

**TO: ALL COUNTY PERSONNEL**

**FROM: VERDENIA C. BAKER  
COUNTY ADMINISTRATOR**

**PREPARED BY: RISK MANAGEMENT**

**SUBJECT: HOT WORK – CONTROL OF FIRES AND EXPLOSIONS**

**PPM#: CW-O-082**

---

---

**ISSUE DATE**  
**September 2, 2020**

---

---

**EFFECTIVE DATE**  
**September 2, 2020**

---

---

**PURPOSE:**

To minimize the risk of employee injury and property loss due to damaging fire and/or explosions from work that produce excessive heat, flames or sparks.

**UPDATES:**

Future updates to this PPM are the responsibility of the Manager of Employee Safety / Loss Control (ES/LC), under the authority of the Director of Risk Management.

**AUTHORITY:**

- The Occupational Safety and Health Administration (OSHA) Occupational Safety and Health Standards, as may be amended.  
29 CFR 1910.251 – 255 Subpart Q, as may be amended, Welding, Cutting, and Brazing.
- 29 CFR 1926.350-354 Subpart J, as may be amended, Welding and Cutting
- 29 CFR 1910.1000 Subpart Z, as may be amended, Toxic and Hazardous Substances, Air Contaminants
- Palm Beach County PPM CW-P-068, Respiratory Protection Program (RPP)
- National Fire Protection Association 51B, as may be amended, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- State Fire Marshall regulations, as may be amended

**DEFINITIONS:**

**Authority Having Jurisdiction (AHJ):** – An organization, office or individual responsible for enforcing the requirements of a code or standard or for approving equipment, materials, and

installation or a procedure. The AHJ for Palm Beach County Board of County Board of County Commissioners is a joint responsibility of Risk Management –ES/LC and the County Department where Hot Work is conducted.

**Designated Area:** A specific location designed and approved for Hot Work operations that is maintained fire-safe, such as a maintenance shop or a detached outside location, that is of noncombustible or fire-resistive construction, essentially free of combustible and flammable contents, and suitably segregated from adjacent areas. Designated areas must:

- Be verified as fire resistant;
- Have all combustibles located at least 35 feet in all directions from the work site;
  - If relocation is impractical, combustible shall be protected by either a
    - welding curtain (listed and approved),
    - welding blanket (listed and approved),
    - welding pad (listed and approved), or equivalent;
- Have the edges of covers at the floor tight against the floor, including at the point at which several covers overlap while protecting a large pile. This is necessary to prevent the entrance of sparks;
- Have a minimum 2A20BC fire extinguisher in good working condition and readily available;
- Have ventilation that is working properly and vents appropriate CFM of air;
  - If proper ventilation is not available, then the appropriate respirator must be provided.
- Have all equipment in good working order; and
- Be reviewed annually by the Permit Authorizing Individual (PAI) to ensure that the area is still fire safe.

**Fire Watch:** Employee(s) having the responsibility to make certain that the Hot Work area is maintained in a fire-safe condition throughout the performance of the Hot Work. The Fire Watch must have the authority to stop the Hot Work if unsafe conditions are observed. The Fire Watch is not a replacement for proper planning to prevent conditions that allow a fire to develop, regardless of the fire-fighting equipment available and the capabilities of the individuals involved. The Permit Authorizing Individual (PAI) can function as a Fire Watch.

The Fire Watch must have the necessary training, knowledge and equipment to fulfill his / her responsibilities including:

- Knowledge of the basic hazards involved with combustible materials in the Hot Work area,
- Knowledge of the fire exposure hazard that Hot Work creates to occupancies adjacent to or below the Hot Work operation,
- Knowledge of the hazards associated with the occupancy where the Hot Work is to occur and
- Knowledge of the need to maintain proper isolation of all Hot Work operations from combustible or flammable materials

The Fire Watch should also be properly trained in the use of:

- Manual, portable fire extinguishers; and
- Emergency notification procedures within the facility.

(For More information refer to the Fire Watch under Duties and Responsibilities and Appendix 2: Fire Watch Decision Tree Logic).

