent audiograms can be compared, will be established for each employee before or within 180 days after the employee's first exposure to noise that equals an 8-hour TWA of 85 dBA or above.

1. Baseline audiometric testing will be preceded by at least 14 hours without exposure to loud noise. This may be accomplished by the use of hearing protective devices. Individuals wearing hearing aids will be advised to avoid exposure to any loud noise and not to wear their hearing aids for the stated time.
 2. Employees will be notified of the need to avoid high levels of non-occupational noise exposure during the 14-hour period immediately preceding the baseline audiometric examination.
- b. A new audiogram for each employee exposed to an 8-hour TWA of 85 dBA or above will be obtained annually (at 12-month intervals) after the baseline audiogram requirements. If the physician or audiologist requests more frequent audiograms, they will be conducted per medical requirements.

25.5.2. Evaluation of Audiometric Testing

Each employee in the program will be provided with an annual audiogram, which will be compared to that employee's baseline audiogram by the company-contracted medical physician or audiologist to determine if a standard threshold shift has occurred.

- a. If the annual audiogram indicates an employee has suffered a standard threshold shift (STS), a retest shall be obtained within 30 days and the results of the retest considered as the annual audiogram.
- b. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift caused by workplace noise exposure, the following steps will be taken:
 1. Employees not using hearing protective devices will be fitted with hearing protective devices, trained in their use and care, and required to use them.
 2. Employees already using hearing protective devices will be refitted and retrained in the use of hearing protective devices and provided with hearing protective devices offering greater attenuation, if necessary.
 3. Employees will be informed in writing within 21 days of the determination of the existence of a standard threshold shift.
 4. Employees will be referred, at no cost to the employee, for a clinical audiological evaluation or an ontological examination, as appropriate, if additional testing is necessary or if it is suspected that ear pathology is caused or aggravated by the wearing of hearing protective devices.

NOTE

Employees will be informed of the need for an ontological examination if ear pathology, which is unrelated to the use of hearing protective devices, is suspected.

25.5.3. Notification of Affected Employees

- a. The industrial hygienist will notify each employee exposed to noise levels of an 8-hour TWA of 85 dBA or above of the results of the noise level monitoring, and provide each employee with any additional protection requirements.
- b. Human Capital Medical Services will provide each employee with the following information:
 1. Results of the preplacement and annual audiometric tests,
 2. Test results indicating a hearing level decrease or improvement since the previous audiometric test, and

- c. Human Capital will notify employees of audiometric test results within 21 calendar days of the determination of a standard threshold shift.
- d. Upon request, Human Capital will provide employee exposure measurement records, audiometric test records, and audiometric test room records to employees presently or previously employed, and to representatives designated by the employee.

25.6. REQUIREMENTS FOR HEARING PROTECTIVE DEVICES

25.6.1. Selection Criteria

Hearing protective devices will be made available, at no cost, to each employee who is exposed to 85 dBA or greater. The following criteria will be used to determine if an employee requires hearing protection and to select the appropriate device.

- a. Employees will be required to wear hearing protective devices whenever they are exposed to either of the following working conditions:
 - 1. Noise levels 85 dBA or above, or
 - 2. Impulse or impact noise.
- b. Hearing protective devices are to be issued to each employee with an identified need and to those employees requesting protective devices. For sanitary reasons, employees will not share the same hearing protective device.
- c. Hearing protective devices, which are not disposable, will be maintained in functional, sanitary, and reliable condition.
- d. The use of hearing protective devices will be compatible with other personal protective equipment requirements, such as eye protection, respirators, or welding hoods.
- e. Hearing protective devices will reduce employee exposure to a TWA of 85 dBA or below. Double protection may be necessary in some cases to provide sufficient protection.
- f. Ear plugs or earmuffs will be worn where exposure is equal to TWA 85 dBA or greater or if employee is going to be exposed to noise levels of 85dBA or above for a short period.
- g. Both approved earmuffs and earplugs will be worn where exposure is equal to or greater than 100 dBA on an 8-hour daily average.
- h. Both approved earmuffs and earplugs will be worn for exposures that equal or exceed 110 dBA over time periods of 15 minutes or more regardless of the daily TWA.
- i. Both approved earmuffs and earplugs will be worn for impact/impulse exposures that exceed an instantaneous level of 140 dBA peaks
- j. Employees will select their hearing protective devices from at least two different types (such as molded, self-molded, custom-molded, or earmuffs).
- k. Employees who have difficulty wearing any of the available required hearing protective devices will be evaluated and alternative hearing protection will be provided.
- l. The adequacy of hearing protective device attenuation will be reevaluated whenever an employee's exposure increases and the hearing protective device he or she is presently wearing may not provide adequate protection. More effective hearing protective devices will be provided when necessary.
- m. Hearing protective device attenuation for the specific noise environments in which the device will be used will be evaluated.

