BASIN ELECTRIC POWER COOPERATIVE SAFETY PROCEDURE

Procedure No.	Revision No.	Page
SAF 280	0	1 of 21
Affected Department(s): All	**Originating Department** Safety	
	Final Approval Miles McGrew Miles McGrew (Mar 9, 2026 12:49:20 CDT)	**Date** 03/06/2026
Subject Hot Work Program		

1.0 PURPOSE/SCOPE

1.1 The purpose of this program is to establish control over work that requires the use of electric or gas welding, cutting, soldering, brazing, burning or similar flame or spark producing operations, open flames, power tools or any tool that may provide an ignition source. Additionally, this program is meant to:

1.1.1 Ensure that flammable or combustible materials are absent, isolated, protected or removed from work sites requiring the use of tools or equipment that may provide an ignition source.

1.1.2 Minimize Hot Work in classified systems by pre-fabricating in shops and using mechanical fasteners, and other alternative methods whenever practical.

1.2 This program does not apply to areas that are specifically designed and equipped for Hot Work such as the Mechanical/Electrical Maintenance Shops; provided they are isolated and at a sufficiently safe distance from flammables or combustibles.

1.3 This program does apply to the use of power tools on classified systems. See the definition of classified systems for clarification.

2.0 DEFINITIONS OF TERMS

2.1 Atmospheric Monitor (also known as a gas detector or multi-gas monitor): device used to measure the concentration of gases in the air, especially prior to Hot Work, confined space entry or hazardous work environments.

2.2 Classified System: an area or system that has been determined to have a general nature (or properties) of a hazardous material in the surrounding atmosphere. Systems included are coal, ammonia, hydrogen, propane, turbine lube oil, activated carbon, sewage treatment, diesel generator, fire diesel pump house, diesel/fuel tanks and systems, natural gas and any additional Class I Div II, Class II Div I or Class II Div II area.

2.3 Combustibles: a solid or liquid that can be easily ignited and burn, such as wood, cloth, paper, or combustible dusts.

2.4 Fire Watch: a Qualified Employee or contract employee who observes Hot Work activities for the purpose of preventing, detecting, and suppressing fires. The Fire Watch must be trained to use manual firefighting equipment and have the ability to summon emergency assistance if needed.

2.5 Flammable (liquids): a liquid that is easily ignited with rapid flame spread such as, gasoline, isopropyl alcohol, ethanol, diesel fuel, mineral oil, and oil-based paint.

2.6 Flammable (gas): exists in the gaseous state at normal atmospheric temperature and pressure and is capable of being ignited and burned when mixed with proper proportions of air or oxygen. Examples are hydrogen, propane, natural gas, acetylene, and methane.

2.7 Hot Work: any work involving electric or gas welding, cutting, brazing, burning or similar flame or spark producing operations and open flames. This includes but is not limited to acetylene torches, arc welding equipment, portable grinders, propane torches, powder actuated guns, cordless impacts, power tools and non-rated electrical tools and equipment.

2.8 Hot Work Permit: the written authorization to perform operations (welding, cutting, soldering, heating, etc.) capable of providing a source of ignition. The permit (attachment 5.1) contains:

2.8.1 The minimum fire precautions listed in this procedure.

2.8.2 The nature and location of work to be performed.

2.8.3 The date and time duration of work will commence.

2.8.4 A space for signatures.

2.9 Hot Work Permit Designated Area: is defined as an area where other than a minor fire might develop or where any of the following conditions exist.

2.9.1 An area that has a high amount of flammable or combustible material adjacent to or within 35 feet of the Hot Work activity.

2.9.2 Flammable or combustible material is more than 35 feet away but is easily ignited by sparks.

2.9.3 Wall or floor openings within a 35-foot radius expose combustible material in adjacent areas, including concealed spaces in walls or floors.

2.9.4 Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.

2.9.5 Areas where flammable gas (LEL) testing is required.

2.9.6 Areas with an accumulation of combustible dust that could develop an explosive atmosphere.

2.9.7 Hot Work Permit Designated Areas are listed in attachment 5.2.

2.10 Intrinsically Safe: is incapable of releasing sufficient electrical or thermal energy to cause ignition of a specific hazardous substance under normal or abnormal (fault) operating conditions.

