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Brunel Energy, Inc.

Noise Conservation Hearing Protection

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1. Purpose

- 1.1. Brunel Energy, Inc., hereinafter referred to as, “the Company,” has established a program compliant with OSHA 1910.95 Occupational Noise Exposure Standard. OSHA 1910.95 (o) “Exemptions.” Paragraphs (o) through (n) of this section shall not apply to employers engaged in oil and gas well drilling and servicing operations. The full requirements of OSHA 1910.95 are provided in this Standard for use with the Company contractors who are not exempt from section (c) to (n) of the OSHA Occupational Noise Exposure Standard.

2. Applicability

- 2.1. This policy applies to employees, subcontractors and/or visitor(s) of the Company. For the purposes of this policy, an employee shall be considered on the job whenever he/she is:
 - 2.1.1. On or in, any Company or client property, including parking areas; or
 - 2.1.2. On Company time even if off Company premises (including paid lunch, rest periods and periods of being on call).
- 2.2. As a condition of employment, Company employees are required to abide by additional governmental or customer policies and requirements that may be imposed at a worksite in addition to the requirements of these policies and procedures. Nothing set forth in this policy constitutes, construes, or interprets in any way as a contract of employment.

3. Definitions

- 3.1. **Action Level Noise** is the level of exposure to noise at which an employer must take the required precautions to protect workers.
- 3.2. An **audiogram** is a chart, graph or table resulting from an audiometric test showing an individual’s hearing threshold levels.
- 3.3. **Baseline Audiogram** is an audiogram which future audiograms are compared.
- 3.4. **Decibel (dB)** is a unit of measurement of sound.
- 3.5. **Occupational Exposure Limit (OEL)** is the legally enforceable limit on the amount or concentration of substance in the work environment to which employees/workers may be exposed to during a specified period.
- 3.6. **Time-Weighted Average (TWA)** Sound level is the sound level at which, if constant over an 8-hour exposure, would result in the same noise dose as is measured.

4. Responsibilities

- 4.1. Managers and HSE Supervisors:
 - 4.1.1. Responsible for implementing, supporting, and enforcing the requirement of this Standard in their locations.

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4.1.2. Site Supervisor will assist management in the implementation of this Standard.

4.2. Employee(s):

4.3. Employees not using hearing protection shall be fitted with hearing protectors, trained in their use and care, and required to use them.

4.4. Subcontractor(s):

4.4.1. Responsible for the working conditions of their hearing protectors and shall replace them if they are not working properly.

5. Requirements

5.1. Hearing Conservation Program

5.1.1. The Company shall ensure employees, contractors, and visitors at the work site are protected from the effects of hazardous industrial noise in excess of the Occupational Exposure Limit (OEL).

5.1.2. A hearing conservation program shall be in place whenever employee noise exposure equals or exceeds an 8-hour time weighted average (TWA) of 85 dB or greater (Appendix 7.1 – Occupational Exposure Limits). A monitoring procedure will be used when exposure limits exceed 85 dB or greater in an 8 – hour time weighted average.

5.1.3. Hearing conservation programs should be based on a three-step approach:

5.1.3.1. Elimination of noise at source, re-engineering of equipment generating hazardous noise, and the purchase of equipment that presents a lower noise hazard where practical.

5.1.3.2. Control of generated noise, through the installation of effective sound suppression methods where practicable.

5.1.3.3. Protection of workers, equipping and training workers in the proper use of hearing protection, and the requirements of the hearing conservation program.

6. Procedure

6.1. Management shall ensure that noise levels in the workplace are assessed and monitored.

6.1.1. Employees who are exposed to a TWA of 85 dB shall be notified and trained in the hearing conservation program. Local management shall ensure that training is in place for all affected employees.

6.1.2. Local management shall conduct audiometric tests by a certified or licensed health care professional for all employees whose exposures equal or exceed an 8-hour TWA of 85 dB and within 6 months of an employee's first exposure.

