Brunel Energy, Inc.

Benzene Awareness

Contents

1. Purpose 2
2. Applicability 2
3. Definitions 2
4. Responsibilities 3
5. Procedure 4
5.1. Physical and Chemical Characteristics 4
5.2. Health Effects 4
5.3. Regulatory Limits 5
6. Requirements 6
6.1. Facility Evaluation 6
6.2. Regulated Areas 6
6.3. Employee Notification and Signage 6
6.4. Containers 6
6.5. Spill and Leak Procedures 6
6.6. Emergency Containment and Site-Specific Contingency/Emergency Plans 6
6.7. Emergency First Aid Procedures 7
6.8. Protective Clothing and Personal Protective Equipment (PPE) 7
7. Training 8
8. Recordkeeping 10
9. Reference 10

1. Purpose

1.1. Brunel Energy, Inc., hereinafter referred to as, the "Company," has established a program compliant with OSHA 29 CFR 1910.1028.

1.2. The Company will implement the Benzene Awareness program to reduce employee exposure to or below the Permissible Exposure Limit (PEL) of 1 part per million wherever feasible. When engineering and work practice controls are not feasible to reduce employee exposures to or below the PEL, the company will utilize engineering controls to reduce employee exposure to the lowest levels achievable.

1.3. The program shall be reviewed and revised as needed to include the most recent exposure monitoring data and any new developments for implementing engineering and work practice controls.

1.4. Written compliance programs shall be furnished upon request to the Department of Labor's Assistant Secretary, the Director, affected employees and designated employee representatives.

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. ***Benzene*** is found in certain industrial worksite soils and/or due to spills or release incidents occurring within petrochemical refining and processing facilities. It may also be found in occupation settings such as factories, burning coal, refineries in hydraulic fracturing, printing facilities, in gasoline and other fuels, crude oil, in the production of plastics, detergents, pesticides, various chemicals, vehicle exhaust, lubricants, resins, rubbers, dyes and I other industrial applications. Benzene (C6H6) (CAS Registry No. 71-43-2) means liquefied or gaseous Benzene. It does not include trace amounts of unreacted Benzene contained in solid materials.

3.2. ***Authorized person*** means any person specifically authorized by the Company whose duties require the person to enter a regulated area, or any person entering such an area as designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures.

3.3. ***Emergency*** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure to control equipment which may or does result in an unexpected significant release of Benzene.

3.4. ***Employee exposure*** means exposure to airborne Benzene which would occur if the employee were not using respiratory protective equipment.

3.5. ***Regulated area*** means any area where airborne concentrations of Benzene excess or can reasonably exceed, the permissible exposure limits of either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

4. Responsibilities

4.1. Manager(s) shall:

4.1.1. Implement, support, and enforce the requirements of this policy in their locations.

4.2. HSE Supervisor(s) shall:

4.2.1. Implement site controls, isolating employees from Benzene hazards when Benzene is discovered or suspected on a jobsite.

4.2.2. Immediately inform management of any Benzene exposures on a jobsite.

4.2.3. Notify employees of work that has the potential of exposure to Benzene.

4.2.4. Ensure the appropriate Personal Protective Equipment (PPE) is readily available and employees are properly trained in its use and care.

4.2.5. Ensure individuals responsible for monitoring areas of exposure are properly trained.

4.2.6. Ensure that emergency exams are performed if an overexposure or suspected overexposure occurs.

4.2.7. Ensure employees comply with the Benzene control program.

4.3. Employee(s) shall:

4.3.1. Upon discovery of Benzene being present on a jobsite, stop the work and immediately inform their supervisor.

4.3.2. Properly wear appropriate PPE and abide by the Company's safety rules and guidelines regarding benzene hazard protection.

4.3.3. Immediately report to a supervisor any changes, deficiency or breaches in site controls established to isolate employees from Benzene hazards on a jobsite.

4.3.4. Participate and understand Benzene Awareness training.

4.3.5. Participate in JSA and hazard recognition activities. Make every effort to identify Benzene hazards during daily JSA's.

4.4. Subcontractor(s) shall:

4.4.1. Upon discovery of Benzene being present on a jobsite, employees are to stop the work and immediately inform their supervisor.

4.4.2. Properly wear appropriate PPE and abide by the Company's safety rules and guidelines regarding Benzene hazard protection.

4.4.3. Immediately report to a supervisor any changes, deficiency or breaches in site controls established to isolate employees from Benzene hazards on a jobsite.

4.4.4. Participate and understand benzene awareness training.

4.4.5. Participate in Job Safety Analysis (JSA) and hazard recognition activities. Make every effort to identify Benzene hazards during daily JSA's.

