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Brunel Energy, Inc.

Noise Awareness

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1. Purpose

- 1.1. Brunel Energy, Inc., hereinafter referred to as, the “Company,” has established a program compliant with OSHA to provide a process to minimize employee-hearing loss caused by excessive occupational exposure to noise and to set the minimum requirements for selection and use of Hearing Protection Equipment.

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. **Audiogram** is a chart, graph or table resulting from an audiometric test showing an individual’s hearing threshold levels.
- 3.3. **Audiometric testing** means detection by the person being tested of a series of pure tones. For each tone, the person indicates the lowest level of intensity that they are able to perceive.
- 3.4. **Baseline Audiogram** is the audiogram against which future audiograms are compared.
- 3.5. **Decibel (dB)** is a unit of measurement of sound level.
- 3.6. **Occupational Exposure Limit (OEL)** is a legally enforceable limit on the amount or concentration of a substance in the work environment to which employees/workers may be exposed during a specified period.
- 3.7. **Standard Threshold Shift** means a change in hearing threshold relative to the baseline audiogram of an average of 10 dB (corrected for age) at 2000, 3000 and 4000 Hz in either ear.
- 3.8. **Time-Weighted Average (TWA) Sound Level** is the sound level which, if constant over an 8-hour exposure, would result in the same noise dose as is Measured.

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4. Responsibilities

4.1. Manager(s):

- 4.1.1. Shall implement, support, and enforce the requirements of this program in their locations.

4.2. HSE Supervisor(s):

- 4.2.1. Use engineering and administrative controls to limit employee exposure.
- 4.2.2. Provide adequate hearing protection for employees.
- 4.2.3. Post signs and warnings in all high noise areas.
- 4.2.4. Conduct noise surveys annually or when new equipment is needed.
- 4.2.5. Conduct an annual hearing test for all employees.
- 4.2.6. Conduct hearing conservation training for all new employees.
- 4.2.7. Conduct annual hearing conservation training for all employees.

4.3. Employee(s):

- 4.3.1. Wear hearing protection when required, attend the training, and cooperate with testing and sampling.
- 4.3.2. Use company-issue approved hearing protection in designated high noise areas.
- 4.3.3. Request new hearing protection when needed.
- 4.3.4. Exercise proper care of issued hearing protection.

5. Requirements

- 5.1. Occupational hearing loss is a cumulative result of repeated or continued absorption of sound energy by the ear; employee protection is based on reduction of the noise level at the ear or limiting the employee's exposure time. The company shall offer proper hearing protection to all employees exposed to potentially high noise levels in working areas and to those employees requesting hearing protection. Employees will be given the opportunity to select their hearing protection from the approved hearing protection provided by the company.
- 5.2. The company shall make copies of the noise exposure procedures available to affected employees and shall also post a copy in the workplace.
- 5.3. The company shall also allow the Director and proper personnel access to records.

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6. Procedure

6.1. Hearing Conservation Program

6.1.1. The Company shall implement a hearing conservation program for employees exposed to sound levels 85dbA or greater. A continuing effective hearing conservation program shall be administered when employees are exposed to sound levels greater than 85 dBA on an 8-hour time-weighted average basis.

6.1.2. Employees will wear hearing protection in signed areas while on an owner client facility.

6.2. Monitoring Procedures to be Used When Exposure Limits Exceed the Established Level

6.2.1. When information indicates that employee exposure may equal/exceed the 8-hour time-weighted average of 85 decibels, a monitoring program shall be implemented to identify employees to be included in the hearing conservation program.

6.3. Noise Monitoring

6.3.1. Company site supervisor will conduct monitoring of noise exposure levels. It is the responsibility of the individual departments to notify site supervisor when there is a need for monitoring. Monitoring will be performed with the use of sound level meters and personal dosimeters at the discretion of the site supervisor.

6.3.2. Monitoring will also be conducted whenever there is a change in equipment, process or controls that affect the noise levels. This includes the addition or removal of machinery, alteration in building structure, or substitution of new equipment in place of that previously used. The responsible supervisor must inform the site supervisor when these types of changes are instituted.

7. Training

7.1. A training program shall be provided for all employees who are exposed to action level noise before initial assignment and on an annual basis.

7.2. Training shall be updated consistent to changes in PPE and work processes.

7.3. All training must and shall be documented.

7.4. All staff shall have a copy of this program, noise exposure procedures and it shall be posted at the worksite and a copy made available to all employees and their representatives if applicable.

8. Recordkeeping

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

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9. Appendix

- 9.1. Occupational Exposure Limits.
- 9.2. Noise Exposure Limits.

10. Reference

- 10.1. OSHA Regulations (Standards - 29 CFR) 1910.95, Occupational Noise Exposure.
- 10.2. IADC HSE Reference Guide, Revised Edition, Jan 2004, Section 14.7 Noise.
- 10.3. HSE.USA– Access to Medical Records.

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OCCUPATIONAL EXPOSRE LIMITS

SOUND LEVEL (Dba)	MAXIMUM PERMITTED DURATION (Hours per day)
90	8 hours
92	6 hours
95	4 hours
97	3 hours
100	2 hours
102	1.5 hours
105	1 hour
110	30 minutes
115	≤ 15 minutes

Note: When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C(1)/T(1) + C(2)/T(2) + \dots + C(n)/T(n)$ exceeds unity, then, the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

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NOISE EXPOSURE LIMITS

MAXIMUM EQUIVALENT NOISE LEVEL (Dba L_{ex})	CSA CLASS OF HEARING PROTECTION	CSA GRADE OF HEARING PROTECTION
≤ 90	C, B or A	1, 2, 3, or 4
≤ 95	B or A	2, 3, or 4
≤ 100	A	3 or 4
≤ 105	A	4
≤ 110	A earplug + 1 or B earmuff	3 or 4 earplug + 2, 3, or 4 earmuff
> 110	A plug + A or B earmuff and limited exposure time to keep sound reaching the worker's ear drum below 85 dBA L _{ex}	3 or 4 earplug + 2, 3, or 4 earmuff and limited exposure time to keep sound reaching the worker's ear drum below 85 dBA L _{ex}