2.11 Lower Explosive Limit (LEL): the lowest concentration of flammable gas or vapor in air that can ignite and produce a fire or explosion when exposed to an ignition source. OSHA allows Hot Work up to 10% LEL. Before confined space entry, atmospheric testing must confirm oxygen levels between 19.5% and 23.5%, with LEL levels below 10%. BEPC requires LEL to be ≤ 3%.

2.12 On-Site Coordinator: Basin Electric Power Cooperative (BEPC) on-site employee that interfaces with contractors.

2.13 Operating Authority: the supervisory staff in the operation section is the "Operating Authority" in the power plant and the administrator of this Hot Work Procedure. The Operating Authority may assign duties to other operations personnel.

2.14 Permit Duration: required time duration allotted for the scope of work, and this is located on the Hot Work Permit.

2.15 Power Tool: a tool that is actuated by an additional power source and mechanism other than the sole manual labor used with hand tools i.e., a torch, grinder, pneumatic, cord or cordless tool.

2.16 Process Safety Management/Risk Management (PSM/RM) Program Covered Process: all activities and equipment involved with the receipt, storage, handling, or movement of a substance included in either the PSM or RM Program regulations including utility systems, required for the safe operation of the anhydrous ammonia system. For purposes of this definition, any group of equipment that is interconnected and separate equipment that is located such that ammonia could be involved in a potential release shall be considered a single process.

2.17 Qualified Employee: a Qualified Employee is an individual that has been trained on and understands the Hot Work Program requirements.

2.18 Source of Ignition is a flame, tool spark, static electric charge or electric spark that could provide the energy necessary to ignite a hazardous atmosphere and cause a fire or explosion.

2.19 Supervisor: person who supervises workers or the work done by others. Supervisors oversee Hot Work operations and are responsible for the safe handling of the cutting or welding equipment and the safe use of the cutting or welding process. This person may designate this authority if necessary.

2.20 Supervisory Authority: the Plant Manager is the "Supervisory Authority" of this Hot Work Program and administers the installation, maintenance, and the operations of the program. This person may designate this authority if necessary.

2.21 Welding Blanket: A heat-resistant fabric designed to be placed in the vicinity of a Hot Work operation. Intended for use in horizontal applications with moderate exposures such as that resulting from chipping, grinding, heat treating, sand blasting, and light horizontal welding. Designed to protect personnel on lower levels and prevent ignition of combustibles.

2.22 Welding Curtain: A heat-resistant fabric designed to be placed in the vicinity of a Hot Work operation. Intended for use in a vertical application 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 a confined area.

3.0 APPLICABILITY / RESPONSIBILITIES

3.1 Applicability

This program applies to employees and contractors performing Hot Work at Basin Electric properties.

3.2 Responsibilities

3.2.1 Safety Coordinator is responsible for:

3.2.1.1 Evaluating the work activities at the station on an ongoing basis to ensure that Hot Work Permits are completed prior to the start of work.

3.2.1.2 Providing support to employees as required.

3.2.1.3 Providing training in these procedures.

3.2.1.4 Maintaining all training records.

3.2.1.5 Retaining all Hot Work Permits for the previous year, plus current year, and 3 years for all PSM/RM covered facilities.

3.2.2 Supervisory Authority is responsible for:

3.2.2.1 Safe administration of this Hot Work Program.

3.2.2.2 Designating the roles of responsibility for which individuals are qualified to perform Hot Work and be entered into the program.

3.2.2.3 Enforcing the Hot Work Program and the disciplinary actions regarding violations of the program.

3.2.3 Operating Authority is responsible for:

3.2.3.1 Issuing a Clearance or Confined Space Permit if necessary and any other required permits.

3.2.3.2 Issuing the Hot Work Permit.

3.2.3.3 Ensuring that all elements identified on the permit are completed as required.

3.2.3.4 Reviewing the list of Hot Work precautions and any additional precautions with individuals requesting a Hot Work Permit.