25.7. EMPLOYEE TRAINING AND FITTING

- a. All employees, contractors, and unescorted guests view the, “Active Force of Protection” educational video which describes the general protective measures for working on the SPR, including measures for hearing protection. All site O&M personnel shall be included in the DM Hearing Conservation Program upon hiring.
- b. A description of the current training program will be electronically maintained by both New Orleans S&H and PD.
- c. The training program will be repeated annually for each employee included in the Hearing Conservation Program.
- d. Information provided in the training program will be updated to include changes in protective equipment and work processes when they occur.
- e. Each employee will receive training on the following:
 1. The effects of noise on hearing,
 2. The purpose, advantages, disadvantages, and effectiveness of various types of hearing protective devices,
 3. The selection, care, fitting, and use of hearing protective devices,
 4. The purpose of audiometric testing and an explanation of the test procedures, and
 5. The right of access to records as described in “Notification of Affected Employees” earlier in this section.
- f. If a comparison of the annual audiogram to the baseline audiogram indicates a standard threshold shift, the employee will be refitted and retrained in the use of hearing protective devices and provided with protective devices offering greater noise attenuation, if required.

25.8. OTHER PROGRAM REQUIREMENTS

25.8.1. Posting Warnings

- a. Placards, as specified in OSHA standard 29 CFR 1910.145 (c) and (d), will be posted at entrances to or on the periphery of all defined work areas or at operations involving high noise to warn employees that the area or operation is a high-noise area and to indicate that hearing protective devices are required when applicable.
- b. Areas or operations where noise reaches or exceeds the following levels require posted warnings:
 1. 85 dBA or greater,
 2. A level of 110 dBA or 140 dB peak.

25.8.2. Recordkeeping

- a. The industrial hygienist will maintain accurate records of all employees' exposure measurements.
- b. Human Capital Medical Services will permanently retain a record of each employee's audiogram.
- c. Records will include the following information:
 1. Name and job classification of the employee,
 2. Date of the audiogram,
 3. The examiner's name, and

4. Date of the last acoustic or exhaustive calibration of the audiometer, although this record and background sound pressure levels in audiometric test rooms are normally kept by the facility conducting the audiometric testing.

25.8.3. Program Audits

New Orleans Safety and Health will conduct audits of the Hearing Conservation Program annually and will ensure that, for all high-noise level areas and operations, the following criteria are met.

- a. Employees are wearing required hearing protection.
- b. Placards, conforming to the requirements identified in “Posting Warnings” above, are posted to warn employees of high-noise levels.
- c. Feasible engineering controls have been implemented to reduce or eliminate hazardous noises.
- d. Employees have received audiometric testing, training, fitting, and hearing protection devices.

25.9. TABLES: HEARING CONSERVATION PROGRAM

TABLE 25.1. HEARING CONSERVATION PROGRAM RESPONSIBILITIES	
Position or Department	Responsibility
Site Director	<ol style="list-style-type: none"> a. Ensure that areas and operations identified as requiring hearing protection display posted warnings and that personnel are provided hearing protection upon entering those areas. b. Obtain assistance from the Site Safety Specialist, Industrial Hygienist, or Engineering in the identification of feasible engineering controls to reduce employee exposure to high-noise levels. c. Initiate actions in coordination with NO Safety and Health to eliminate, isolate, or otherwise control high-level noise sources. d. Ensure the maintenance of the designated minimum stock quantity for hearing protection.
Supervisors of High Noise-Exposed Employees	<ol style="list-style-type: none"> a. Notify New Orleans HR Medical Services whenever employees who have not been identified for inclusion in the Hearing Conservation Program are exposed to high noise levels. b. Notify the site safety specialist whenever changes in processes or equipment have increased or decreased noise exposures. c. Ensure that all employees wear approved hearing protective devices when working in an area or on an operation identified in the Audiometric Testing section as requiring hearing protection. d. Ensure that no unprotected employee is exposed to a noise level of 85 dBA or above. e. For sanitary reasons, ensure that employees do not share hearing protection devices other than earmuffs. f. Ensure that all identified employees in the program are provided with initial and annual training that at minimum covers the following items: <ol style="list-style-type: none"> 1. The effects of noise on hearing, 2. The purpose of hearing protectors, and 3. The attenuation, advantages, disadvantages, comfort, sanitation, and maintenance of various types of hearing protective devices. g. Provide instructions on selection, care, fitting, and use of hearing