**Hot Work Permit:** A document issued by the authority having jurisdiction for the purpose of authorizing performance of a specified activity. The permit is a written record of the evaluation of a Hot Work operation and includes the specific control measures required to ensure the safety of the work activity. Upon completion, a copy of the Hot Work Permit shall be forwarded to ES/LC. Refer to Appendix 1: Hot Work Permit Decision Tree Logic.

**Permit-Required Area:** Any location that is approved for Hot Work and is made fire-safe by removing or protecting combustibles from ignition sources. Designated Hot Work areas do not require a Hot Work permit.

**Permit Authorizing Individual (PAI):** The individual(s) designated by management to authorize Hot Work. Individuals can be from any management/lead employee level. These individuals must be properly trained on the hazards and controls of Hot Work. Without an assigned PAI, Hot Work may not be performed.

**Hot Work** – Any work involving burning, welding, grinding, brazing or similar operations that are capable of initiating fires or explosions. Work processes considered to be Hot Work include but are not limited to:

- welding and allied processes;
- Oxygen/acetylene processes
- grinding;
- powder-driven fasteners;
- hot riveting;
- torch applied roofing in conjunction with the requirements of NFPA 241(Standard for Safeguarding Construction);
- alteration and demolition operations; and
- similar applications producing or using a spark, flame or heat.

Note: Hot Work operations in confined spaces and /or as part of Lockout / Tagout procedures require additional safeguarding.

**Welding and Allied Processes:** Processes such as arc welding, oxy-fuel gas welding, open-flame soldering, brazing, thermal spraying, plasma, laser and arc cutting.

**Welding Blanket:** Heat-resistant-fire retardant fabrics that are listed, approved and designed to be placed in the vicinity of Hot Work intended for use in horizontal application with light to moderate exposures such as those resulting from chipping, grinding, heat treating, sand blasting and light horizontal welding; designed to protect machinery and prevent ignition of combustibles such as wood that is located adjacent to the underside of the welding blanket.

**Welding Curtain:** A heat resistant-fire retardant fabric listed, approved and designed to be placed in the vicinity of a Hot Work operation, intended for use in vertical applications with light to moderate exposures such as that resulting from chipping, grinding, heat treating, sand blasting and light horizontal welding; designed to prevent sparks from escaping an area.

**Welding Pads:** A heat resistant-fire retardant fabric listed, approved and designed to be placed directly under a Hot Work operation such as welding or cutting, intended for use in horizontal applications with severe exposures such as those that result from molten substances or heavy horizontal welding; designed to prevent the ignition of combustibles that are located adjacent to the underside of the welding pad.

## **POLICY**

The hazards of all Hot Work must be evaluated and control measures implemented to ensure safe operations. Examples of work requiring a Hot Work evaluation and permit include, but are not limited to, gas or arc welding, grinding or other flame, heat and/or spark producing operations. Contractors working for Palm Beach County must exercise equivalent safe methods for their Hot Work operations and ensure that all of their subcontractors do the same.

- All county employees, contractors and sub-contractors who perform, by definition any of the work processes contained herein, shall conform to this PPM .
- All Hot Work must be completed within the scope of this PPM.
- Every hot work Operation outside of a Designated Area, will be accompanied by a Completed Hot Work Permit.
- Contractors and Sub-contractors may utilize their own Hot Work Permit in areas where there are no active County operations and the Contractors and Sub-contractors are responsible for all regulatory compliance.

## **DUTIES AND RESPONSIBILITIES:**

**Department Management:** Department Managers shall be responsible for implementing this policy within their department. Department supervision is responsible to evaluate Hot Work operations and identify and ensure that safe work procedures are implemented.

**Management** shall be responsible for the safe operation of Hot Work activities by:

- Establishing designated areas for Hot Work and communicating the location specific hazards for the work;
- Ensuring Hot Work Permits are used in accordance with procedure;

- Designating a PAI;(Permit Authorizing Individual (s));
- Ensuring that equipment is properly maintained and used safely;
- Ensuring that contractors, their employees and their sub-contractors are familiar with the requirements of Hot Work Activities and have received appropriate training to understand the program;
- Properly informing contractors about site-specific designated areas, flammable and combustible materials stored on site and any hazardous processes or other conditions that may be potential fire hazards;
- Employee supervisor must ensure that individuals completing welding activities have the appropriate certificate of training and when required; and
- Ensuring when fire watch personnel are required, that they are provided with the appropriate extinguisher training, alarm familiarity and other site specific fire emergency procedures.

