



**BRIGHAM YOUNG UNIVERSITY – IDAHO**

**ENVIRONMENTAL, HEALTH & SAFETY**

**SAFETY DEPARTMENT**

**HOT WORK PERMIT PROGRAM**

**EH-002-R03**



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## **1.0 Overview**

On the average there are 12,630 hot work fires that occur in the United States each year resulting in 31 deaths and \$308.9 million in property damage. A single hot work fire can result in the death of an employee, student or contractor and cost millions in property damage and medical costs. Hot work is performed frequently on the BYU-Idaho campus. This program was developed with the goal of preventing such fires here. This policy was developed in accordance with OSHA regulations, and NFPA and FM Global recommendations.

## **2.0 Policy**

BYU-Idaho is committed to providing a safe environment for all employees, students, and visitors. This policy applies to all University personnel involved in the use of “Hot Work”. Adherence to the procedures and training as outlined herein is mandatory.

“Hot Work” is defined as any construction or maintenance procedure that requires or creates heat, open flame, or sparks to complete.

## **3.0 Requirements**

- OSHA 29 CFR 1910 Subpart Q (251-255) Welding, Cutting and Brazing
- OSHA 29 CFR 1926 Subpart J (350-354) Welding and Cutting
- NFPA Standard 51B Standard for Fire Prevention During Welding, Cutting and other Hot Work

## **4.0 Purpose**

This program is established to help prevent fires resulting from any temporary operation involving open flames or produces sparks and/or heat, as required by OSHA.

## **5.0 Scope**

This includes, but not limited to; welding, brazing, cutting, grinding, soldering, thawing frozen pipes by torch, and other torch applied activities.

This program applies to work performed by BYU-Idaho employees and/or contractors performing maintenance work in existing buildings, new construction in an existing building, or new construction attached to an existing building. Though some areas do not require the permit to operate the 35 foot rule and other safety measures addressed in this program are to be followed.

Exceptions to the permit part of this program:

- New construction where there is No Attachment to an existing building or poses a fire threat to another building nearby.
- Areas that are specifically designed and equipped for such operations (i.e. welding labs and shops, and other designated welding locations on campus).

## 6.0 Procedures

- 6.1 Hot work should not be performed if the work can be avoided or performed in an alternate safer manner. When practical, objects to be welded, cut or heated should be moved to a designated hot work location (i.e. maintenance/welding shop).
- 6.2 If work is to be performed, a Hot Work Permit must be obtained before the work begins. This procedure is as follows:
  - 6.2.1 The work area must be inspected by the worker and his/her supervisor to ensure code compliance prior to submitting a request for a Hot Work Permit request will be found at: [www.byui.edu/safety](http://www.byui.edu/safety) and needs to be submitted no sooner than 24 hours prior to the proposed hot work. If there is an emergency where Hot Work is required – Call 496-2437. Someone from the Safety Office will be on site to issue the permit. Remember, NEVER start the Hot Work without a Permit.
  - 6.2.2 Contractors on campus must have the project manager inspect the work area for code compliance and fill out the permit request on-line.
  - 6.2.3 Permits will not be issued for more than one day at a time, depending on the nature of the work. If more than one day is required, another permit will be issued.
  - 6.2.4 Only one permit will be issued per hot work job. (Example: one permit would be issued for welding and grinding a pipe for the same job to be performed.)
  - 6.2.5 The Safety Office will determine if a fire system detector or sprinkler head needs to be de-activated and/or covered while the work is being performed in order to prevent a false alarm. The building fire alarm system will not be disabled when possible.
  - 6.2.6 A proper fire watch will be provided by the department or contractor during, and for a hour following the hot work. A subsequent periodic watch will be arranged for by the issuee, for not less than three hours following the first hour after the hot work is completed.
  - 6.2.7 The 35 foot rule will be followed before, during and following the hot work activity.
  - 6.2.8 Combustible flooring must be either kept moist or covered with a non-flammable material.
  - 6.2.9 All personnel will be suitably protected against hazards generated by the work (i.e. heat, sparks, fumes, welding rays, etc.). This may include, but not be limited to, the use of personal protective equipment, shields, screens, or local exhaust ventilation.
  - 6.2.10 A copy of the permit will be placed at the location of the work to be performed by Hot Work Supervisor, and will be readily available throughout the hot work period and for up to four hours after.

