

Safe Work Procedure		General Welding	
Department / Area: Physical Plant Services	Approved By: Regional Manager of Physical Plant Services	Date Created: September 5 2014	Review Date:  Revised date:
<b>Potential Hazards:</b> Fill in those that apply H M L Risk for Injury <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Welder Flash - eye burn for self and others <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Fire – torch, open flame <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Extreme Heat - burns <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Combustibles / flammables – welding tanks <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Repetitive Movements – if using neck to flip helmet <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> Chemicals – welding fumes <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Sharp points / edges – metal materials <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Electrical – shock if improper grounding <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Awkward / Sustained postures – forward bend / reach <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> Noise from welder – risk increases with time		<b>Personal protective equipment / devices required / other safety considerations:</b> <ul style="list-style-type: none"> <li>➤ Appropriate Welding eye protection/shield/helmet</li> <li>➤ Welding gloves</li> <li>➤ Welding curtain to shield others</li> <li>➤ Arm protection</li> <li>➤ Ensure fire extinguisher is readily available</li> <li>➤ Secure loose clothing, hair, drawstrings from hoods that could become entangled in tool</li> <li>➤ Heavy items may require hoist or lifting assistance</li> </ul>	
		<b>Training / Reference Information:</b> <ul style="list-style-type: none"> <li>➤ Hot Work Permit</li> <li>➤ Department Orientation</li> <li>➤ Operator's Manual</li> <li>➤ Appropriate training for Welding</li> <li>➤ Refer to Manufacturer for use of welding wire product</li> <li>➤ WHMIS Training</li> <li>➤ MSDS Training</li> </ul>	
<b>Note:</b> Signs and symptoms of a musculoskeletal injury (MSI) can include pain, burning, swelling, stiffness, numbness/tingling, and/or loss of movement or strength in a body part. Report these to your supervisor.			
<b>Employers must ensure that workers are trained and follow this safe work procedure.</b> <b>Steps to perform this task safely:</b>			
<b>Electric Operation:</b> <ul style="list-style-type: none"> <li>➤ Fill out hot work permit. Inspect equipment for obvious damage.</li> <li>➤ Review MSDS.</li> <li>➤ Ensure Fire Extinguisher near worksite.</li> <li>➤ The work area should be free of debris / clutter to reduce risk for slips, trips, or falls.</li> <li>➤ Ensure cable and any flammable materials are not close to the welding rod or material. Never touch to see if hot.</li> <li>➤ Ensure the environment is well-ventilated so fumes are not exposed to operator. A fume hood, fan, or other appropriate ventilation may need to be used. Close flash curtain.</li> <li>➤ Ensure current is correct according to electrode selection.</li> <li>➤ Ensure welding machine and the piece to weld is properly grounded.</li> <li>➤ Use mechanical hoist or use safe lifting techniques if piece is within safe lifting loads (50 pounds) by using legs to</li> </ul>			

weight shift, keeping the back straight, take steps to turn rather than twisting to set up work piece.

- Attempt to set work at height and placement to reduce prolonged forward lean / slouch.
- Secure item from falling as appropriate.

#### **Torch Operation:**

- Fill out hot work permit. Inspect equipment for obvious damage.
- Review MSDS.
- Ensure Fire Extinguisher near worksite.
- The work area should be free of debris / clutter to reduce risk for slips, trips, or falls.
- Ensure the environment is well-ventilated so fumes are not exposed to operator. A fume hood, fan, or organic vapor cartridge may need to be used. Refer to Manufacturer for safe use instructions.
- Remove or shield flammables in the immediate area.
- Ensure gas is on and set flow. Ignite torch, keeping flame away from your body.
- Be aware of dripping solder so it doesn't make contact with self or others.
- Do not leave a lit torch unattended.
- Always ensure welder helmet is down when welding or cutting. Do not flip helmet up and down with your neck, as this places extra stress on your neck.
- Once welding is complete, de-energize equipment, and ensure gas is shut off.
- Remove electrode stub from holder once it has cooled.
- If using a pneumatic chipping hammer, use gloves to reduce vibration.
- Return oxygen and acetylene tanks to storage area and secure.
- If moving work piece to another area use correct lifting technique, and if item is heavy use mechanical aid, such as an appropriate cart, to transport.