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- 6.1.3. Local management shall ensure audiometric test requirements (minimum of baseline and annual audiograms) are performed for all employees whose exposures equal or exceed an 8-hour TWA of 85 dB or higher within the first six months of initial exposure.
- 6.1.4. Testing shall be preceded by at least 14 hours without exposure to workplace noise. Hearing protection may be used to meet this requirement.
- 6.1.5. Management shall select adequate hearing protection equipment that is available to all employees exposed to an 8-hour TWA of 85 dB or higher at no cost to the employee.
- 6.1.6. Hearing protection shall be worn by any employee who is exposed to an 8-hour time-weighted average of 85 dBA or greater shall wear hearing protection provided by the Company in signed areas while at the worksite. Employees exposed to noise of 85 dBA or greater will be included in the hearing conservation program.
- 6.1.7. Employees are responsible for the working conditions of their hearing protectors and shall replace them if they are not working properly.
- 6.1.8. Safety shall be responsible for the selection of hearing protection.
- 6.1.9. Hearing protection provided will be evaluated to meet the specific noise environments the protector will be used.
- 6.1.10. Any audiogram result showing a permanent threshold shift shall be reported as an incident.
- 6.1.11. The site-specific hearing conservation program shall include the following:
 - 6.1.11.1. A noise assessment, which establishes the requirement for the use of hearing protect communication and administrative control measures are not feasible, and the noise levels are above an 8-hour TWA of 85 dB or higher.
 - 6.1.11.2. Procedures for selecting hearing protection equipment for use in the workplace.
 - 6.1.11.3. Recordkeeping procedure for audiometric tests conducted, results reviewed and communicated.
 - 6.1.11.4. Procedures for proper use of hearing protection as well as procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, and discarding.
 - 6.1.11.5. Documented training for all employees in the hearing conservation program.
 - 6.1.11.6. Special requirements when there is a threshold.
- 6.2. Selection of Hearing Protection Devices
 - 6.2.1. Hearing protection devices shall be selected based upon industry approved standard.
 - 6.2.2. Factors influencing the selection of protection to be considered by the audiometric technician or service provider are:
 - 6.2.2.1. The daily noise exposure of the worker.
 - 6.2.2.2. The worker's hearing ability.
 - 6.2.2.3. Communication demands over the worker.

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- 6.2.2.4. Use of other personal protective equipment.
- 6.2.2.5. Temperature and climate.
- 6.2.2.6. Physical constraints of the worker or work activity.

6.3. Noise Measurement Assessment

- 6.3.1. Where employees are exposed to noise at a work site in excess of 85 dBA Lex and the noise exposure limits as identified in Appendix 7.2 – Noise Exposure Limits, The Company shall conduct a noise exposure assessment. The Company shall establish representative noise exposures for various occupational groups through noise level surveys. The noise assessment survey information shall be posted at strategic locations.
- 6.3.2. Monitoring shall be repeated whenever a change in production, process, equipment, or controls increases noise exposures to the extent that: Additional employee may be exposed at or above the action level or the attenuation provided by hearing protectors being used by employee may be rendered inadequate.

6.4. Noise Control

- 6.4.1. Where feasible the Company shall purchase or rent equipment considering the type and level of noise generated. Where noise levels are in excess of the regulated levels, the Company shall attempt to reduce the hazard by modifying the design, upgrading sound suppression systems, or limiting worker exposure. If such controls cannot be conducted, hearing protection devices will be provided and worn.

6.5. Posting of Noise Hazard Area

- 6.5.1. The exteriors of all facilities where industrial noise exposure (greater than the prescribed limits) may occur shall have noise hazard signs strategically located.
- 6.5.2. In addition, mobile equipment where workers could be exposed to industrial noise shall be posted with appropriate signs.
- 6.5.3. The signs shall be inspected for accuracy and serviceability on a routine basis as part of the regular workplace inspection program. Any deficiencies shall be corrected as soon as reasonably practicable.

6.6. Availability of Hearing Protection Devices

- 6.6.1. Hearing protection devices shall be made available to all workers and visitors where the potential for noise exposure is evident or where employees are exposed to an 8-hour time-weighted average of 85 dba.
- 6.6.2. Company policy and regulation requires that any personal protection equipment be worn or used where employees, workers, or visitors are exposed to a hazard. The Company provides a selection of earmuffs (employees and dedicated contractors only) and earplugs to ensure comfortable and appropriate protection for all noise exposed workers.
- 6.6.3. Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by The Company.

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6.6.4. When earmuffs are issued, a record of the type and class of earmuff shall be maintained for historical purposes. The in-house audiometric technician or audiology service provider shall maintain an inventory (samples) of the types and classes of hearing protection that the Company provides. The worker should present their selected hearing protection to the technician during the annual audiometric testing program to ensure the correct type, class, fit and serviceability.

6.7. Audiometric Testing

6.7.1. Where required, The Company shall provide at its expense, the following:

6.7.1.1. An initial baseline test as soon as practicable, but not later than 6 months after the worker is employed or within 6 months after a worker is exposed to excess noise because of a change in the worker's duties or process condition.

6.7.1.2. Audiometric testing is performed annually for individuals exposed to noise equal to or greater than 85 dBA, 8-hour time-weighted average.

6.7.1.3. Each employee's annual audiogram shall be compared to employee's baseline audiogram to determine if the audiogram is valid and if standard threshold has occurred.

6.7.2. The Company shall ensure the audiometric testing is administered by a qualified person (typically an audiometric technician or industrial nurse qualified in the procedure).

