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Brunel Energy, Inc.

Hot Work, Welding and Cutting

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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 fire prevention and protection during the performance of non-routine open flame and high temperature processes otherwise known as "hot work". This includes compliance with the applicable parts of 29 CFR 1910.252, 253 and 254 (or comparable state standards/regulations).

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. **Designated Safe Hot Work Area** is an area that has been cleared of ignitable materials.
- 3.2. **Hot Work** is any maintenance, repair or production work involving welding, grinding, cutting, or brazing of metal, use of non-intrinsically safe tools or equipment, or use of internal combustion engines in area with potential explosive or flammable atmospheres.
- 3.3. **Qualified Person** is by their certification, knowledge or experience has demonstrated the competence to properly provide oversight or action.

4. Responsibilities

- 4.1. Manager(s) shall:
 - 4.1.1. Maintain current knowledge of Policy requirements.
 - 4.1.2. Provide direct support to operational managers and supervisors related to compliance with this Policy.
 - 4.1.3. Oversee Site Supervisors in ensuring the operating procedures identified in this Policy are in place and functioning.
 - 4.1.4. Ensure that retraining is performed when direct observation or inspection indicates employee(s) does not understand the requirements of this Policy or is not following said requirements.

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4.2. HSE Supervisor(s) shall:

- 4.2.1. Identify Hot Work services at the worksite.
- 4.2.2. Ensure the identified safe operating procedures contained in this Policy are in place and functioning.
- 4.2.3. Ensure equipment required by this Policy is inspected, tested, and maintained in accordance with established Business Unit procedures.
- 4.2.4. Conduct JSA with personnel involved in Hot Work tasks, including Permit to Work requirements.
- 4.2.5. Issue and close permits associated with Hot Work activities.
- 4.2.6. Ensure the area where Hot Work will be done is free from potential release of hydrocarbons.
- 4.2.7. Ensure personnel performing Hot Work activities wear proper PPE.
- 4.2.8. Ensure a fire watch is posted.
- 4.2.9. Ensure personnel conducting Hot Work activities are trained and are competent to perform such activities.
- 4.2.10. Ensure retraining is conducted whenever observation or questioning determines employee(s) lacks the knowledge or skills necessary to comply with this Policy.
- 4.2.11. Prohibit smoking in areas with potentially explosive or flammable atmospheres.

4.3. Fire Watch Personnel shall:

- 4.3.1. Be competent and trained in the use of fire extinguishers.
- 4.3.2. Have fire extinguishers readily available.
- 4.3.3. Trained with the emergency alarm or notification system.
- 4.3.4. Able to visibly see all exposed areas or potential fire areas.

4.4. Equipment Operator, Driver, or other equivalent level employee shall:

- 4.4.1. Take direction from supervisor or manager as directed.
- 4.4.2. Shall have a working knowledge of the requirements of this Policy.
- 4.4.3. Shall apply stop work authority, as necessary.

5. Procedure

5.1. Hazards

- 5.1.1. Hot Work tasks shall not begin until the work area is free of flammable or combustible materials. All such materials must be safely stored prior to commencing Hot Work tasks. Hot work permit procedure must be completed before performing hot work, except when welding, cutting, or brazing in a designated safe hot work area.

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5.1.2. If an object on which an employee or third party is cutting, welding, or grinding cannot readily be moved, all movable fire hazards in the vicinity shall be taken to a safe place at least thirty-five (35) feet from the work site. Where relocation is impracticable, combustibles shall be protected with flameproof covers or otherwise shielded with metal or asbestos guards or curtains.

5.2. Guards

5.2.1. If an object on which an employee or third party is cutting, welding, or grinding cannot be moved and if all the fire hazards cannot be removed, then guards shall be used to confine the heat, sparks, and slag, and to protect the immovable fire hazards.

5.3. Restrictions

5.3.1. If the requirements for fire hazards and guarding cannot be followed, then welding and cutting shall not be performed.

5.3.2. Cutting or welding shall not be permitted in areas not authorized by management, in sprinkled buildings while such protection is impaired, in the presence of explosive atmospheres, areas near the storage of large quantities of exposed, readily ignitable materials.