**Risk Management:** ES/LC Specialists are responsible to provide technical support to the Department, as well as field operations, and to:

- Inspect designated areas and approve as Permanent Hot Work Areas;
- Ensure that all permit Hot Work activities are performed safely and in accordance with procedures; and
- Review and provide training on the appropriate use of equipment, procedures and the control of hazards involved with Hot Work.

**PAI:** It is the responsibility of the PAI to conduct inspections of the areas where Hot Work Permits have been approved to verify that safeguards are in place and in use, and to:

- Identify site-specific flammable and combustible materials, hazardous processes or other potential fire hazards present in Hot Work areas;
- Issue Hot Work Permits as required;
- Ensure that all affected process equipment has been evacuated, cleaned, purged, and disconnected prior to the beginning of Hot Work;
- Require the protection of combustibles from ignition by the following means:
  1. Moving the work to a location that is free of combustible materials and other hazards;
  2. If the work cannot be relocated, move combustible materials at least thirty five (35) feet away from the Hot Work location;
  3. All anti-flashback devices must be verified to be working properly (e.g. inspection and maintenance). No Hot Work shall commence in areas where concentrations of flammable materials may be present and result in fire/explosion.
  4. Shielding combustible materials against ignition with the appropriate materials; and
  5. Scheduling Hot Work in such a way that the potential of exposing combustible materials to ignition does not occur during Hot Work Operations.
- Ensure that fire protection and extinguishing equipment are available and in proper working condition;
- Ensure that the activation of a proper fire watch at the site is initiated and maintained for at least sixty (60) minutes post Hot Work; and

- Document deficiencies that prohibit the continuation of Hot Work activities.

**Area Supervisor:** Onsite supervisors will also be responsible for obtaining the appropriate Hot Work Permit in accordance with this policy, ensuring the permit is followed, and additionally:

- Providing all necessary equipment in good working order including the appropriate fire protection equipment;
- Ensuring that the operators have appropriately secured the area(s) as necessary for the work to be completed;
- Recognizing any aspect of a task or practice that could result in the violation of the Hot Work Permit; and
- Ensuring that the individual(s) that are performing the Hot Work are properly trained in the methods of completing the work.

**County Employees:** It is the responsibility of the employee(s) who will be performing Hot Work to request an evaluation of the proposed work site to ensure that all reasonable safeguards are utilized. The employee is responsible for appropriately securing the areas necessary for the work to be completed. The employee engaged in the Hot Work should participate in the evaluation to ensure the proper completion of the Hot Work Permit. The Hot Work Permit must be posted for the duration of the Hot Work activity. Employees are required to comply with the Hot Work Permit and **not** conduct Hot Work if the permit is violated.

**Contractors/ Project Management:** Contractors are responsible for complying with this PPM or establishing equivalent procedures to ensure that any Hot Work they perform is accomplished in a safe manner and it is in compliance with this policy. Equivalent procedures must be reviewed and approved by the County Project Manager prior to the commencement of Hot Work. The Contractor assumes responsibility for ensuring their subcontractors do the same.

### **Fire Watch:**

Individual(s) assigned to Fire Watch duties have the responsibility to::

- Ensure the Hot Work area is maintained in a fire-safe condition throughout the performance of the Hot Work;
- Stop the Hot Work if unsafe conditions are observed;
- Watch for fires in all exposed areas and extinguish them only when the fires are within the capacity of the extinguishing equipment available;
- Sound the alarm immediately if the Fire Watch determines the fire is not within the capacity of the extinguishing equipment;
- Perform additional tasks only if those tasks will not distract them from their Fire Watch responsibilities; and
- Ensure that all equipment is operating properly;
- Remain in place for a minimum of one hour following work completion.

## **PROCEDURES:**

A Hot Work Permit must be completed for all Hot Work including welding, cutting and brazing outside of designated welding areas (e.g. welding booth/table) and other spark producing processes that could create a fire or activate a fire alarm (due to smoke or heat). The Hot Work Permit is good only for the date issued and must be posted as close to the work as possible for the duration of the work activity including the fire watch following work completion. Forms can be obtained by downloading the “Hot Work Permit” Form from the PBC Intranet (e.g. Forms/Risk Management).