3.2.3.5 Verifying the Hot Work location has been examined, a Fire Watch is available, and atmospheric tests have been completed and documented on the permit for spark or flame producing Hot Work.

3.2.3.6 Verifying that the permit has been completed appropriately and atmospheric tests have been completed and documented on the permit for Hot Work with power tools.

3.2.3.7 Authorizing Hot Work by signing the permit when all necessary Hot Work precautions and atmospheric monitoring have been completed.

3.2.3.8 Ensuring that when working on any classified system, the system has been disconnected or blanked, completely cleaned out and purged before a Hot Work Permit is issued.

3.2.3.9 Retaining the Hot Work Permits in the Control Room and turning the completed permits into the Safety Coordinator.

3.2.4 Supervisors are responsible for:

3.2.4.1 Ensuring that those employees performing Hot Work are knowledgeable in the permit system, the proper use of tools and equipment, and the proper use of personal protective equipment (PPE).

3.2.4.2 Providing proper training for the use of tools, equipment, and PPE.

3.2.4.3 Ensuring that all elements identified on the permit are completed as required.

3.2.4.4 Reviewing the list of Hot Work precautions and any additional precautions with individuals requesting a Hot Work Permit.

3.2.4.5 Verifying the Hot Work location has been examined, a Fire Watch is available, and atmospheric tests have been completed and documented on the permit for spark or flame producing Hot Work.

3.2.4.6 Verifying that the permit has been completed appropriately and atmospheric tests have been completed and documented on the permit for Hot Work with power tools.

3.2.4.7 Authorizing Hot Work by signing the permit when all necessary Hot Work precautions and atmospheric monitoring have been completed.

3.2.4.8 Ensuring that when working on any classified system, the system has been disconnected or blanked, completely cleaned out and purged before a Hot Work Permit is issued.

3.2.4.9 Ensuring that the Hot Work Permitting Procedure is being followed in all areas.

3.2.4.10 Ensuring that the Hot Work Permit is available in the work area during Hot Work.

3.2.4.11 Ensuring a qualified Fire Watch is in the immediate area until Hot Work is completed.

3.2.4.12 Periodically inspecting Hot Work activities to ensure compliance with the program.

3.2.5 Fire Watch is responsible for:

3.2.5.1 Ensuring that safe conditions are maintained during Hot Work operations.

3.2.5.2 Donning the correct PPE, including but not limited to proper eye protection.

3.2.5.3 Signing on the Hot Work Permit as the Fire Watch.

3.2.5.4 Stopping Hot Work activities if an unsafe condition develops.

3.2.5.5 Ensuring effective spark containment measures are in place during all Hot Work activities to prevent fire hazards.

3.2.5.6 Does NOT perform any additional tasks that would distract them from their Fire Watch duties. Tasks such as atmospheric monitoring and confined space attendant are allowed if the Hot Work in the confined space is being monitored.

3.2.5.7 Having fire extinguishing equipment that:

3.2.5.7.1 Is readily available.

3.2.5.7.2 Has a current inspection.

3.2.5.7.3 Contains proper fire suppressant.

3.2.5.8 Being knowledgeable in the use of fire extinguishing equipment.

3.2.5.9 Contact the Control Room if a fire is detected.

3.2.5.10 Watching for fires and attempting to extinguish them only when the fires are within the capacity of the equipment available.

3.2.5.11 Remaining in the Hot Work area during the entire period of Hot Work activities, during lunch, breaks, and for 30 minutes after work is complete.

3.2.5.12 Returning the Hot Work Permit to the Operating Authority after the 30-minute Fire Watch is complete.

3.2.6 Qualified Employees are responsible for:

3.2.6.1 Informing the Operating Authority and/or Supervisor or designee of planned work activities requiring a Hot Work Permit.

3.2.6.2 Obtaining a Clearance or Confined Space Permit if required (see Clearance and Confined Space Programs).

3.2.6.3 Obtaining the Hot Work Permit from the Operating Authority.

3.2.6.4 Completing the items listed on the Hot Work Permit to ensure that all precautionary measures have been taken before requesting a Hot Work Permit.

