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# Brunel Energy, Inc.

## Hand and Portable Power Tools

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## 1. Purpose

- 1.1. Brunel Energy, Inc., hereinafter referred to as, the “Company,” has established a Hand and/or Power Tools program compliant with OSHA 29 CFR 1910.241, 242, 243, and 244.
- 1.2. It is the goal of the Company to provide a Hand and or Power Tools program that shall outline the safe operation of hand, power tools and other portable tools, including proper guarding. All hand and power tools shall be maintained in a safe condition.

## 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. **Hand tools** are tools powered manually. Hand tools include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.
- 3.2. **Power tools** are actuated by an additional power source and mechanism other than the solely manual labor used with hand tools. The most common types of power tools used have electric motors. Internal combustion engines and compressed air tools are commonly used.
- 3.3. **Guards** are used to protect the operator from the exposed moving parts of power tools that need to be safeguarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded when in use. Machine guards, as appropriate, must be provided to protect the operator and others from the following:
  - 3.3.1. Point of operation
  - 3.3.2. In-running nip points
  - 3.3.3. Rotating parts
  - 3.3.4. Flying chips and sparks

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- 3.4. **Portable Abrasive Wheel Tools** are used for grinding and finishing material of all shapes. The hazards associated with portable grinders are like those of pedestal or bench grinders. The rotating abrasive stone can cause severe abrasions and cuts. There is also the potential for the abrasive stone to shatter and kickback from the spindle end. Other hazards such as flying fragments or sparks are present during grinding.
- 3.5. **Pneumatic Tools** run on compressed air to offer high power in a lightweight package for handling jobs such as chiseling, cutting, drilling, hammering, punching, nailing, riveting, sanding, and sawing. They typically have fewer moving parts than electric tools.
- 3.6. **Powder-Actuated Tools** operate like a loaded gun and must be treated with extreme caution. In fact, they are so dangerous that only specially trained employees are authorized to use them.
- 3.7. **Hydraulic Power Tools** are used in a variety of industrial applications. Hydraulic impact hammers are used to drive fasteners for tasks such as building fences and temporary barriers. Impact wrenches turn bolts. Hydraulic pipe cutters are used on steel, cast iron, ductile iron, clay, and plastic pipe.

#### 4. Responsibilities

- 4.1. Manager(s):
  - 4.1.1. Managers are responsible for implementing, supporting, and enforcing the requirements of this Standard in their locations.
- 4.2. HSE Supervisor(s):
  - 4.2.1. Ensure that all employees using portable tools have been trained and fully understand the operations and maintenance procedures of such tools, including their proper use.
  - 4.2.2. Provide and train employees with correct PPE that may be needed for the safe operation of portable tools.
- 4.3. Employee(s):
  - 4.3.1. Shall ensure they have and properly use the correct tool for each task.
  - 4.3.2. Shall follow manufactures safety and operating instructions before using.
- 4.4. Subcontractor(s):
  - 4.4.1. Shall ensure they have and properly use the correct tool for each task.
  - 4.4.2. Shall follow manufactures safety and operating instructions before using.

#### 5. Requirements

- 5.1. Employees shall select tools that are fit for purpose.
- 5.2. All hand and power tools shall be free from defects that increase risk or make them not fit for the purpose. Defective tools must be removed from service.

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- 5.3. All hand and power tools whether furnished by the employer or the employee shall be maintained in a safe condition.
- 5.4. When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use. Guarding must meet the requirements set forth in ANSI B15.1
- 5.5. All hand and power tools shall not be modified without the manufacturer's recommendation and approval.
- 5.6. An employee shall only remove a guard when absolutely needed and with Supervisor approval. The guard shall be reinstalled immediately upon completion of the task.
- 5.7. No tool shall be left unguarded while not in use.
- 5.8. Only rated tools shall be used in electrically classified areas.
- 5.9. The load limit or intended capacity of any tool shall not be exceeded.
- 5.10. Tools shall be cleaned and stored properly after use.
- 5.11. Power tools shall be made safe (unplugged, disconnected and/or secured) prior to performing maintenance.
- 5.12. Tools shall be of an approved type and maintained in safe condition.
- 5.13. Employees shall have the authority and responsibility to tag and identify unsafe tools, locking controls or rendering equipment inoperable or physically removing it from its place of operation.
- 5.14. Appropriate Personal Protective Equipment shall be selected accordingly when using hand and/or power tools.