Hot Work must have a Fire Watch standby with an appropriate type and size, (minimum of 2A20BC), fire extinguisher available during the operation. The originator must determine the type of extinguisher to be used and have one on the job site before starting the job. Where equipped, the sprinkler system must be in service during the Hot Work. All floor or wall openings in the area shall be tightly covered. Screens, barriers or filters must be used to ensure that welding/cutting operations do not create a flash hazard for employees or the public working in the area.

ES/LC should be contacted to assist in evaluating any work when the hazards and/or controls are unknown, changeable or when help in the evaluation is needed.

**Special Considerations** – Hot Work not only creates potential fire hazards but often results in other potential health and safety hazards. Therefore, workers dealing with confined spaces, surface coating, storage vessels and/or containers during Hot Work must be aware of any additional hazards that may result from their work. The PAI must be notified by the On-site Supervisor of any special considerations that increase fire hazards and must document those special considerations and submit them to the PAI for final approval prior to issuance of a Hot Work Permit.

Employees exposed to the hazards created by Hot Work operations must be protected in accordance with the Employee Safety Manual. The PAI must notify Risk Management when working conditions may require additional measures to protect workers from air borne contaminant exposure.

## **TRAINING:**

Individuals performing all roles assigned in this procedure must be trained annually for their Hot Work awareness level. The PAI and Fire Watch must have the necessary training, knowledge and equipment to fulfill his/her responsibilities including:

- the basic hazards of any combustible constructions involved with the Hot Work area;

- the fire exposure hazard that Hot Work creates to occupied areas adjacent to or below the Hot Work operation;
- the hazards associated with the occupancy; and
- the need to maintain proper isolation of all Hot Work operations from combustible or flammable materials.

The Fire Watch should also be properly trained in the use of:

- Manual, portable fire extinguishers; and
- Emergency notification procedures within the facility.

**RECORDS:**

All Hot Work Permits are to be retained by the Department that performs the Hot Work for a period of one year after the end of the project.



---

**VERDENIA C. BAKER  
COUNTY ADMINISTRATOR**

**Supersession:**

1. PPM# CW-O-082, effective 7/1/2008
2. PPM# CW-O-082, effective 11/7/2013





**HOT WORK PERMIT**  
**The Permit is in effect for 1 work shift only**

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Dept: \_\_\_\_\_

Description of work: \_\_\_\_\_

Location: \_\_\_\_\_

**Safeguarding** : Check all boxes. Hot work cannot commence if all safeguarding is not satisfied.

**General:**

Sprinklers in service  Yes  N/A Cutting and welding equipment in good repair  Yes  N/A

**Area within 35 feet of Hot work:** No combustible / flammable not in area  Yes  N/A

Floors free of combustibles/wetted, covered with damp sand, metal or other shields  Yes  N/A

Combustible / flammable tanks protected with covers, guards or metal shields  Yes  N/A

Wall / floor openings covered  Yes  N/A

Covers suspended beneath work to collect sparks  Yes  N/A

**Work on walls and ceilings:**

Construction noncombustible and without combustible covering  Yes  N/A

Combustibles moved away from opposite side of wall  Yes  N/A

**Work on enclosed equipment:** (tanks, containers, ducts, dust collectors etc.):

Equipment cleaned of all combustibles / flammables  Yes  N/A

Containers/tanks purged of flammable vapors. (Inerted)  Yes  N/A

Tank tested for flammables / oxygen (contact employee safety/loss control.  Yes  N/A

**Fire Watch:** Provided during and 30 minutes after operation  Yes  N/A

Properly equipped and trained (Fire Extinguishers, communication equip. etc.)  Yes  N/A