5.4. Special Precautions

5.4.1. When the nature of the work to be performed falls within the use of guards, certain additional precautions may be necessary:

5.4.1.1. Wherever there are floor openings or cracks in the flooring that cannot be closed, precautions shall be taken so that no readily combustible materials on the floor below will be exposed to sparks which might drop through the floor. The same precautions shall be observed regarding cracks or holes in walls, open doorways and open or broken windows.

5.4.1.2. Fire Watch.

5.5. Hot Work Permits

5.5.1. Before welding, cutting, or grinding is permitted, the work area shall be inspected by the local manager who is responsible for authorizing the cutting, welding, or grinding operation. As appropriate, atmospheric testing shall be performed, and the atmosphere shall be determined to be suitable prior to the commencement of any hot work. The local manager (or a designee) shall designate the precautions to be followed on a Hot Work Permit (or a comparable permit).

5.5.2. Where an area has not been designated as a continuous Hot Work controlled area, a Permit to Work form shall be completed prior to Hot Work being performed.

5.5.3. The completed Hot Work Permit shall remain at the site until the hot work has been completed.

5.5.4. Completed Hot Work Permits shall be maintained in the local office for six months.

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5.6. Atmospheric Testing

- 5.6.1. Where required, the atmosphere shall be tested for combustible and flammable gases. Hot Work shall stop if concentrations exceed established limits determined by local regulatory requirements set forth on a Permit to Work form. A calibrated multi-gas meter shall be used to complete the testing.
- 5.6.2. The local manager (or a designee) shall assign a trained employee to perform continuous atmospheric testing throughout the performance of the hot work.
- 5.6.3. The make, model, and most recent calibration date of the atmospheric testing device to be used shall be noted on the Hot Work Permit.
- 5.6.4. The employee performing the continuous atmospheric testing shall cause the hot work activities to cease when an unsuitable atmosphere develops.

5.7. Confined Spaces

- 5.7.1. The Hot Work Confined Space Checklist must be completed prior to entering a confined space.
- 5.7.2. Welding or cutting in confined spaces shall only be performed with the following considerations:
 - 5.7.2.1. Ventilation is a prerequisite to work in confined spaces.
 - 5.7.2.2. Every confined space shall be checked for combustible gas and oxygen level prior to entry.
- 5.7.3. When welding or cutting is being performed in any confined spaces, the gas cylinders and welding machines shall be left on the outside. Before operations are started, heavy portable equipment mounted on wheels shall be securely blocked to prevent accidental movement.
- 5.7.4. Where a welder must enter a confined space through a manhole or other small opening, means shall be provided for quick removal of him in case of emergency. When safety belts and lifelines are used for this purpose, they shall be so attached to the welder's body, so that the body cannot be jammed in a small exit opening. An attendant with a preplanned rescue procedure shall always be stationed outside to observe the welder and be capable of putting rescue operations into effect.
- 5.7.5. When arc welding is to be suspended for any substantial period, such as during lunch or overnight, all electrodes shall be removed from the holders and the holders carefully located so that accidental contact cannot occur, and the machines disconnected from the power source.

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5.7.6. To eliminate the possibility of gas escaping gas cylinders through leaks of improperly closed valves, when gas welding or cutting, the torch valves shall be closed and the fuel-gas and oxygen supply to the torch shall be positively shut off at some point outside the confined area whenever the torch is not to be used for a substantial period of time, such as during lunch hour or overnight. Where practicable the torch and hose shall also be removed from the confined space. Any torch or gas cutting equipment that cannot be positively shut off shall not be used in confined spaces.

5.7.7. After welding operations are completed, the welder shall mark the hot metal or provide other means of warning other employees.

5.8. Fire Watch

5.8.1. Fire watch by a trained employee (assigned by the local manager or designee) is required whenever welding or cutting is performed outside the designated safe hot work area and/or in locations where fire may develop. Conditions requiring fire watch include however are not limited to:

5.8.1.1. Locations where other than a minor fire might develop,

5.8.1.2. Combustibles that are 35 feet or more away but are easily ignited.

5.8.1.3. Wall or floor openings within 35-foot radius expose combustible materials in adjacent areas,

5.8.1.4. Combustible materials are adjacent to the opposite side of metal partitions, ceilings or roofs and are likely to be ignited by conduction or radiation.