- 6.2.11 The area is posted to warn others of the work being performed. (Example: **CAUTION – HOT WORK IN PROCESS – STAY CLEAR**) Contractors will supply their own warning signs.
- 6.3 Prohibited Conditions: a hot work permit will not be issued under the following conditions:
  - 6.3.1 Sprinkler protection is impaired;
  - 6.3.2 Appropriate firefighting equipment is not readily available;
  - 6.3.3 Combustible or flammable materials are within 35 feet and cannot be moved or protected;
  - 6.3.4 Floor and wall openings cannot be covered;
  - 6.3.5 Flammable and/or explosive vapors or gases are present;
  - 6.3.6 Cutting and welding on pipes or other metals can conduct enough heat to ignite nearby combustible materials;
  - 6.3.7 Any condition exists that could create hazards by performing the work;
  - 6.3.8 Suspected lead-based painted areas and components; or
  - 6.3.9 Any area not authorized or deemed unsafe by the Hot Work Supervisor.
- 6.4 A Hot Work Permit is not required for the following:
  - 6.4.1 Designated Hot Work areas (see Appendix A);
  - 6.4.2 Fixed grinding wheels;
  - 6.4.3 Bunsen burners in laboratories; and,

## **7.0 Responsibilities**

- 7.1 Hot Work Supervisor
  - 7.1.2 Issues hot work permits, inspects each site, and ensure that supervisors, employees and contractors are following the hot work permit program.
  - 7.1.3 Establish designated areas for cutting and welding (i.e. welding shop).
- 7.2 Supervisor
  - 7.2.1 Ensure that supervisors, cutters, welders and other employees using hot work equipment are suitably trained in the operation of the equipment including all safety requirements and hot work procedures;
  - 7.2.2 Ensure that the area has been inspected and a hot work permit is obtained prior to the work being performed;
  - 7.2.3 Ensure that all cutting, welding, grinding and other hot work equipment is in good working condition.
- 7.3 Employee
  - 7.3.1 Follow and use the hot work procedures;

- 7.3.2 Inspect the area and obtain a hot work permit prior to any work and display the permit at the work site along with any additional warning signs;
- 7.3.3 Ensure that all equipment to be used is in good working order and has been inspected for any defects or safety hazards;
- 7.3.4 Attend and actively participate in the appropriate training for the work to be performed as outlined in section 8.0;
- 7.3.5 Protect nearby personnel and public against heat, sparks, etc. when working in or near occupied buildings.
- 7.4 Firewatch
  - 7.4.1 Be trained in the proper operation of the fire extinguisher to be used;
  - 7.4.2 Be properly trained in the duties of a Firewatch;
  - 7.4.3 Have a fire extinguisher readily available (contractors will need to provide their own fire extinguisher);
  - 7.4.4 If a fire occurs, try to extinguish it if it is within the capacity of the equipment and your training. Report all fires or other related damage to the Fire Protection Officer at 496-2481.
  - 7.4.5 If a fire occurs that you are not able to put out, **CALL 911 IMMEDIATELY.**
  - 7.4.6 Be familiar with the facility and know how to activate the fire alarm systems;
  - 7.4.7 Assist in removing any combustible materials from the area if possible;
  - 7.4.8 Actively watch for fires in and around all exposed areas;
  - 7.4.9 Maintain the fire watch continuously for one hour after the hot work is completed.
- 7.5 Safety Department
  - 7.5.1 Review the Hot Work Permit Program on an annual basis to ensure it is current and complete;
  - 7.5.2 Retain copies of the issued Hot Work Permits for two years;
  - 7.5.3 Provide technical assistance as needed (i.e. detection of explosive gases, safe or unsafe conditions, etc.).
  - 7.5.4 Provide training on the Hot Work Program.