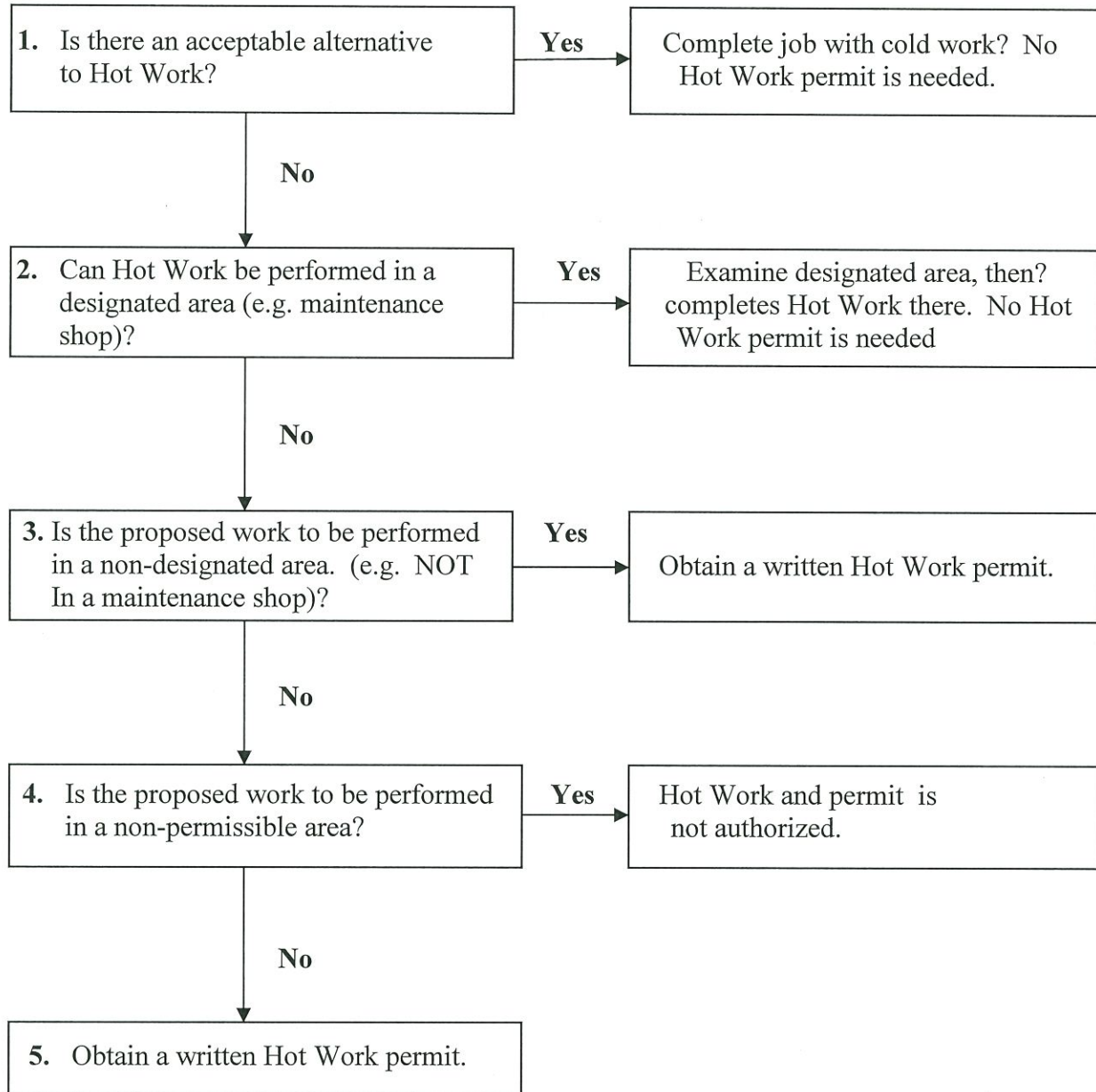
Verification of safe condition conducted 30 minutes after completion of any hot work including inspection of adjacent work areas including floor above and below walls, etc.  Yes  N/A

*The location where Hot Work is to be conducted has been evaluated and all necessary precautions implemented.*

Supervisor: \_\_\_\_\_  
(Print Name) (Signature)

Employee (s) Conducting Hot Work: \_\_\_\_\_  
(Print Name) (Signature)

**HOT WORK PERMIT DECISION TREE LOGIC:**



**FIRE WATCH DECISION TREE LOGIC:**