5.8.2. Fire watchers shall have fire extinguishing equipment readily available and be trained in its use. They shall be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. While performing fire watch duties, the fire watcher shall be relieved of all other duties.

5.8.3. Fire watch shall remain at welding or cutting area one half-hour (30 minutes) after operations have been completed and extinguish all smoldering materials.

5.9. Compressed Gas Cylinders

5.9.1. Compressed gas cylinders shall be legibly marked, for the purpose of identifying the gas content, with either the chemical or the trade name of the gas. Such marking shall be by means of stenciling, stamping, or labeling, and shall not be readily removable. Whenever practical, the marking shall be located on the shoulder of the cylinder. No compressed gas cylinder shall be accepted for use that does not legibly identify its content by name.

5.9.2. When a cylinder cap cannot be removed by hand, the cylinder shall be tagged "Do Not Use" and returned to the designated storage area for return to the vendor.

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- 5.9.3. Visual and other inspections shall be conducted to determine that compressed gas cylinders are in a safe condition.
- 5.9.4. Cylinders shall be equipped with the correct regulators. Oil or grease shall not be used on threaded portions of cylinders or regulators.
- 5.9.5. Only tools provided by the supplier shall be used to open and close cylinder valves.
- 5.9.6. Compressed gas cylinders shall be secured by rope or chained when in an upright position. The protective cap shall be in place unless the cylinder is in use. All cylinders not in an upright position shall be blocked or secured to prevent rolling or movement.
- 5.9.7. Compressed flammable gas cylinders, when in storage, shall be separated from compressed oxygen cylinders by at least twenty (20) feet or by a noncombustible barrier of five feet high. The noncombustible barrier shall have a fire-resistant rating of at least half an hour.
- 5.9.8. Cylinders shall be kept away from radiators and other sources of heat. Inside buildings, cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet from highly combustible materials. Cylinders should be stored in assigned places away from elevators, stairs, or gangways. Assigned storage spaces shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards. Empty cylinders shall have their valves closed. Valve protection caps, where cylinder is designed to accept a cap, shall always be in place except when cylinders are in use or connected for use.
- 5.9.9. Storage areas for full and empty cylinders shall be designated and labeled. Cylinders shall be stored in assigned places away from elevators, stairs, or gangways. Full and empty cylinders shall have separate designated storage areas that are clearly marked as "full" or "empty." Only the vendor shall refill cylinders. Empty cylinders shall be handled as carefully as full cylinders.
- 5.9.10. While being transported, all cylinders shall have protective caps properly installed. Cylinders shall be properly installed. Cylinders shall be properly secured to prevent any movement or shifting. Never attempt to move or carry a compressed gas cylinder with regulators attached. Remove the regulators and install protective caps unless the cylinders are mounted in an approved cart. Cylinders shall be moved by tilting and rolling them on their bottom edges.
- 5.9.11. Employees shall be trained in the proper use, handling, and storage of compressed gas cylinders.