3.2.6.5 Ensuring that when working on any classified system, the system has been disconnected or blanked, completely cleaned out and purged before a Hot Work Permit is issued.

3.2.6.6 Conducting the initial and additional air monitoring tests per the permit and documenting air tests on the permit.

3.2.6.7 Establishing the permit duration.

3.2.6.8 Ensuring that all elements identified on the permit are completed as required.

3.2.6.9 Signing on the Hot Work Permit.

3.2.6.10 Having the Hot Work Permit available at the location.

3.2.6.11 Ensuring there is an appropriate fire extinguisher readily available at the Hot Work site.

3.2.6.12 Conducting the Hot Work activities within the parameters and permit duration.

3.2.6.13 Stopping Hot Work activities if any new hazards are introduced to the area.

3.2.6.14 Ensuring that tools and equipment are in satisfactory condition and in good repair.

3.2.6.15 Ensuring the proper use of all PPE.

3.2.6.16 Protecting nearby personnel with welding screens, blankets, barricade tape, or other spark-containing materials to protect against heat, arc, sparks, etc. when spark producing tasks are being performed.

3.2.6.17 Ensuring that the Hot Work Permit is returned to the Operating Authority after the 30-minute Fire Watch is complete. If permits are not turned in after the 30-minute check, Qualified Employees are responsible for completing the final 3-hour check.

3.2.7 Contractors are responsible for:

3.2.7.1 Training contract employees on this program and providing training documentation to the On-Site Coordinator.

3.2.7.2 Initiating Hot Work activities with the BEPC On-Site Coordinator and informing Operating Authority or designee of planned work activities requiring a Hot Work Permit.

3.2.7.3 Obtaining a Clearance or Confined Space Permit if required (see Clearance and Confined Space Programs).

3.2.7.4 Obtaining the Hot Work Permit from the Operating Authority.

3.2.7.5 Completing the items listed on the Hot Work Permit to ensure that all precautionary measures have been taken before requesting a Hot Work Permit.

3.2.7.6 Ensuring that when working on any classified system, the system has been disconnected or blanked, completely cleaned out and purged before a Hot Work Permit is issued.

3.2.7.7 Conducting the initial and additional air monitoring tests per the permit and documenting air tests on the permit.

3.2.7.8 Establishing the permit duration.

3.2.7.9 Ensuring that all elements identified on the permit are completed as required.

3.2.7.10 Verifying the Hot Work location has been examined, a Fire Watch is available, and atmospheric tests have been completed and documented on the permit for spark or flame producing Hot Work. (Contract Supervisor)

3.2.7.11 Verifying that the permit has been completed appropriately and atmospheric tests have been completed and documented on the permit for Hot Work with power tools. (Contract Supervisor)

3.2.7.12 Signing on the Hot Work Permit (Contract Supervisor, Qualified Employees and Fire Watch).

3.2.7.13 Having the Hot Work Permit available at the location.

3.2.7.14 Ensuring there is an appropriate fire extinguisher readily available at the Hot Work site.

3.2.7.15 Conducting the Hot Work activities within the parameters and permit duration.

3.2.7.16 Stopping Hot Work activities if any new hazards are introduced to the area.

3.2.7.17 Ensuring that tools and equipment are in satisfactory condition and in good repair.

3.2.7.18 Ensuring the proper use of all PPE.

3.2.7.19 Protecting nearby personnel with welding screens, blankets, barricade tape, or other spark-containing materials to protect against heat, arc, sparks, etc. when spark-producing tasks are being performed.

3.2.7.20 Ensuring that the Hot Work Permit is returned to the Operating Authority after the 30-minute Fire Watch is complete. If permits are not turned in after the 30-minute check, contractors are responsible for completing the final 3-hour check.

3.2.7.21 Providing a trained employee that is knowledgeable of the Hot Work Program to serve as a Fire Watch for their Hot Work activities.

