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| Hot Work Safety Procedure |

**Office: Environmental Health, Safety, and Risk**

**Procedure Contact: Russell Deen**

**Related Policy or Policies: Environmental Health and Safety Policy**

**Revision History**

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| **Revision Number:** | **Change:** | **Date:** |
| Initial |  | 06/2/2018 |
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1. **Purpose**

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| Southern Oregon University is dedicated to the safety of personnel, whether faculty, staff, students, or non-University. This procedure is designed to assure that all University employees (faculty, staff, students) and contractors working under University supervision shall comply with the elements of this policy. This procedure is intended to assure proper communication and decision-making within the Physical Plant for hot work operation, due to maintenance or emergency requirements. This procedure is established to assure adequate communication between the Physical Plant and the areas of the University affected by hot work operation, due to maintenance or emergency requirements. It is also intended that all contractors (non-University personnel) follow the guidelines as set forth in this proceedure. STATE OF OREGON The authority governing hot work safety at Southern Oregon University Oregon OSHA Standard § 1910.252 through 1910.254. The Occupational and Safety Advisory Committee is appointed by the Vice President for Finance and Administration to promote safety and health on campus in compliance with Oregon Administrative Rule 437-001-0765. OSAC is responsible for providing advice and submitting recommendations related to safety and health issues and concerns to the Envrionmental Health, Safety and Risk Manager (EHS). The EHS Manager is responsible for keeping the Vice President of Administration and Finance informed and assisting and guiding OSAC in carrying out its duties and responsibilities. |

**B. Definitions**

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| * Designated Hot Work Area – semi- or permanent location specifically designed for regular hot work operation and approved by the Hot Work Supervisor.
* Hot Work – any operation that includes cutting, welding, use of open torch, brazing, glass blowing, or similar operation producing a spark, flame, or heat that is capable of initiating a fire or explosion.
* Hot Work Area – the area that is exposed to sparks, hot slag, or radiant or convective heat as a result of the hot work.
* Hot Work Checklist – a tool utilized to establish necessary communication and safeguards as required by this policy and made part of the Hot-Work Permit.
* Hot Work Equipment – equipment that is electric or gas welding or cutting equipment used for hot work.
* Hot Work Operator – individual designated by the University to perform hot work under the authorization of a Hot Work Supervisor.
* Hot Work Permit – the instrument through which permission for a hot work operation is granted, ensuring that all necessary communication and safe guards for the hot work have been accomplished.
* Hot Work Supervisor – individual who has successfully completed training in hot work safety and is considered by the University competent in this area.
* Individual cannot be the hot work operator.
* For outside contractors, the hot work supervisor shall be identified and the name provided to the University’s project manager.
* Non-Designated Hot Work Area – any area utilized for hot work that has not been established as a Designated Hot Work Area.
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**C. Procedures**

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| This policy is designed to prevent injury and loss of property from fire or explosion as a result of hot work operation in all University spaces and activities. **Coverage includes:** Welding, Brazing, Soldering, Heat treating, Grinding, Powder-actuated tools, Hot riveting, and Similar applications producing a spark, flame, or heat. **Coverage does not include use of:** Candles, Laboratory activities, Pyrotechnics or special effects, Cooking, Soldering irons, or Torch-applied roofing (see NFPA 241) ADDITIONAL PERMITS OR REQUIRMENTS Hot work operations in confined spaces require additional safeguards and are addressed in Southern Oregon University Confined Space Policy and Permit Program. Hot work on and near building systems and piping may require additional safeguards with respect to hazardous energy and are addressed in the Southern Oregon University Lock-Out/Tag-Out Procedures. All hot work performed by outside contractors shall be in conformance, at a minimum, with this policy and with NFPA 51B. **HOT WORK SUPERVISOR:** The Hot Work Supervisor is responsible for the overall safe operation of hot work activity under his/her supervision. These responsibilities include: Establishment of permissible areas for hot work, Ensuring only approved apparatus (torches, manifolds, regulators, pressure valves, etc.) are used, Ensuring that all individuals involved in hot work operations are familiar with this policy and its requirements, Ensuring that all individuals involved in hot work are trained in the safe operation of their equipment and possible emergency procedures, Determination of site-specific flammable materials, hazardous processes, or other potential fire hazards present, or likely to be present, in the work location. If warranted, ensuring the hot work area is periodically monitored for four (4) hours after the hot work is completed. Notification of hot work operation to Campus Public Safety. **HOT WORK OPERATOR** The Hot Work Operator is responsible for his/her work area and safe operation therein to ensure safe operation of hot work activity under his/her control. He/she shall handle the equipment safely and perform work so as not to endanger lives and/or property. No hot work shall be conducted without specific written authorization from the Hot Work Supervisor by means of a Hot Work Permit. The Hot Work Operator must immediately cease hot work operation if unsafe conditions develop or requested by the Hot Work Supervisor or Public Safety. If an unsafe condition develops, the Hot Work Supervisor (if not already aware) shall be notified immediately. Unsafe concerns expressed by affected personnel shall cause hot work operations to cease and immediate contact with the Hot Work Supervisor established. Responsibilities include: Ensuring combustibles are protected from ignition by:* Moving the work to a location free from combustibles,
* If the work cannot be moved, ensuring the combustibles are moved to a safe distance or properly shielded against ignition,
* Ensuring hot work is scheduled such that operations that could expose flammables or combustibles to ignition do not occur during hot work operations,
* Ensuring that fire protection and extinguishing equipment are properly located and readily available,
* Ensuring sufficient local exhaust ventilation is provided to prevent accumulation of any smoke and fume.
* If any of the above cannot be met, ensuring that hot work must not be performed.

**FIRE WATCH** * A fire watch may consist of any combination of Public Safety or Physical Plant personnel who are trained in the use of fire extinguisher use and in sounding a fire alarm.
* It is the responsibility of the Hot Work Supervisor to determine whether or not a fire watch is required.
* The requirement of a fire watch shall be determined by the kind of hot work being performed and the circumstances under which the hot work is executed.
* A fire watch, when warranted, shall be provided during and for 30-minutes after the hot work operation.
* In conjunction with the Hot Work Supervisor, the Hot Work Operator shall establish proper fire-watch procedures when hot work is performed in a location where other than a minor fire might develop where the following conditions exist:
* Combustible materials in building construction or contents are closer than 35 feet to the point of hot work,
* Combustible materials in a building are more than 35 feet away but are determined to easily ignite by sparks,
* Wall or floor opening are within 35 feet and expose combustible materials in adjacent areas; this includes combustible materials concealed in walls or floors,
* Combustible materials are adjacent to the opposite side of partitions, walls, ceilings, or roofs and are likely to be ignited.
* More than one fire watch shall be required if combustible materials that could be ignited by the hot work operation cannot be directly observed by a single fire watch; e.g., in adjacent rooms.
* Where a fire watch is not required, the Hot Work Supervisor shall make a final inspection no less than 30 minutes after the completion of hot work operations for detection and extinguishing of smoldering fires.

 **DESIGNATED HOT WORK AREAS** * The University may approve specific areas to be designated for regular hot work without the need for repeated Hot Work Permits.
* These areas shall meet all requirements contained in this policy at all times.
* These areas shall have been constructed for regular hot work operation.
* The Hot Work Supervisor, after inspection, shall initiate a Hot Work Permit on an annual basis for a designated hot work area, which shall maintained by the Hot Work Operator in the vicinity of the designated hot work area.

**NON-DESIGNATED HOT WORK AREAS** * A Hot Work Permit is required each time hot work, as defined in this policy, is utilized in a non-designated hot work area.
* A non-designated hot work area must be made safe by removing or protecting combustibles form ignition sources.

**Hot Work is not allowed:** * In buildings when its fire protections system is impaired,
* In the presence of explosives atmospheres or potentially explosive atmospheres; e.g., on containers previously containing flammable solvents,
* In areas where explosive atmospheres may develop; e.g., accumulation of combustible dust.

**HOT WORK PERMIT** * Prior to any hot work operation in a non-designated hot work area, a completed Hot Work Permit must be validated by a Hot Work Supervisor.
* The Hot Work Permit cannot exceed 24 hours in duration.
* The following conditions shall be addressed by the Hot Work Supervisor prior to the issuance of a **Hot Work Permit:**
* Equipment to be used must be in a satisfactorily operational condition and in good repair,
* The floor of the hot work area must be swept clean for a radius of 35 feet of all combustible materials; e.g., paper or wood shavings,
* Combustible floors must be:
* Kept wet or be covered with damp sand (note: where floors have been wet-down, personnel operating arc-welding or cutting equipment shall be protected from possible shock),
* Be protected by non-combustible or fire-retardant shields.
* All combustible materials must be moved at least 35 feet away from the hot work operation.
* If relocation is impractical, combustibles must be protected with fire-retardant covers, shields or curtains.
* Edges of covers at the floor must be tight to prevent sparks from going under them, including where several covers overlap when protecting a large pile.
* Openings or cracks in walls, floors, or ducts within 35 ft of the site must be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
* If hot work is done near walls, partitions, ceilings, or roofs of combustible construction, fire-retardant shields or guards must be provided to prevent ignition.
* If hot work is to be done on a wall, partition, ceiling, or roof, precautions shall be taken to prevent ignition of combustibles on the other side by relocating combustibles.
* If it is impractical to relocate combustibles, a fire watch on the opposite side from the work must be posted.
* Hot work must not be attempted on a partition, wall, ceiling, or roof that has a combustible covering or insulation, or on walls or partitions of combustible sandwich-type panel construction.
* Hot work that is performed on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles must not be undertaken if the work is close enough to cause ignition by conduction.
* Fully charged and operable fire extinguishers that are appropriate for the type of possible fire shall be available immediately at the work area.
* These extinguishers should be supplied by the group performing the hot work.
* The fire extinguishers normally located in a building are not considered to fulfill this requirement.
* If hot work is done in the proximity to a sprinkler head:
* a wet rag shall be laid over the head and then removed at the conclusion of the welding or cutting operation.
* During hot work, special precautions shall be taken to avoid accidental operation of automatic fire detection or suppression systems (for example, special extinguishing systems or sprinklers).
* Nearby personnel must be suitably protected against heat, sparks, and slag.

**HOT WORK CLOSE-OUT** * A fire watch, if warranted, shall be maintained for at least 30 minutes after completion of hot work operations in order to detect and extinguish smoldering fires.
* The Hot Work Supervisor shall ensure inspection of the job site 30 minutes following completion of hot work and close out the permit with the time and date of the final check.
* The completed Hot Work Permit shall be retained for one (1) year following completion of the project.

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| This procedure may be revised at any time without notice. All revisions supersede prior procedures and are effective immediately upon approval. |

**D. Appendix**

**Appendix A:**

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