## **8.0 Training**

- 8.1 Employees Performing Hot Work and Firewatchers
  - 8.1.1 All employees performing hot work, firewatch, and their supervisors must be properly trained.

- 8.1.2 The initial training takes place prior to performing the work and shall consist of the following:
  - 8.1.2.1 Overview of the program and their responsibility;
  - 8.1.2.2 What starts hot work fires and explosions;
  - 8.1.2.3 How fires can be prevented and what makes hot work fires so dangerous; and
  - 8.1.2.4 Basic fire extinguisher training.
- 8.1.3 Annual refresher training is conducted by the Safety Office and consists of the following:
  - 8.1.3.1 Overview of the program and their responsibility;
  - 8.1.3.2 Why hot work fires are so dangerous and how to prevent them;
  - 8.1.3.3 Situations over the past few years resulting in, or could have resulted in, fires.
  - 8.1.3.4 Hands-on fire extinguisher operation.
- 8.1.4 Three Year Training will consist of the following:
  - 8.1.4.1 Review of the program and any changes that have taken place;
  - 8.1.4.2 Review some recent cases of hot work induced fires; and,
  - 8.1.4.3 Hands-on fire extinguisher training.
- 8.1.5 Copies of the training records are maintained for 5 years in the Safety office and in the respective departments.

## **9.0 Monitoring**

- 9.1 Designated hot work areas will be audited on an annual basis by the Safety Department.
- 9.2 The Hot Work Permit Program will be reviewed on an annual basis and updated as needed.
- 9.3 The training program will be reviewed by the Safety Department and the Physical Facilities Shop supervisors to ensure relevance and compliance.
- 9.4 The Hot Work Permits issued are reviewed on an annual basis to ensure compliance and need for improvement.
- 9.5 Hot Work Permits will be periodically checked to ensure compliance with the program by the Safety Department and/or Physical Facility Shop management.

## **10.0 Appendices**

## APPENDIX A

### DESIGNATED HOT WORK LOCATIONS

These locations shall be posted as such and the area will be operated and maintained in compliance with this program.

1. Physical Facility Welding Shop
2. Physical Facility Vehicle Maintenance Shop
3. Physical Facility Heat Plant Welding Area
4. Physical Facility Sheet Metal Shop Welding Area
5. Austin Welding Shop
6. Snow Scene Shop Outside Welding Area
7. Kirkham Kiln Area

In these areas the 35 foot rule still applies along with other reasonable stipulations of the Hot Work Supervisor.

APPENDIX B

Hot Work Request Form Site

[http://www.byui.edu/safety/forms/Hot\\_Form-2.htm](http://www.byui.edu/safety/forms/Hot_Form-2.htm)

<b>HOT WORK PERMIT REQUEST FORM</b> <b>ONLY GOOD FOR ONE DAY</b> <b>All areas must be filled in before submission</b>			
Permit Requested by:			
Your Email Address:			
Work Order Number:			
Date Work to be performed:			
Location of Work:			
Who is doing the work:			
Supervisor:			
Describe work being performed:			
Comments:			
<p><b><u>Print</u> a copy of this permit.</b></p> <p>After printing a copy of the permit, click on the "<b><u>Submit Request</u></b>" button.</p> <p>The permit needs to be submitted no sooner than 24 hours before the work is to be performed.</p> <p>The permit will be issued by someone from the Safety Office prior to the work.</p> <p>If the form is submitted less than 24 hours before work begins, you will need to call 496-2481 and explain the emergency requiring this work.</p>			
Submit Request for Approval	Reset Request	Print	(save a copy for your records)

APPENDIX C

HOT WORK PERMIT

668635-6

# HOT WORK PERMIT

**STOP!**  
 Avoid hot work or seek an alternative/safer method, if possible.

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, cutting, grinding, soldering, torch-applied roofing and welding.