4.0 PROCEDURES / GUIDELINES

4.1 Guidelines

4.1.1 Proper fire extinguishing equipment needs to be made available if the fire protection system is being repaired.

4.1.2 Prohibited Conditions

4.1.2.1 A Hot Work Permit will not be issued if ANY of the following conditions exist:

4.1.2.1.1 Operating Authority has not authorized work.

4.1.2.1.2 Fire protection is impaired in sprinkler-equipped buildings.

4.1.2.1.3 Appropriate firefighting equipment is not readily available.

4.1.2.1.4 In the presence of explosive atmospheres.

4.1.2.1.5 Flammable or combustible materials are within 35 feet and cannot be moved or protected.

4.1.2.1.6 The floor or other openings cannot be covered.

4.1.2.1.7 Cutting or welding on pipes or other metals could conduct enough heat to ignite nearby combustible materials.

4.1.2.1.8 Power tools fail pre-job inspection and are not in good working order (if applicable).

4.1.2.1.9 Any condition that could result in undue hazards by performing the work.

4.1.2.2 At work areas, hazards other than Hot Work may be present such as noise, chemicals, and radiation. Any additional PPE donned for protection against these other hazards should also be appropriate for Hot Work activities and not easily ignited.

4.1.2.3 Adequate natural or mechanical ventilation shall be considered to reduce or eliminate the hazards or weld fumes. Any accumulation of gases must be vented to a safe location, away from Hot Work.

4.1.2.4 Mechanical ventilation is required when welding occurs inside of confined spaces. Certain large and/or open-air-confined spaces may be exempt from this requirement provided there is adequate natural ventilation.

4.1.2.5 An appropriate fire extinguisher must be provided at the Hot Work location.

4.1.2.6 If working on any classified system, the system must be disconnected or blanked, completely cleaned out, and purged before commencing work. Safe work practices for opening piping and equipment must be strictly followed, and continuous air monitoring recommended.

4.1.2.7 Hot work is only authorized for the personnel, tasks, times and location listed on the Hot Work Permit.

4.1.2.8 A Hot Work Permit does not authorize smoking at the permitted site.

4.1.3 Welding and Cutting Equipment Requirements

4.1.3.1 All welding and burning equipment (e.g., leads, grounds, hoses, cables, gauges, regulators, etc.) must be visually inspected prior to Hot Work occurring, to ensure the equipment is in good working condition.

4.1.3.2 Efforts must be made to route leads and hoses overhead and/or out of walkways to prevent trip hazards.

4.1.3.3 In the case of arc welding or any gas cutting, grinding, or other spark production activity, an area extending 35 feet from the job and all levels below the work must be reviewed for the possibility of flammable or combustible liquid, gas or dust.

4.1.3.3.1 Storage tanks or piping containing flammable or combustible liquids.

4.1.3.3.2 Chemical storage areas such as bulk acid or ammonia tanks, chemical containers, or drums.

4.1.3.3.3 Battery charging and storage areas or rooms.

4.1.3.3.4 Sewer drains, tank vents, manholes, sumps, and drainage.

4.1.3.3.5 Coal System.

4.1.3.3.6 Natural Gas Yard and surrounding areas.

4.1.3.4 Ensure that all compressed gas cylinders are secured and that all cylinders not in use have valves completely closed and protective caps installed.

4.1.3.5 Ensure that when welding or cutting is being performed in a confined space, the gas cylinders and welding machines shall be left outside the space. Before operations start, heavy portable equipment mounted on wheels shall be securely blocked to prevent accidental movement.

4.1.3.6 The grounding clamp for an electric welding machine is an ignition source and should be clamped as close as feasibly possible to the material being welded.

4.1.3.7 Engine driven electrical arc welding equipment shall have a separate auxiliary ground wire which is connected from the equipment frame to the proper ground. This requirement only applies when the welder is being used for auxiliary 110V power.

4.1.3.8 When Hot Work is to be suspended for any substantial period, such as during lunch or overnight, all electrodes must be removed from the holders and the holders carefully located so that accidental contact cannot occur, and the machine disconnected from the power source.