TABLE 25.1. HEARING CONSERVATION PROGRAM RESPONSIBILITIES

Position or Department	Responsibility
	protective devices. h. Identify to employees the location of areas and operations that have been determined as having noise levels of 85 dBA or above. i. Inform employees of the specific locations where approved hearing protective devices can be obtained. j. Inform employees about updated information related to changes in hearing protective devices and work processes, if applicable. k. Encourage employees' input about how to reduce high noise levels. l. Inform employees of their right to access records.
Employees in the Hearing Conservation Program	a. Receive the following tests and training: 1. Audiometric testing, including initial baseline audiogram and an annual audiogram, as directed by HC Medical Services or Proforce designated physician (whichever applicable), and 2. Initial and annual hearing conservation training. b. Use hearing protective devices to avoid workplace noise exposure for 14 hours before baseline audiometric evaluations. c. Avoid high levels of non-occupational noise exposure during the 14 hours immediately preceding the baseline audiometric evaluation. d. Wear hearing protective devices when required and apply the hearing conservation principles presented during training as they pertain to the work assignment. e. Advise supervisor of concerns about changes in noise levels in work area. f. Report to supervisor any difficulty experienced in wearing hearing protective devices.
Employees Exposed to noise levels at 85 dBA and Above	a. Attend required training. b. Wear hearing protective devices when exposed to 85 dBA and above, and apply the hearing conservation principles presented during training as they pertain to the work assignment. c. Advise supervisor of concerns about changes in noise levels in work area. d. Report any difficulty experienced in wearing hearing protective devices to the supervisor.
Site Safety Specialist	a. Analyze all site areas and new processes generating noise, and provide technical input concerning noise level restrictions for purchase specifications for new equipment. b. Identify all employees with a noise exposure of an 8-hour TWA of 85 dBA or above for inclusion in the hearing conservation program. c. Initiate noise-level evaluations and provide requirements and recommendations for control measures. d. Provide noise-level monitoring results to the ES&H manager. e. Identify areas and operations that require placards posted that warn employees of high-noise levels to site management. f. Ensure that appropriate hearing protective devices designed to reduce exposures of 85dBA and above are worn by employees. g. Evaluate hearing protective device attenuation in accordance with 29CFR 1910.95, Appendix B.

TABLE 25.1. HEARING CONSERVATION PROGRAM RESPONSIBILITIES

Position or Department	Responsibility
	<ul style="list-style-type: none"> h. Monitor the Hearing Conservation Program. i. Provide technical guidance and evaluate use of hearing protection. j. Ensure that employees with a standard threshold shift who are wearing hearing protection devices are refitted and retrained in the use of the devices and provided with hearing protection devices offering greater attenuation, if necessary. k. Conduct the initial and annual surveys of the site. l. Request technical support from New Orleans Occupational Safety and Health when needed.
Human Capital (Medical Services) for M&O personnel	<ul style="list-style-type: none"> a. Ensure that identified employees in the Hearing Conservation Program receive audiometric testing according to 29 CFR 1910.95 (h) (audiometric test requirements). b. Ensure that identified employees are advised to avoid high levels of non-occupational noise exposure (such as loud stereo or hobby power saw) during the 14-hour period immediately preceding the baseline audiometric evaluation. c. Ensure that identified employees are advised to use approved hearing protective devices if they cannot avoid workplace exposure to high noise levels during the 14-hour period immediately preceding the baseline audiometric evaluation. d. Coordinate with supervisors to ensure that employees are scheduled for required audiometric testing at the required frequency. e. Inform employees of the results of their hearing test and of any additional hearing protection requirements whether or not a hearing level decrease or improvement has been measured since the previous test. f. Send written notification to each employee who experiences a work-related standard threshold shift (STS). Notification of a work-related STS will also be sent to the employee’s supervisor and NOLA IH so a consultation to determine possible causes of work-related STS and courses of action to mitigate could occur. If retraining is recommended, then this would be scheduled with PD. g. Retain a permanent record of each employee’s audiogram as described in the “Recordkeeping” section.
New Orleans Safety and Health	<ul style="list-style-type: none"> a. Upon request, assist with identifying all employees whose noise exposure may equal an 8-hour TWA of 85 dBA or above for inclusion in the Hearing Conservation Program. b. Upon request, assist with noise level evaluations and provide requirements and recommendations for control measures. c. Provide noise level monitoring results to management. d. Assist with identifying areas and operations that require placards posted that warn employees of high noise levels. e. Assist site management, as requested, to eliminate, isolate, or otherwise control high-level noise sources. f. Compile and provide information identified in “Program Audits” section if requested by applicable state and federal agencies. g. Update this Hearing Conservation Program section as necessary.

TABLE 25.1. HEARING CONSERVATION PROGRAM RESPONSIBILITIES

Position or Department	Responsibility
	<ul style="list-style-type: none"> h. Upon request, assist with ensuring that hearing protective devices reduce employee exposures to an 8-hour TWA of below 85 dBA. See 29CFR 1910.95, Appendix B. i. Evaluate hearing protective device attenuation in accordance with 29CFR 1910.95, Appendix B. j. Provide initial training and fitting of hearing protective devices for employees according to the requirements identified in the “Employee Training and Fitting” section. Provide retraining and refitting of hearing protective devices for employees who experience an STS as requested. k. Analyze new process-generated noise and provide technical input concerning noise-level restrictions for purchase specifications for new equipment. l. Assist with initial and annual surveys of the sites.
Operations and Maintenance	<ul style="list-style-type: none"> a. Coordinate any proposed changes in operations, processes, or equipment that may impact employee noise exposures or the Hearing Conservation Program with the site safety specialist. b. Specify noise level restrictions in purchase specifications for new equipment according to the requirements identified in the section on the Hearing Conservation Program.
Engineering	<ul style="list-style-type: none"> a. Do not increase noise levels and reduce them if possible when preparing specifications for new or replacement equipment.