Instructions	Part 1								
<p><b>1. Firesafety supervisor:</b></p> <p>A. Verify precautions listed at right (or do not proceed with the work).</p> <p>B. Complete and retain Part 1.            (Part 1A is for quality assurance documentation, if necessary.)</p> <p>C. Issue Part 2 to person performing hot work.</p>	<p style="text-align: center;"><b>Required Precautions Checklist</b></p> <p><input type="checkbox"/> Available sprinklers, hose streams and extinguishers are in service/operable.</p> <p><input type="checkbox"/> Hot work equipment in good working condition.</p> <p><b>Requirements within 35 ft. (11 m) of hot work</b></p> <p><input type="checkbox"/> Flammable liquid, dust, lint and oily deposits removed.</p> <p><input type="checkbox"/> Explosive atmosphere in area eliminated.</p> <p><input type="checkbox"/> Floors swept clean.</p> <p><input type="checkbox"/> Combustible floors wet down, covered with damp sand or fire-resistive sheets.</p> <p><input type="checkbox"/> Remove other combustible material where possible. Otherwise, protect with FM Approved welding pads, blankets and curtains, fire-resistive tarpaulins or metal shields.</p> <p><input type="checkbox"/> All wall and floor openings covered.</p> <p><input type="checkbox"/> FM Approved welding pads, blankets and curtains installed under and around work.</p> <p><input type="checkbox"/> Protect or shut down ducts and conveyors that might carry sparks to distant combustible material.</p> <p><b>Hot work on walls, ceilings or roofs</b></p> <p><input type="checkbox"/> Construction is noncombustible and without combustible covering or insulation.</p> <p><input type="checkbox"/> Combustible material on other side of walls, ceilings or roofs is moved away.</p> <p><b>Hot work on enclosed equipment</b></p> <p><input type="checkbox"/> Enclosed equipment cleaned of all combustible material.</p> <p><input type="checkbox"/> Containers purged of flammable liquid/vapor.</p> <p><input type="checkbox"/> Pressurized vessels, piping and equipment removed from service, isolated and vented.</p> <p><b>Fire watch/hot work area monitoring</b></p> <p><input type="checkbox"/> Fire watch will be provided during and for 60 min. after work, including any break activity.</p> <p><input type="checkbox"/> Fire watch is supplied with suitable extinguishers, and where practical, a charged small hose.</p> <p><input type="checkbox"/> Fire watch is trained in use of equipment and in sounding alarm.</p> <p><input type="checkbox"/> Fire watch may be required in adjoining areas, above and below.</p> <p><input type="checkbox"/> Monitor hot work area for an additional three (3) hours after the 60-min. fire watch.</p> <p><b>Other precautions taken:</b></p> <p><input type="checkbox"/> _____</p>								
<p><b>Hot work by</b></p> <p><input type="checkbox"/> Employee</p> <p><input type="checkbox"/> Contractor _____</p> <p>Date _____ Job number _____</p> <p>Location/building and floor _____</p> <p>Nature of job _____</p> <p>Name (print) and signature of person performing hot work _____</p> <p>_____</p> <p style="text-align: center;"><b>I verify the above location has been examined, the precautions checked on the Required Precautions Checklist have been taken to prevent fire, and permission is authorized for this work.</b></p> <p>Name (print) and signature of firesafety supervisor/operations supervisor _____</p> <p>_____</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;"><b>Permit Expires</b></td> <td style="width: 20%;">Date</td> <td style="width: 20%;">Time</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">a.m. p.m.</td> </tr> </table>	<b>Permit Expires</b>	Date	Time					a.m. p.m.	<div style="border: 1px solid black; padding: 5px; text-align: center; font-size: 24px; font-weight: bold;">0000000</div>
<b>Permit Expires</b>	Date	Time							
			a.m. p.m.						
<p><b>Note: Emergency notification on back of form. Use as appropriate for your facility.</b></p> <p>To order additional hot work permits or other FM Global resources, order online 24 hours a day, seven days a week, at <a href="http://www.fmglobalcatalog.com">www.fmglobalcatalog.com</a>.</p> <div style="display: flex; align-items: center;"> <p style="font-size: 8px;">F2630 (REV. 6/06) Printed in USA (6/06)        © 2003-2006        Factory Mutual Insurance Company        All rights reserved.</p> </div>									