## 6. Procedure

- 6.1. Portable Electric Tools
  - 6.1.1. The non-current carrying metal parts of portable electric tools such as drills, saws, and grinders shall be effectively grounded when connected to a power source unless:
    - 6.1.1.1. The tool is an approved double-insulated type, or
    - 6.1.1.2. The tool is connected to the power supply by means of an isolating transformer or other isolated power supply.
  - 6.1.2. All powered tools shall be examined prior to use to ensure general serviceability and the presence of all applicable safety devices.
  - 6.1.3. Powered tools shall be used only within their design and shall be operated in accordance with manufacturer's instructions. The use of electric cords for hoisting or lowering tools shall not be permitted.
  - 6.1.4. All tools shall be kept in good repair and shall be disconnected from the power source while repairs or adjustments are being made.

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- 6.1.5. Electrical tools shall not be used where there is a hazard of flammable vapors, gases, or dusts without a valid Hot Work Permit.
- 6.1.6. Ground fault circuit interrupters or use of an Assured Grounding Program shall be used with portable electric tools. This does not apply to equipment run off portable or truck mounted generators at 5kw or less that are isolated from ground or to equipment ran directly off secondaries.

6.2. Pneumatic Tools

- 6.2.1. Pneumatic tools shall never be pointed at another person.
- 6.2.2. Pneumatic power tools shall be secured to the hose or whip by positive means to prevent the tool from becoming accidentally disconnected.
- 6.2.3. Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
- 6.2.4. Compressed air shall not be used for cleaning purposes, except where it is reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment.
- 6.2.5. Compressed air shall not be used to blow dust or dirt from clothing.
- 6.2.6. The manufacturers stated safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.
- 6.2.7. The use of hoses for hoisting or lowering tools shall not be permitted.
- 6.2.8. Before adjusting or changing air tools, unless equipped with quick-change connectors, the air shall be shut off at the air supply valve ahead of the hose. The hose shall be bled at the tool before breaking the connection.

6.3. Air Tools

- 6.3.1. Compressed air tools, while under pressure, must not be left unattended.
- 6.3.2. All connections to air tools shall be made secure before turning on air pressure.
- 6.3.3. Air at the tool shall not be turned on until the tool is properly controlled.
- 6.3.4. All couplings and clamps on pressurized air hose shall be bridged (pinned) with suitable fasteners.
- 6.3.5. Hose and hose connections used for conducting compressed air to utilization equipment shall be designed for the pressure and service to which they are subjected.
- 6.3.6. Use only approved end-fitting clamps (screw type heater hose clamps are not acceptable).
- 6.3.7. While blowing down hose, do not point it toward people.
- 6.3.8. Power tools are to be operated only by competent persons who have been trained in their proper use.
- 6.3.9. Conductive hose should not be used near energized equipment.

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- 6.3.10. Foot protection shall be worn while operating paving breakers, tampers, rotary drills, clay spades, and similar impactor-type tools or at other times when instructed by supervision.
- 6.3.11. All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 psi. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners unless the muzzle is in contact with the work surface.
- 6.3.12. Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) shall be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.
- 6.3.13. In lieu of the above, a diffuser nut (which will prevent high pressure), high velocity release (while the nozzle tip is removed), plus a nozzle tip guard (which will prevent the tip from coming into contact with the operator), or other equivalent protection, shall be provided.
- 6.4. Powered Actuated Tools (Tools actuated by an explosive charge)
  - 6.4.1. Only those employees who have been certified in their use shall operate these tools.
  - 6.4.2. Explosive charges shall be carried and transported in approved containers.
  - 6.4.3. Operators and assistants using these tools are required to don proper PPE for eyes, face, and hearing protection.
  - 6.4.4. Tools shall be maintained in good condition and serviced regularly by qualified persons.
  - 6.4.5. The material upon which these tools are to be used shall be examined before work is started to determine its suitability and to eliminate the possibility of hazards to the operator and others.
  - 6.4.6. Prior to use, the operator shall ensure that the protective shield is properly attached to the tool.
  - 6.4.7. Before using a tool, the operator shall inspect it to determine to his satisfaction that it is clean, that all moving parts operate freely, all guards and safety devices are in place, and that the barrel is free from obstructions.
  - 6.4.8. When power operated tools are designed to accommodate guards, they shall be equipped with guards when in use.
  - 6.4.9. Before using tools, the operator shall read and become familiar with the manufacturers operating guidelines and procedures.
  - 6.4.10. When a tool develops a defect during use, the operator shall immediately cease to use it, until it is properly repaired in accordance with the manufacture's specifications.
  - 6.4.11. Tools shall not be loaded until just prior to the intended firing time, nor shall an unattended tool be left loaded.