4.1.4 Protecting Nearby Personnel and Areas Around/Below Hot Work Activities

4.1.4.1 Hot Work must be adequately screened/protected to protect nearby workers or passers-by from the glare of welding and sparks/slag from falling to floors below or entering wall or roof openings or other such areas.

4.1.4.1.1 Arrange screens so no serious restriction of ventilation exists.

4.1.4.1.2 Mount screens as close to the floor as necessary to protect adjacent workers.

4.1.4.1.3 Identify areas such as floors, walls or roofs of combustible materials that must be wet down or covered with wet sand (metal fires) or fire-resistant blankets.

4.1.4.1.4 Utilize fire blankets for spark/heat containment.

4.1.4.1.5 Barricade and sign may be required on floors or levels below the Hot Work site.

4.1.4.1.6 Additional fire extinguishers may be required.

4.1.4.2 Portable frames must be secured/supported to prevent accidentally falling over or being blown over by the wind.

4.1.4.3 In the event that screens cannot be used, nearby personnel must have adequate and approved eye protection.

4.1.5 Power Tool Use

4.1.5.1 Hot Work Permit is required when using power tools on a Classified System.

4.1.5.2 Power tools must be visually inspected prior to Hot Work occurring, to ensure the equipment is in good working condition.

4.1.5.3 The Qualified Employee using power tools that do not transmit sparks or slag nor create open flames such as, lighting, electric drills, soldering guns, saws, sanders, sand blasting activities, powder actuated tools, or radiant heaters, can also perform the Fire Watch duties while working on a Classified System.

4.1.5.4 An additional Fire Watch is required if power tool use is transmitting sparks or slag or is creating an open flame.

4.1.6 PPE Requirements

4.1.6.1 Hot Work may require additional PPE and the Job Safety Analysis (JSA) is utilized to identify additional PPE requirements.

4.1.6.2 Examples of additional PPE requirements may include:

4.1.6.2.1 Respiratory protection,
4.1.6.2.2 Correct shade of eye protection for welding and cutting operations,
4.1.6.2.3 Welding gloves,
4.1.6.2.4 Face shield,
4.1.6.2.5 Welding leathers,
4.1.6.2.6 Fall protection equipment
4.1.6.2.7 Welding aprons

Reference site PPE Programs for additional information.

4.2 Hot Work Permitting Procedure

4.2.1 The Operating Authority will be responsible for issuing Hot Work Permits.

4.2.2 Qualified Employees will coordinate Hot Work activities with their supervisor and/or Operating Authority.

4.2.3 When a Hot Work Permit is required, the Operating Authority and/or Supervisor along with the Qualified Employee(s) will ensure that all precautionary measures have been taken and the area is ready for Hot Work to proceed.

4.2.3.1 Review the work to be done and materials to be used, inspect tools and equipment and ensure any additional safe work practices are identified and followed.

4.2.3.2 Identify the work location, work to be performed and employees completing Hot Work activities.

4.2.3.3 Determine permit duration not to exceed 12 hours or one shift.

4.2.3.4 Identify Fire Watch assignment and responsibilities.

4.2.3.5 Determine if a Clearance or a Confined Space Permit is needed in combination with the Hot Work Permit and follow those programs (Reference: Clearance Program and Confined Space Program).

4.2.3.6 Determine if work is on a classified system, document it on the permit.

4.2.3.7 Ensure that proper fire extinguishing equipment is available if the fire protection system is being repaired.

4.2.3.8 Identify areas to be cleaned, isolated, protected and/or determine all flammable and combustible materials to be removed from the area.

4.2.3.9 Determine if combustible materials are present and whether materials must be relocated at least 35 feet from the Hot Work site.

4.2.3.10 Determine if relocation is impractical and whether combustibles shall be protected with fire resistant covers or shielded with metal guards.

4.2.3.11 Determine if welding screens or additional measures need to be installed to protect anyone who passes by or below the Hot Work area.