5. Procedure

5.1. Physical and Chemical Characteristics

5.1.1. Benzene is a clear, colorless liquid with a pleasant, sweet odor. The odor of Benzene does not provide adequate warning of its hazard. Its boiling point is 176 degrees F.

5.1.2. Benzene is a highly flammable liquid, with a flash point of 12 degrees F. The flammable limits in the air are 1.3% for the low end and 7.5% for the high end. Its vapors can form explosive mixtures. Smoking is prohibited in areas where Benzene is used or stored.

5.1.3. All ignition sources must be controlled when Benzene is used, handled, or stored. It should be stored in tightly closed containers in a cool, well-ventilated area.

5.1.4. Benzene vapors are heavier than air; thus, the vapors may travel along the ground and be ignited by open flames or sparks at locations remote from the site at which Benzene is handled.

5.1.5. Benzene is classified as a 1 B flammable liquid for the purpose of conforming to the requirements of 29 CFR 1910.106. A concentration exceeding 3,250 ppm is considered a potential fire explosion hazard. Locations where Benzene may be present in quantities enough to produce explosive or ignitable mixtures are considered Class I Group D for the purpose of conforming to the requirements of 29 CFR 1910.309.

5.2. Health Effects

5.2.1. Benzene is primarily an inhalation hazard. Systemic absorption may cause depression of the hematopoietic system, pancytopenia, aplastic anemia, and leukemia. Inhalation of high concentrations can affect the central nervous system function. Aspiration of small amounts of liquid Benzene immediately causes pulmonary edema and hemorrhage of pulmonary tissue. There is some absorption through the skin. Absorption may be more rapid in the case of abraded skin, and Benzene may be more

readily absorbed if it is present in a mixture or as a contaminant in solvents that are readily absorbed. The defatting action of Benzene may produce primary irritation due to repeated or prolonged contact with the skin. A high concentration is irritating to the eyes and the mucous membranes of the nose, and respiratory tract.

5.2.2. Direct skin contact with Benzene may cause erythema. Repeated or prolonged contact may result in drying, scaling dermatitis, or development of secondary skin infections. In addition, there is Benzene absorption through the skin. Local effects of Benzene vapor or liquid on the eyes are slight. Only at very high concentrations is there any smarting sensation in the eyes. Inhalation of high concentrations of Benzene may have an initial stimulatory effect on the central nervous system characterized by exhilaration, nervous excitation, and/or giddiness, followed by a period of depression, drowsiness, or fatigue. A sensation of tightness in the chest accompanied by breathlessness may occur and ultimately the victim may lose consciousness. Tremors, convulsions, and death may follow from respiratory paralysis or circulatory collapse in a few minutes to several hours following severe exposure.

5.2.3. The detrimental effect on the blood-forming system of prolonged exposure hematopoietic system is the chief target for Benzene's toxic effects that are manifested by alterations in the levels of formed elements in the peripheral blood. These effects have occurred at concentrations of Benzene that may not cause irritation of mucous membranes, or any morbidity is varied, often not readily noticed and non-specific. Subjective complaints of headache, dizziness, and loss of appetite may precede or follow clinical signs. Rapid pulse and low blood pressure, in addition to a physical appearance of anemia, may accompany a subjective complaint of shortness of breath and excessive tiredness. Bleeding from the nose, gums, or mucous membranes, and the development of purpuric spots (small bruises) may occur as the condition progresses. Clinical evidence of leukemia, anemia, and thrombocytopenia, singly or in combination, has been frequently reported among the first signs.

5.2.4. Bone marrow may appear normal, aplastic, or hyperplastic, and may not, in all situations, correlate with peripheral blood forming tissues. Because of variations in the susceptibility to Benzene morbidity. There is no "typical" blood picture. The onset of effects of Benzene exposure may be delayed for many months or years after the actual exposure has ceased and identification or correlation with Benzene exposure must be sought out in the occupational history.

5.3. Regulatory Limits

5.3.1. An airborne concentration of Benzene of 0.5 parts per million (ppm) calculated as an 8-hour time-weighted average; the maximum time-weighted average (TWA) exposure limit is 1 part of Benzene vapor per million parts of air (1 ppm) for an 8-hour workday and the maximum short-term exposure limit (STEL) is 5 ppm for any 15-minute period.

6. Requirements

6.1. Facility Evaluation

6.1.1. The Company shall evaluate its facility(s) to determine if any work area meets the criteria for designation as a Regulated Benzene Hazard Area.

6.2. Regulated Areas

6.2.1. The Company shall establish a regulated area wherever the airborne concentration of Benzene exceeds or can reasonably be expected to exceed the permissible exposure limits, either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

6.3. Employee Notification and Signage

6.3.1. The Company shall post signs at entrances to regulated areas.

6.3.2. The signs shall bear the following legend.

DANGER
BENZENE
CANCER HAZARD FLAMMABLE –
NO SMOKING
AUTHORIZED PERSONNEL ONLY RESPIRATOR REQUIRED

6.4. Containers

6.4.1. The Company shall ensure that labels or other appropriate forms of warning are provided for containers of Benzene within the workplace. There is no requirement to label pipes. The labels shall comply with the requirements of 29 CFR 1910.1200 (Hazard Communication Standard) and in addition shall include the following legend:

DANGER CONTAINS BENZENE

CANCER HAZARD

6.4.2. Benzene liquid is highly flammable, and vapors may form explosive mixtures in air. Fire extinguishers must be readily available. Smoking is prohibited in areas where Benzene is used or stored.

6.4.3. PPE should be used to protect against Benzene exposures. Boots, gloves, aprons, eye, and face protection and/or respiratory protection may be required based upon a hazard assessment.

6.5. Spill and Leak Procedures

6.5.1. Persons not wearing protective equipment and clothing will be restricted from areas of spills or leaks until cleanup has been completed.

6.6. Emergency Containment and Site-Specific Contingency/Emergency Plans

6.6.1. Benzene exposure can be hazardous. Only authorized and trained emergency response personnel should attempt containment. If you are not trained in containment of Benzene, evacuate the area in accordance with established procedures. If Benzene is spilled or leaked the following steps as a minimum should be taken:

6.6.1.1. Remove all ignition sources.

6.6.1.2. Ventilate the area of the spill or leak to disperse vapors.

6.6.1.3. If possible, stop the flow of liquid, allow it to vaporize.

6.6.1.4. Use containment equipment such as dikes, compatible absorbent materials, etc.

6.6.1.5. Always use non-sparking tools and explosion proof equipment in the spill area.

6.6.2. The Company should be aware of host facility contingency plan provisions. Employees must be informed where Benzene is used in host facility and aware of additional facility safety rules.

6.6.3. Employees should be aware of clients' contingency plans and provisions. Employees must be informed where Benzene is used in the host facility and aware of additional plant safety rules.

6.7. Emergency First Aid Procedures

6.7.1. In the event of an emergency, institute first aid procedures and send for first aid or medical assistance in accordance with local procedures. Dial 9-1-1 for emergency response personnel.

6.7.2. Eye Exposure: Wash immediately with large amounts of water for at least 15 minutes. Lifting the lower and upper lids occasionally, get medical attention as soon as possible.

6.7.3. Skin Exposure: Immediately flush with copious amounts of water. Remove any clothing contaminated, and flush exposed skin areas, get medical attention as soon as possible.

6.7.4. Swallowing Exposure: If Benzene has been swallowed and the patient is conscious, do not induce vomiting. Call for medical assistance or a doctor immediately.

6.7.5. Respiratory Exposure: Get the victim to open, fresh air immediately. If breathing has stopped perform CPR. Keep the victim warm and at rest. Get medical attention as soon as possible.

6.7.6. Rescue Considerations. Do not become a second victim. Move the affected person from the hazardous area. If the exposed person has been overcome, initiate local emergency notification procedures. Never enter any vessel or confined space where the Benzene concentration might be high enough to displace air or create an explosive atmosphere without proper training, equipment, and procedures. Understand the facility’s emergency rescue procedures and know the locations of rescue equipment before the need arises.

6.8. Protective Clothing and Personal Protective Equipment (PPE)

6.8.1. Where engineering controls, administrative controls, and job hazard analyses do not eliminate all job hazards, employees will (where appropriate) wear PPE provided at no cost to the employee.

6.8.2. These include items such as caps, hair nets, face shields, safety goggles, glasses, hearing protection, foot guards, gloves, sleeves, aprons, respirators etc. Supervisors will ensure that equipment selected will meet the following requirements and proper PPE is worn by affected employees to prevent eye contact and limit dermal exposure to liquid benzene:

6.8.2.1. It will be appropriate for the hazard.

6.8.2.2. It will be maintained in good condition.

6.8.2.3. It will be properly stored when not in use, to prevent damage or loss.

6.8.2.4. It will be kept clean, fully functional, and sanitary.

6.8.2.5. Employees exposed to an airborne concentration of 10 parts per million (ppm) or less, must at minimum, wear a half-mask air purifying respirator with organic vapor cartridges that is approved by the National Institute for Occupational Safety and Health (NIOSH). For exposures to benzene at 50 ppm or less the written program must require that affected workers wear, at a minimum, a full-face respirator with organic vapor cartridges or a full-face piece gas mask with chin-style canisters. For affected worker exposures of 100 ppm or less, the company program must require, at a minimum, a full-face piece powered air purifying respirator with organic vapor canisters. At 1000 ppm or less, the company program must require affected workers to wear at a minimum, a supplied-air respirator with a full face-piece in positive pressure mode. At concentrations greater than 1,000 ppm, the company program must require that affected workers wear only a self-contained breathing apparatus with full facepiece in positive pressure mode or a full facepiece positive pressure supplied air respirator with auxiliary self-contained air supply.

7. Training

7.1. Types of training. The Company will determine whether training required for specific jobs will be conducted in a classroom or on-the-job. The degree of training provided shall be determined by the complexity of the job and the Benzene exposure hazards associated with the individual job.

7.2. Initial Training. Prior to job assignment, the Company shall provide training to ensure that the hazards associated with Benzene are understood by employees and that the knowledge, skills and personal protective equipment required are acquired by employees. The training shall as a minimum include the following:

7.2.1. Each authorized employee shall receive training in the recognition of applicable hazards involved with the particular job and job site, as well as the methods and means necessary for safe work.

7.2.2. The specific nature of the operation which could result in exposure to Benzene.

7.2.3. The purpose, proper selection, fitting, use and limitation of PPE.

7.2.4. The adverse health effects associated with excessive exposure to Benzene.

7.2.5. The engineering controls and work practices associated with the employee's job assignment, including training of employees to follow relevant good work practices.

7.2.6. The contents of any compliance plan in effect.

7.2.7. The requirements of the Hazard Communication Standard under 29 CFR 1910.1200.

7.2.8. The employee's right of access to records under 29 CFR 1910.20.

7.2.9. The medical surveillance program in place that is used to determine Benzene exposure.

7.2.10. Refresher Training will be conducted on an annual basis.

7.3. Retraining shall be provided for all affected employees as a minimum whenever:

7.3.1. There is a change in job assignments.

7.3.2. There is a change in personal protective equipment.

7.3.3. There is a change in equipment that presents a new hazard.

7.3.4. There is a change in processes that presents a new hazard.

7.3.5. Their work takes them into hazardous or regulated area.

7.3.6. There is a change in Benzene safety procedures.

7.3.7. Safety procedure fails, resulting in a near-miss, illness, or injury.

7.4. Additional retraining. Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever the Company has reason to believe, that there are deviations from or inadequacies in the employee's knowledge of known hazards or use of equipment or procedures.

7.5. The retraining shall reestablish employee proficiency and introduce new equipment, or revised control methods and procedures, as necessary.

7.6. Certification. The Company shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain a synopsis of the training conducted, each employee's name, and dates of training.

8. Recordkeeping

8.1. Monitoring and Medical Surveillance

8.1.1. The Company shall monitor the workplace operations and will make available a medical surveillance program for affected employees who are or may exposed to benzene at or above the action level of .5 parts per million (ppm) 30 or more days per year, for employees who may be exposed at or above the permissible PEL of 1 ppm for 10 or more days per year and for employees who have been exposed to more than 10 ppm of benzene for 30 or more days per year. All medical examinations and procedures are performed by or under the supervision of a licensed physician and all laboratory tests are conducted by an accredited laboratory.

8.1.2. Monitoring will be completed within 30 days of the introduction of Benzene into the workplace above the PEL 10 or more days for employees who have been exposed to more than 10 PPM of Benzene for 30 or more days in a year prior to the effective date.

8.1.3. Periodic monitoring and monitoring frequency. If the monitoring reveals employee exposure at or above the action level but at or below the Time Weighted Average (TWA), the monitoring will be repeated for each such employee at least every year.

8.1.4. A written schedule shall be developed for implementing work practice and engineering controls for company exposures above the permissible exposure limit (PEL) in order to reduce affected employee exposures below the PEL. If the monitoring reveals employee exposure above the TWA, the monitoring will be repeated for each such employee at least every six (6) months.

8.1.5. Exposures at or below the TWA. The monitoring schedule may be reduced from every six months to annually for any employee for whom two consecutive measurements taken at least 7 days apart indicate that the employee exposure has decreased to the TWA or below but is at or above the action level.

8.1.6. Termination of monitoring. If the initial monitoring reveals employee exposure to be below the action level, the monitoring may be discontinued for that employee, except as otherwise required.

8.1.7. The Company shall maintain accurate exposure monitoring records and medical surveillance records.

9. Reference

9.1. OSHA Regulation, 29 CFR 1910.1028