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- 5.9.12. Leaking cylinders shall be moved to an isolated, well-ventilated area, away from ignition sources. Soapy water shall be used to detect leaks. If the leak is at the junction of the cylinder valve and cylinder, repairs shall not be made. The vendor shall be contacted from instructions.
- 5.9.13. Hoses and connections shall be inspected regularly for damage. Hoses shall be stored in cool areas and protected from damage.
- 5.9.14. Oxygen shall not be used as a substitute for compressed air.
- 5.10. Acetylene Gas Cylinders
 - 5.10.1. Acetylene gas cylinders shall be stored in the upright position to prevent liquid acetone from entering the regulator.
 - 5.10.2. Acetylene cylinder that is laid on its side or lower than a 45° angle shall remain in an upright position for a minimum of two (2) hours before use.
 - 5.10.3. Acetylene cylinder shall only flow gas through a pressure reducing regulator and shall not be used at a pressure exceeding 15 psi.
 - 5.10.4. The acetylene cylinder valve outlet shall be pointed away from the oxygen cylinder.
 - 5.10.5. Acetylene cylinders shall be stored in accordance with the regulations.
 - 5.10.6. Only equipment rated for acetylene service shall be used. Copper or copper alloy piping or fittings made of 67 to 99 percent copper are prohibited from use with acetylene systems. Copper torch tips are acceptable for use.
- 5.11. Operation and Maintenance of Arc Welding Equipment
 - 5.11.1. Workers assigned to operate arc welding equipment shall be properly instructed and qualified to operate such equipment.
 - 5.11.2. Before starting operations, all connections to the machines shall be checked to make certain they are properly made. The work lead shall be firmly attached to the work; magnetic work clamps shall be freed from adherent metal particles of spatter on contact surfaces. Welding cable shall be uncoiled before use to avoid serious overheating and damage to insulation.
 - 5.11.3. Grounding of the welding machines frame shall be checked. Special attention shall be given to safety ground connections of portable machines.
 - 5.11.4. There shall be no leaks of cooling water, shielding gas or engine fuel.
 - 5.11.5. It shall be determined that proper switching equipment for shutting down the machine is provided.
 - 5.11.6. Printed rules and instructions covering operation of equipment supplied by the manufacturers shall be followed.
 - 5.11.7. Electrode holders, when not in use, shall be so placed that they cannot make electrical contact with persons, conducting objects, fuel, or compressed gas tanks.

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- 5.11.8. Cables with splices within 10 feet of the holder shall not be used. The welder should not coil or loop welding electrode cable around parts of the body.
- 5.11.9. The operator shall report any equipment defects or safety hazard to the supervisor and the use of the equipment shall be discontinued until its safety has been assured. Only qualified personnel shall make repairs.
- 5.11.10. Machines which have become wet shall be thoroughly dried and tested before being used.
- 5.11.11. Cables with damaged insulation or exposed bare conductors shall be replaced. Joining lengths of work and electrode cables shall be done using connecting means specifically intended for the purpose. The connecting means shall have insulation adequate for the service conditions.
- 5.11.12. Equipment operators shall report any equipment defects or safety hazards and discontinue use of the equipment until safety has been assured. Only qualified personnel shall make repairs.
- 5.12. Torch Cutting
 - 5.12.1. Main valves of compressed gas cylinders in use shall always have the main valves accessible. Main valve shall be opened no more than ¼ turn to ensure quick closing if an emergency occurs.
 - 5.12.2. Flash back arrestors shall be installed at the discharge of the regulator and at the torch.
- 5.13. Safe Practices
 - 5.13.1. Only approved apparatus such as torches, regulators, or pressure-reducing valves, acetylene generators and manifolds shall be used. Compressed gas cylinders shall be kept in an upright position and secured in a stable cart or secured to a permanent object.
 - 5.13.2. All welding and cutting operations shall be adequately ventilated to prevent the accumulation of toxic materials.
 - 5.13.2.1. Duct systems that might carry sparks to distant combustibles shall be suitably protected or shut down.
 - 5.13.2.2. Where cutting or welding is done near walls, partitions, ceiling or roof of combustible construction, fire-resistant shields or guards shall be provided to prevent ignition.