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- 6.4.12. Empty tools are not to be pointed at any employees.
- 6.4.13. In case of a misfire, the operator shall hold the tool in the operating position for at least 30 seconds. He shall then try to operate the tool a second time. He shall wait another 30 seconds, holding the tool in the operating position; then he shall proceed to remove the explosive load in strict accordance with the manufacturer's instructions.
- 6.4.14. A tool shall never be left unattended in a place where it would be available to unauthorized persons.
- 6.4.15. Fasteners shall not be driven into extremely hard or brittle materials including, but not limited to, cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, or hollow tile.
- 6.4.16. Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.
- 6.4.17. Tools shall not be used in an explosive or flammable atmosphere.

#### 6.5. Hydraulic Power Tools

- 6.5.1. The fluid used in hydraulic powered tools shall be fire-resistant fluids approved under Schedule 30 of the U.S. Bureau of Mines, Department of the Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.
- 6.5.2. The manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded.
- 6.5.3. All hydraulic tools, which are used on or around energized lines or equipment, shall use non-conducting hoses having adequate strength for the normal operating pressures.

#### 6.6. Hydraulic Jacks

- 6.6.1. Loading and marking. The operator shall make sure that the jack used has a rating sufficient to lift and sustain the load.
- 6.6.2. The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.
- 6.6.3. Operation and Maintenance. In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage of the cap, a block shall be placed in between the cap and the load.
- 6.6.4. The operator shall watch the stop indicator, which shall be kept clean, to determine the limit of travel. The indicated limit shall not be exceeded.
- 6.6.5. After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.
- 6.6.6. Hydraulic jacks exposed to freezing temperatures shall be supplied with adequate antifreeze liquid.

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- 6.6.7. All jacks shall be properly lubricated at regular intervals.
- 6.6.8. Each jack shall be thoroughly inspected before each use. Jacks, which are in unsafe condition, shall be tagged accordingly, and shall not be used until repairs are made.

6.7. Personal Protective Equipment

- 6.7.1. Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dust, fumes, mists, vapors, or gases shall wear and be provided with the proper PPE necessary to protect them from the hazard.

6.8. Inspection and Repair

- 6.8.1. Tools shall be inspected periodically.
- 6.8.2. The use of any machinery, tool, material, or equipment which is not in compliance with this policy is prohibited. Such machine, tool, material, or equipment shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.
- 6.8.3. Inspection Checklist Questionnaire shall be used during inspections.

**7. Training**

- 7.1. Employees expected to utilize hand and portable power tools as a part of their job duties must be adequately trained prior to using such tools.
- 7.2. Employees should be trained in the following areas:
  - 7.2.1. Recognize hazards associated with different types of tools and equipment, and the safety precautions necessary for use.
  - 7.2.2. The PPE required to be worn during the use of tools.
  - 7.2.3. The proper use of hand and power tools and other hand-held equipment.
  - 7.2.4. Recognize defects in tools, which may render them out of service.
  - 7.2.5. When applicable, provide access to the manufacturer specifications and manuals for specific equipment to be used.
- 7.3. Training shall be conducted at initial hire. Annual refresher training and retraining will be provided to maintain employee knowledge of working safely with tools.

**8. Recordkeeping**

- 8.1. The following records shall be maintained:
  - 8.1.1. Employee training records
  - 8.1.2. Specialized SOP's
  - 8.1.3. Manufacturers specification manuals



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8.1.4. Maintenance service records

## 9. Appendix

9.1. Inspection Checklist Questionnaire

## 10. Reference

10.1. OSHA 29 CFR 1910.241, 242, 243, and 244

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### Brunel Energy, Inc. Inspection Checklist Questionnaire

<b>Electric Tools</b>		<input checked="" type="checkbox"/>
A	If not the “double –insulated” type, is the tool three-wire grounded?	
B	Is the plug or cord damaged, frayed, or lose?	
C	If double insulated, is the housing cracked or damaged?	
D	Are all applicable guards in place?	
E	Do the guards function properly?	
F	Is the “trigger” or “switch” the dead-man type, so that the power automatically shuts off when released? If the tool is to be used in a wet location, then low-voltage equipment is recommended.	
<b>Air Powered Tools</b>		<input checked="" type="checkbox"/>
A	Is the supply hose in good condition? Is it the recommended type?	
B	Is the safety chain from the hose to the tool housing connected> a safety check valve in the air line at the manifold is recommended?	
C	Is the air being supplied to the tool at the recommended pressure?	
D	On pneumatic impact tools, is the trigger located inside the handle? Is the tool–retainer installed?	
E	Is the “trigger” the dead-man type?	
F	Are gases other than compressed air being used to power pneumatic tools? (Only compressed air shall be used).	
<b>Gas Powered Tools</b>		<input checked="" type="checkbox"/>
A	Is the gasoline stored in a safety can and appropriately labeled?	
B	Is the can equipped with a pouring spout?	
C	Is the motor shut off while refueling?	
D	Is smoking prohibited and is there any other source of ignition in the vicinity?	
E	Are fire extinguishers available?	