2. Safe work procedure title and basic description of activity
Title: Metal Cut-Off Saw
Description of activity: Using a metal cut-off saw for cutting long pieces of metal and other materials (plastics) into other lengths.

3. List Hazards and risk controls as per risk assessment

<table>
<thead>
<tr>
<th>Associated risk assessment number and location:</th>
<th>Potential hazards</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no separate Risk Assessment, or HIRAC performed for this SWP. All hazards have been identified, with control mechanisms listed. Provided all controls are followed, the likelihood of injury is low.</td>
<td>Possible skin irritation from coolants.</td>
<td>Avoid contact with the coolant where possible. Use gloves or absorbent paper to pick up sawn material. Wash hands thoroughly if exposed.</td>
</tr>
<tr>
<td>Eye injuries.</td>
<td>Wear safely glasses during operation. Take care with sharp edges around sawn edges by avoiding hand contact.</td>
<td></td>
</tr>
<tr>
<td>Sharp edges and burrs, metal splinters.</td>
<td>Ensure blades are regularly sharpened to minimise possibility of breaking blades. For high-speed cut-off saws where noise is an issue, where protective hearing equipment.</td>
<td></td>
</tr>
<tr>
<td>Shattered blade.</td>
<td>Noise.</td>
<td></td>
</tr>
</tbody>
</table>

4. List resources required including personal protective clothing, chemicals and equipment needed

PERSONAL PROTECTIVE EQUIPMENT
- Safety glasses must be worn at all times in work areas.
- Sturdy footwear must be worn at all times in work areas.
- Long and loose hair must be contained.
- Close fitting/protection clothing must be worn.
- Hearing protection must be worn.
- Rings and jewellery must not be worn.

5. List step by step instructions or order for undertaking the task

PRE-OPERATIONAL SAFETY CHECKS
- Locate and ensure you are familiar with all machine operations and controls.
- Ensure all guards are fitted, secure and functional. Do not operate if guards are missing or faulty.
- Check workspaces and walkways to ensure no slip/trip hazards are present. Ensure adequate lighting.
- Ensure a suitable pitch saw blade for the job at hand is fitted and is in good condition. (Sharp, no cracks, no missing teeth, not clogged).
- When replacing the blade with another one ensure it's the right way around. Tighten the nut firmly.
- Ensure that the stop is set appropriately so that the material is cut through fully but the machine is not cut into. Blade diameter may vary somewhat.
Check the operation of the work vice.
Check coolant delivery system to allow for sufficient flow of coolant.

OPERATIONAL SAFETY CHECKS

Ensure that the vice is not in the way of the cutting blade. Be especially careful to check for adequate clearance everywhere if the machine is being set for angle cutting.
Check that all appropriate fasteners including vice mounting and vice/saw head swivels etc. are tightened properly.
Ensure the work piece is securely held in the work vice.
Support overhanging work. Signpost if it presents a hazard.
Select a suitable blade speed for the material to be cut (if adjustable).
Be aware of where the piece being cut off will go when cut through. Hold or support if necessary. Use a support if it is heavy.
Turn the coolant on fully before sawing (use no coolant for brass).
Cut with firm but not heavy pressure.
Listen for any unusual noises during the sawing process. Stop immediately if heard and check blade for clogging, tooth missing, crack, etc.

ENDING OPERATIONS AND CLEANING UP

Switch off the machine when work completed.
Before making adjustments or before cleaning swarf accumulations, switch off and bring the machine to a complete standstill.
Clean up and absorb any coolant spills immediately.
Leave the machine in a safe, clean and tidy state.

DON'T

Do not use faulty equipment. Immediately report fault.
Do not cut very small items.
Do not cut materials other than metal.
Do not use blunt, damaged or clogged blades.
Do not use coarse pitch blades on thin sections. Try to ensure that there are 2 or 3 teeth in contact with the work at once if possible. If not possible feed very slowly.
Do not clamp angle iron or similar section in the vice with the vee upwards. Use a block to clamp one flange against fixed jaw of vice.
Do not cut material of a shape that cannot be held firmly in the vice without taking precautions. eg. Put a solid plug of metal or even wood inside large dia. thin wall tubing so the vice can be done up tightly.
Never leave the machine running unattended.
Never force the saw into the workpiece. Use a slow and even feed rate with moderate pressure.

6. List emergency shutdown procedures
Turn switch off and turn off power.

7 List Emergency procedures for how to deal with fires, spills or exposure to hazardous substances
Neat oil is used as a coolant, however, there is not enough heat generated in this operation to reach an ignition temperature. Oil spills may occur when topping up oil sump. If so, these are immediately cleaned up using absorbent material, and disposed of in general waste stream.

8. List Clean up and waste disposal requirements
All oil spills cleaned up using absorbent material and disposed of in general waste stream. Metal shavings, contaminated with oil, are cleaned out of the machine and disposed of in the general waste stream.

9. List legislation used in the development of this SWP

10a. List competency required – qualifications, certificates, licensing, training - e.g. course or instruction:
Metal Trades Craftsman's Certificate, or equivalent.
10b. List competency of Assessor
David Beech – Senior Technical Officer (Physics) – BSc (Eng)

11. Supervisory approval, And review

| Supervisor: Gemma Thompson | Signature: | Responsibility for SWP review: Gemma Thompson | Date of review: 9th August 2013 |

12. SWP Sign off sheet

| SWP name and version: |

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In signing this section the assessor/authoriser agrees that the following persons are competent in following this SWP:

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date Competent</th>
<th>Name of Assessor/Authoriser</th>
<th>Assessor/Authoriser signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew McVicar</td>
<td></td>
<td>9th August 2013</td>
<td>David Beech</td>
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<tr>
<td>Marcel Kaegi</td>
<td></td>
<td>9th August 2013</td>
<td>David Beech</td>
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<tr>
<td>Rattan Bhandari</td>
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<tr>
<td>Ces Delapez</td>
<td></td>
<td>9th August 2013</td>
<td>David Beech</td>
<td></td>
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<tr>
<td>Michael Paterson</td>
<td>See Physics file</td>
<td>6th October 2011</td>
<td>David Beech</td>
<td></td>
</tr>
<tr>
<td>Terry Pfeiffer</td>
<td>See Physics file</td>
<td>6th October 2011</td>
<td>David Beech</td>
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</tbody>
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