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- 5.13.2.3. Welding shall not be attempted on a metal partition, wall, ceiling, or roof having a combustible covering or on walls or partitions of combustible sandwich-type panel construction. If welding is done on a metal wall, partition, ceiling or roof, precautions shall be taken to prevent ignition of combustibles on the other side, due to conduction or radiation, preferably by relocating combustibles. Where combustibles are not relocated, a fire watch on the opposite side of the work shall be provided.
- 5.13.2.4. Cutting or welding pipes or other metal in contact with combustible walls, partitions, ceilings, or roofs shall not be undertaken if the work is close enough to cause ignition by conduction.
- 5.13.3. Workers in charge of the oxygen or fuel-gas supply equipment, including generators, and oxygen or fuel-gas distribution piping systems shall be instructed and judged competent by their employers for this important work before being left in charge.
- 5.13.4. Rules and instructions covering the operation and maintenance of oxygen or fuel-gas supply equipment including generators, and oxygen or fuel-gas distribution piping systems shall be readily available.
- 5.14. Personal Protective Equipment (PPE)
 - 5.14.1. Employees engaged in welding, cutting or brazing operations shall wear proper protective equipment as identified in the PPE assessment. The minimum requirements are as follows:
 - 5.14.1.1. Welding helmets or shields shall protect the face, neck, and ears from direct radiant energy.
 - 5.14.1.2. Welding helmets, shields, goggles, and glasses used for cutting or welding shall have filter plates of the proper shade to prevent injury to the eyes.
 - 5.14.1.3. Approved safety glasses with side shields shall be worn under welding hoods and face shields.
 - 5.14.1.4. Adequate hand protection and clothing shall be used to protect the body from welding hazards.
 - 5.14.2. Hearing protection shall be worn when arc gouging or conducting other welding or cutting operations that generate high noise.
 - 5.14.3. Adequate ventilation and/or respiratory protection shall be used when any welding, cutting, or burning of hazardous fumes/gases or dust may be present including but not limited to; lead base metals, zinc, cadmium, mercury, beryllium or exotic metals or paints.

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- 5.14.4. Goggles or other suitable eye protection shall be used during all gas welding or oxygen cutting operations. Spectacles without side shields, with suitable filter lenses are permitted for use during gas welding operations on light work, for torch brazing or for inspection. Cutting and welding shields shall be used to prevent other employee exposure to hot slag, sparks, and flash burns to the eyes.
- 5.14.5. Suitable fire extinguishing equipment shall be available.
- 5.14.6. Welders shall mark the hot metal or provide another means of warning to other workers after work completion.
- 5.14.7. Any defective welding equipment or safety hazards shall be reported, and the use of the equipment discontinued until its safety has been assured or removed from service. Only qualified personnel shall make repairs.

5.15. Contamination

- 5.15.1. Contamination shall be addressed as described in 29 CFR 1910.252(c)(1)(i).
- 5.15.2. Fire Extinguisher(s) and First Aid Equipment
- 5.15.3. The appropriate fire extinguishing and suppression equipment shall always be present for the Hot Work task. The equipment shall be inspected prior to the task beginning to ensure the equipment is certified, charged, and ready for immediate use.
- 5.15.4. First aid equipment shall always be available, and a person trained in administering first aid shall be present.
- 5.15.5. All injuries shall be reported as soon as possible for medical attention. First aid shall be rendered until medical attention can be provided.

5.16. Program Evaluation

- 5.16.1. The safety and training department shall make any necessary changes to improve the effectiveness of the program.

6. Training

- 6.1. Local managers (and designees) and safety professionals (and designees) who authorize (via a Hot Work Permit) employees or third-party personnel to perform hot work and employees who perform hot work shall be trained in a competency-based course initially during onboarding and as determined by local regulatory requirements or HSE Management thereafter. The training shall include at a minimum the requirements of this Policy including:
 - 6.1.1. Hot Work activities
 - 6.1.2. Permitting process
 - 6.1.3. Atmospheric Testing, Where Applicable
 - 6.1.4. Safe Working Procedures

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6.1.5. Fire Watch Responsibilities

- 6.2. Cutters, welders, and their supervisors shall be trained in the applicable parts of 29 CFR 1910.252(a), (b) and (c) and 254 as described in the Welding, Cutting and Brazing Training.
- 6.3. Training shall be documented and contain the name of the employee and the date of completion.
- 6.4. Employees shall be retrained every thirteen (13) months or when the scope of the work has changed.

7. Recordkeeping

- 7.1. Training shall be documented and contain the name of the employee and the date of completion.