4.2.3.12 Conduct atmospheric monitoring immediately prior to creating the first arc, spark, or ignition source, including outdoors. Results must be within the atmospheric monitoring requirements and documented on the Hot Work Permit.

4.2.3.13 Atmospheric Monitoring Requirements

4.2.3.13.1 At a minimum, atmospheric monitoring must use a calibrated/bump tested multi-gas monitor to determine oxygen and flammable vapor (LEL) concentrations.

4.2.3.13.2 Flammability testing must include testing of the surrounding area, sewers, drains, flanges, equipment, and containers that may contain flammable vapors.

4.2.3.13.3 The work area or equipment must be retested for flammable vapors after a change in conditions or upon request.

4.2.3.13.4 Hot Work may not be performed ≥ 3% LEL.

Note: Elevated Hot Work Form (attachment 5.4) must be completed prior to allowing Hot Work 4% LEL up to 10% (OSHA). The form must obtain two approval signatures and reside with the Hot Work Permit in the field.

4.2.3.13.5 Continuous atmospheric monitoring of the job site is required where hazardous vapors may accumulate. Personal monitors are available for employees to wear (if applicable).

4.2.3.13.6 Atmospheric monitoring must be conducted and recorded every hour on the Hot Work permit if welding in a confined space, continuous monitoring is recommended. Additional atmospheric monitoring record pages are available if needed (page 3 of the permit).

4.2.3.14 If there are any special precautions, Elevated LEL Hot Work Approval Form utilized or additional fire extinguishing equipment requirements the Qualified Employee and Fire Watch must follow, these shall be documented on the permit under "Other Precautions Taken."

4.2.3.15 Once the permit and atmospheric checks are complete, responsibilities are reviewed and understood:

4.2.3.15.1 The Operating Authority or Supervisor will sign the permit authorizing work to begin.

4.2.3.15.2 The Qualified Employee assigned as the Fire Watch will sign the permit.

Note: If the Fire Watch needs to be reassigned, new assignments are documented on the permit on page 2.

4.2.3.15.3 The Qualified Employee(s) will sign on the permit. The initiating Qualified Employee will sign on the first page and any additional employees conducting Hot Work under the same permit will sign on page 2 of the permit.

4.2.4 A copy of the Hot Work Permit will be kept in the Control Room, and the original permit will go with the Qualified Employee(s) to be available at the Hot Work location until all work and Fire Watch are complete.

4.2.5 The Hot Work Permit must be with the Confined Space Permit in the field if Hot Work is being conducted within a confined space.

4.3 Working Under a Hot Work Permit

4.3.1 The Qualified Employee working under a Hot Work Permit shall follow all precautions itemized on the permit. All required protective equipment shall be in place prior to starting the task.

4.3.2 The Qualified Employee shall ensure fire retardant shields or fire blankets are in place to minimize the possibility of slag or sparks traveling outside the immediate work area.

4.3.3 The assigned Fire Watch shall watch for fires in all exposed areas and attempt to extinguish any fires within the capacity of the equipment available after notifying the Control Room.

4.3.4 If the Qualified Employee(s) need to leave the area for any reason, the Fire Watch must remain in the area for the appropriate time.

4.3.4.1 During breaks and lunch and for at least 30 minutes after the work is complete.

4.3.4.2 The Operations Department may act as the Fire Watch during lunch or break and for the final 3-hour check-up after the work is complete.

4.3.5 A Hot Work Permit may be canceled at any time where conditions have changed, making the continuation of the work hazardous. All permits are automatically voided when a fire or emergency condition has been identified. In that event, the permit holder should cease operation and secure all equipment in a safe manner without delay.

4.4 Completion of Hot Work Activities

4.4.1 When all Hot Work has been completed, and the area has been restored to its original classification:

4.4.1.1 The Fire Watch shall remain at the work site for a minimum of 30 minutes following completion of all Hot Work jobs.

4.4.1.2 During this time the Fire Watch shall inspect for smoldering materials or hot spots and wash down potential fire areas.

4.4.1.3 Following the 30 minutes, the Fire Watch will sign off on the Hot Work Permit, indicating the watch period has been completed and return the permit to the Operating Authority.