6.7.3. If the results of an audiometric test indicate an abnormal audiogram or show an abnormal shift appropriate action shall be taken and the employee notified in writing within 21 days of the determination. Each employee's annual audiogram shall be compared to the baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a shift has occurred, the employee will also be notified in writing within 21 days of determination.

6.7.4. If a threshold shift has occurred, use of hearing protection shall be re-evaluated and/or refitted and if necessary, a medical evaluation may be required. Employees not using hearing protection shall be fitted with hearing protectors, trained in their use and care, and required to use them. Employees already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation.

6.7.5. If a physician or audiologist designated by the employer confirms the audiogram as abnormal or abnormal shift the physician or audiologist shall take appropriate action in accordance with legislation. Employees referred for further evaluation or if additional testing is necessary or if the company suspects that medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.

6.7.6. Records of employee exposure will be maintained by management at the office.

6.7.7. A person must not release records of audiometric tests conducted on a worker or medical history information received from a worker to any person without the worker's written permission per Access to Medical Records Company policy.

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- 6.7.8. If it is not reasonably practicable for a worker to undergo audiometric testing during the worker’s normal working hours, the employer shall credit the time the worker spends to get the test as time at work and ensure that the worker does not lose any pay or other benefits due to testing.
- 6.7.9. On an annual basis, the in-house audiometric technician or audiometric service provider shall supply the health and safety representative with a statistical report on the results of the audiometric testing program, and an evaluation of the effectiveness of the hearing conservation program, including equipment use and worker satisfaction, along with any recommendations for change.
- 6.7.10. The Supervisor is responsible for monitoring the use of hearing protection devices in the workplace. This monitoring shall form part of their regular site inspections.
- 6.7.11. An accurate record of all employee exposures to noise and audiometric measurements shall be maintained as required by regulation.
- 6.8. Hearing Conservation Program – Annual Review
 - 6.8.1. The Company receives noise exposure statistics from the regulator each year. Copies are sent to the audiometric technician and/or the service provider. The Manager and Supervisor will review these statistics for trends and analytical purposes. If deficiencies are identified, management are required to take appropriate action. A report prepared by the health and safety representative or Company representative regarding this annual review, shall be made available to employees.
 - 6.8.2. The report will address the following:
 - 6.8.2.1. The need for further noise measurement.
 - 6.8.2.2. Further education and training requirements.
 - 6.8.2.3. The adequacy of present noise control measures.
 - 6.8.2.4. Selection, care, and use of hearing protection devices.
 - 6.8.2.5. Rate and extent of hearing loss in occupational groups.
- 6.9. Restrictions and Prohibitions
 - 6.9.1. The use of “electronic” type devices under hearing protection or other such devices are prohibited. Use of these devices may impede a worker from hearing warning announcements or other communication and are not typically intrinsically safe.
 - 6.9.2. Only approved, intrinsically safe, hearing protection incorporating speakers for two-way radio communication shall be used.

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7. Training

- 7.1. The Company shall provide education (counseling) training for all employees and dedicated contractors who are exposed to noise at or above an 8-hour time weighted average of 85 decibels and ensure employee participation in the program. The training shall be provided via in-house training programs or during conducting the annual hearing test program (audiometric testing).
- 7.2. Education shall cover the effects of noise on hearing, selection, use and maintenance of hearing protection devices and the purpose of hearing protection. The hearing test service provider shall ensure these areas are covered with each worker through individual discussion and/or applicable produced publications. In addition, supervisors may wish to provide suitable hearing conservation literature to workers and review/discuss said materials at scheduled Safety Meetings at least on an annual basis.
- 7.3. Information regarding hearing protection devices and local noise hazards shall be provided during employee or worker indoctrinations. This initial training should be documented and suitably filed for historical purposes. Employees included in the Hearing Conservation Program shall receive training with site specific information.
- 7.4. The training shall be repeated annually for each employee and employees will be re-trained in the use and care of hearing protectors offering greater attenuation if threshold shift occurs.
- 7.5. Training shall be updated consistent with changes in PPE and work processes and shall include the proper techniques of wearing hearing protection.
- 7.6. The Company shall make copies of the noise exposure procedures available to affected employees and shall also post a copy in the workplace.
- 7.7. The Company shall make available access to medical records, as required, and in compliance with the Access to Medical Records policy.

8. Recordkeeping

- 8.1. Accurate records of all employee exposure and audiometric measurements shall be maintained as required by the regulation.

9. References

- 9.1. OSHA Regulations (Standards - 29 CFR) 1910.95, Occupational Noise Exposure.
- 9.2. IADC HSE Reference Guide, Revised Edition, Jan 2004, Section 14.7 Noise.