8. Appendix

- 8.1. Welding Safety Checklist
- 8.2. Hot Work Permit

9. Reference

- 9.1. 29 CFR 1910.252 2 (a), (b) and (c) Welding, Cutting and Brazing Training.
- 9.2. 29 CFR 1910.253 Oxygen-fuel gas welding and cutting.
- 9.3. 29 CFR 1910. 254 Arc Welding and Cutting

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Brunel Energy, Inc. Welding Safety Checklist

Section 1 – General Safety Requirements Cont’d:				
• Are dry welder gloves used during arc welding?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are proper respirators used when welding cadmium, lead, or other materials where toxic fumes could form?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Have fire resistant shields been placed over floors, walls or other objects that could potentially catch fire?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Have all flammable items in the hot work area been removed or covered?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Is consumption (eating, drinking, smoking) prohibited while hot work is in progress?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

Section 1 – General Safety Requirements Cont’d:				
• Have all ducts that could carry sparks been closed?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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• Is adequate ventilation present in the hot work area?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Where welding is conducted near combustible material, is a fire watch routinely posed with operational fire extinguishers?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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Section 2 – Gas Welders:				
• Are cylinders regularly checked for leaks?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• In storage, are cylinders stored upright and secured, and oxygen cylinders stored 20 feet from any flammable gases or petroleum products?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are cylinders always turned off after use?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are workers briefed to never roll or drop cylinders?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are workers briefed to never use oxygen to blow dust away?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Is smoking forbidden during welding operations?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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• Do workers regularly review the MSDS for the gases they are using?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Do workers know the proper lubricants to use on compressed oxygen cylinder connections?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

Section 3 – Arc Welders:				
• Are arc welders de-energized before touching electrical parts?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are objects to be welded separately grounded?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Do welders know the correct size cable, with intact insulation to use for a given operation?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Do welders know that jewelry shall not be worn when welding?				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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<ul style="list-style-type: none"> Is the work surface, floor, and object dry before starting to weld? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<ul style="list-style-type: none"> Is it forbidden to weld in the rain? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

Section 4 – Confined Spaces:				
<ul style="list-style-type: none"> Is the atmosphere tested before entering and while working? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<ul style="list-style-type: none"> Do gas cylinders remain outside at all times? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<ul style="list-style-type: none"> Is the space properly ventilated? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
<ul style="list-style-type: none"> Are written procedures available? 				
Action Taken:	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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• Has Personal Protective Equipment (PPE) been considered?				
<u>Action Taken:</u>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
• Are safety attendants properly equipped and is first aid equipment readily available?				
<u>Action Taken:</u>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

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Brunel Energy, Inc. Hot Work Permit

Before initiating hot work, can this job be avoided? Is there a safer way?

This Hot Work permit is required for any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to: Brazing, Grinding, Soldering, Thawing Pipe, Torch Applied Roofing and Welding.

Instructions:

1. Verify precautions listed below or do not proceed with work.
2. Complete this permit and issue to person(s) performing the work.
3. Retain this copy in the project file.

Permit #:	Date:	Shift:	Work Order #:
Location of Work:			
Equipment Number:			
Purpose of work:			
Name of person(s) doing the work:			
Name of fire watch person:			

I verify the above location has been examined, the precautions checked on the Precautions Checklist below to minimize the chance of fire.

Supervisor's Name: _____ Signature: _____

Duration (Hrs.): _____ Start Time: _____ Stop Time: _____

Hot Work Permits may not be authorized for more than one shift!

Yes	No	N/A	Item
			Are water hoses or fire extinguishers available and in good repair?
			Is hot work equipment in good repair?
			Have flammable liquids, dust, lint, and oily deposits within 35 ft. been removed?
			Has the explosive atmosphere been eliminated? Test results:
			Has the work surface area been cleaned of grease, paint, etc.?
			Have combustible floors been wet down, covered with damp sand, or covered with fire resistant sheets?
			Have surface areas below work area been protected?
			Have access ways below work area been barricaded?
			Are UV shields in place?
			Has enclosed equipment been cleansed of all combustibles?

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			Have all containers been purged of flammable liquids and vapors?
			Will fire watch be provided during and for 60 minutes after work, including coffee and/or lunch breaks?
			Has fire watch been provided with suitable fire extinguishing devices?
			Has the fire watch person been trained in use of fire extinguishing devices and in sounding alarm(s) or other emergency communications?
			Has additional fire watch been assigned to adjoining areas, above and below?
			Hot work area will be monitored for 4 hours after completion of work?
			Other:
			Other: