Section 4  “Hot Work” Protocols

1. Definitions and Scope
   a. For the purposes of this section, “hot work” is defined as any temporary operation involving open flames or producing heat and/or sparks. This includes, but is not limited to, grinding, cutting, brazing, soldering, thawing frozen pipes by torch, torch applied roofing, and welding.
   b. The provisions under this section apply to all personnel on an NSHE campus who are involved with construction and maintenance activities and/or who may be involved in “hot work” activities.
   c. Contractors doing hot work must have an equivalent hot work permit program.
   d. The provision under this section do not apply to normal or routine supervised activities in classrooms, laboratories and academic vocational shops that are designed and equipped for hot work operations.
   e. The authorized fire code official may require operational or construction permits in addition to the hot work permits to comply with county or local fire regulations. These permits may impose additional limitations or restrictions on the hot work operation.

2. Responsibilities
   a. Department Chairperson/Director: The ultimate responsibility and authority for the hot work permit program rests with the Chairperson or Director of the department issuing the hot work permit.
   b. Supervisors, Principal Investigators, Project Leaders: Individuals should have a supervisory responsibility shall play a key role in the hot work permit program. They have responsibility for:
      i. Ensuring that their subordinates are trained and understand the applicable provisions of the program;
      ii. Ensuring that their subordinates fulfill all requirements before any hot work is performed, including:
         a) Ensuring that the Fire/Life Safety Department is contracted;
         b) Ensuring that, where installed, the building fire alarm system is in working order; and
         c) Ensuring that, where installed, the building fire sprinkler system is operational.
      iii. Completing and approving each hot work permit issued; and
iv. Ensuring that properly trained fire watchers are assigned when necessary.

c. Individuals Performing Hot Work are responsible for:
   i. Receiving training on the hot work permit program and their responsibilities;
   ii. Obtaining written approval from the supervisor for the hot work;
   iii. Ensuring that conditions are safe before commencing the hot work;
   iv. Being prepared to contact their supervisors should conditions change or warrant reassessment during the hot work project;
   v. Using appropriate personal protective equipment while performing hot work (welding helmets, gloves, jackets, etc.); and
   vi. Completing the appropriate section(s) of the hot work permit.

d. Persons charged with fire-watch are responsible for:
   i. Receiving training on the hot work permit program and their responsibilities;
   ii. Being aware of the inherent hazards involved in the hot work;
   iii. Ensuring that conditions are safe before commencing the hot work;
   iv. Ensuring that appropriate fire extinguishers are readily available and in good working order;
   v. Knowing how to report a fire or other emergency situation;
   vi. Maintaining the watch for at least 30 minutes after the work is completed;
   vii. Using the appropriate personal protective equipment;
   viii. Completing the appropriate section of the hot work permit; and
   ix. Returning the completed hot work permit to their supervisor.

e. Facilities Management must recognize its responsibility for safe usage of welding, cutting and other spark or flame producing equipment on campus property and is responsible for:
   i. Establishing designated areas for welding, cutting, brazing, torch soldering and grinding operation where the potential fire danger is limited. At the Facilities Management Department’s discretion, hot work conducted in these areas may occur under a general hot work permit that is reissued on a regular basis.
   ii. Establishing procedures for hot work in other areas;
   iii. Designating at least one trained individual responsible for authorizing hot work permits in areas not specifically designated for hot work;
   iv. Requiring employees performing hot work and their supervisors to be suitably trained in the safe operation of the equipment; and
   v. Advising all contractors about flammable materials or hazardous conditions in areas where they will be working.
f. Facilities supervisors and Project Managers are responsible for:
   i. Maintaining cutting or welding equipment in safe operating condition;
   ii. Issuing hot work permits for any cutting, welding, brazing, torch 
       soldering, grinding or open flame, heat or spark producing operations 
       outside of the designated area(s);
   iii. Ensuring the precautions listed on the Hot Work Permit are understood 
       and followed by the individual performing the hot work;
   iv. Informing outside contractors and service personnel of the expectations 
       of this policy; and
   v. Verify that contractor personnel have the necessary hot work permits 
       required for their work.

3. “Hot Work” Procedures
   a. Hot Work Permit Forms
      The hot work permit form included under subsection 5 must be utilized.

   b. Several tasks must be performed before hot work begins. These include, but are 
      not limited to:
      i. Check equipment to be used;
      ii. Inspect the hot work area to identify any fire hazards;
      iii. Remove all flammable or combustible materials within a thirty five-foot 
           radius of the hot work;
      iv. Properly shield combustibles that cannot be removed from the area with 
           non-combustible blankets or other non-combustible materials;
      v. Seal all cracks and openings through which hot sparks or slag may enter. 
         As an alternate means, a fire resistant shield may be used to block the 
         openings;
      vi. Sweep floor of all loose combustible debris;
      vii. Place non-combustible or flame resistant screens so as to protect 
           personnel in adjacent work areas from heat, flames, radiant energy and 
           welding splatter;
      viii. Protect conveyor systems that may carry sparks of slag to other parts of 
           the building;
      ix. Mark the area so as to warn nearby personnel of the danger;
      x. Cover sprinkler heads directly above the hot work area with wet rags or 
         other non-combustible materials so they will not be triggered during the 
         work;
      xi. Cover smoke detectors located in close proximity of the work area; and
      xii. Check to determine if an additional operational or construction permit is 
           required from the local fire official. In addition confirm compliance with 
           all limitations and restrictions imposed by this permit.

   c. During Hot Work, additional precautions that must be taken:
      i. Appropriate fire extinguishing equipment shall be maintained in close 
         proximity to the hot work for its entire duration, plus at least 30 minutes 
         thereafter;
      ii. Combustible floors shall be kept wet during the hot work;
iii. Store acetylene and other fuel cylinders in a secure and upright position; and
iv. Place hoses so that they will not be crushed or damaged.

d. After Hot Work, the following precautions must be taken:
   i. Maintain the fire watch for at least 30 minutes following the completion of the hot work. If circumstances require, fire watches shall be maintained for periods longer than 30 minutes.
   ii. Keep fire-extinguishing equipment readily accessible in the area until the firewatch is secured;
   iii. Remove any covers from sprinkler head immediately upon completion of the hot work;
   iv. Remove covers from any smoke detectors immediately upon completion of the hot work; and
   v. Complete the appropriate sections(s) of the hot work permit and return the completed form to the supervisor.

e. Prohibited Hot Work Locations: Hot work activities are prohibited in the following locations:
   i. Areas equipped with sprinkler systems that are out of order;
   ii. Areas, including those with confined spaces, where atmospheres of explosive gases, vapors, or dusts exist or could accumulate;
   iii. On metal walls, ceilings or roofs built of composite, combustible and sandwich type panel construction or having combustible coverings;
   iv. On or near containers where flammable liquids, solids or vapors may be present; and
   v. On pipes that are in contact with combustible walls, ceilings, roofs or partitions where heat by conduction can cause ignition.

4. “Hot Work” Record Keeping
   a. Hot Work permits shall be returned to the issuing supervisor for record retention. Records of hot work permits should be maintained for one calendar year from the date of completion, unless otherwise advised by counsel. Hot work permits on record should be reviewed for program improvement or modification purposes prior to disposal.
   b. Training: Copies of records of all program related training shall be maintained in the department personnel files. Copies of training records should be sent to the EH&S Department.

5. Hot Work Permit Form follows.

(Added 3/07)