4.4.1.4 The area will be monitored routinely for a minimum of 3 hours after the 30-minute Fire Watch has been completed. The Operating Authority will designate a Qualified Employee.

NOTE: use of a thermal imagining camera is recommended while performing a final check in the coal system.

4.4.1.5 The Qualified Employee will sign the Final Check-Up section on the permit once the 3-hour Fire Watch has been completed.

4.4.1.6 Once the Final Check-Up is complete, the Operating Authority will close out the permit.

4.4.1.7 The Operating Authority will retain the Hot Work Permits in the Control Room and turn the permits into the Safety Coordinator.

4.5 End of Permit Duration or Shift Change

4.5.1 Hot Work Permits will cover the length of time that is required to complete the job and will not exceed 12 hours. When jobs extend beyond one shift or a 12-hour period, the Operating Authority and/or Supervisor and employee will:

4.5.1.1 Review the requirements for the Hot Work Permit written previously.

4.5.1.2 Inspect the area, equipment, or process to ensure changes have not occurred.

4.5.1.3 Request a new Hot Work Permit from the Operating Authority if all requirements are met.

4.6 Training Requirements

4.6.1 Affected employees shall be trained on this procedure initially and every two years thereafter.

4.6.2 Training shall meet the requirements of NFPA Standard 51B, ANSI/ASC Z49.1 and OSHA requirements found in 1910.252(a) and 1910 – Subpart L.

4.6.3 Training will be provided for all employees whose work may be regulated by these procedures. Understanding the responsibilities and procedures outlined above will be the primary objective of the training.

4.6.4 Training will be provided:

4.6.4.1 Before the employee is first assigned duties covered by this procedure.

4.6.4.2 Before there is a change in assigned duties.

4.6.4.3 Whenever there is a change in Hot Work operations that presents a hazard about which the employee has not previously been trained.

4.6.4.4 Whenever there is a deviation from the program.

4.6.4.5 Whenever there is a deficiency in the employee's knowledge.

4.6.5 The training will establish employee proficiency in the duties required by these procedures and will introduce new or revised procedures as necessary for compliance with these procedures.

4.7 Recordkeeping

4.7.1 A record of training shall be maintained in the training files and in accordance with the BEPC Safety Record Retention Plan.

4.7.2 All completed/cancelled permits must be retained on file for 1 year for non-process safety management (PSM) facilities and 3 years for PSM facilities. Files can be accessed by contacting an Administrative Assistant or Safety Coordinator and are located in the facility file system.

4.7.3 Cancelled/completed entry permits, and the Hot Work Program will be reviewed at least annually and revised as necessary.

5.0 ATTACHMENTS

5.1 Hot Work Permit

5.2 Hot Work Permit Designated Areas

5.3 Elevated LEL Hot Work Approval Form (4% to Maximum 10% LEL)

6.0 REFERENCES

6.1 OSHA 1910 Subpart L; Fire Protection

6.2 OSHA 29 CFR 1910.252(a)(4)(i-ii); Fire Prevention and Protection

6.3 OSHA 29 CFR 1910.252(c)(4)(i-v); Ventilation

6.4 OSHA 1910.252; Welding, Cutting and Brazing

6.5 OSHA 1910.253; Oxygen Fuel Gas Welding and Cutting

6.6 OSHA 1920.254; Arc Welding and Cutting

6.7 OSHA 29 CFR 1910.269(e); Electrical Power Generation, Transmission and Distribution, Enclosed Spaces.

6.8 NFPA Standard 51B; Fire Prevention in Use of Cutting and Welding Process

6.9 ANSI/ASC Z49.1; Safety in Welding, Cutting and Allied Processes

6.10 FM Property Loss Prevention Data Sheets 10-3

6.11 Clearance Program

6.12 Confined Space Program

6.13 Portable Gas Monitors Procedure

6.14 Personal Protective Equipment Program

6.15 Emergency Action Plan

6.16 Life Critical Rules

7.0 REVISION HISTORY

Revision No.	Revision Details	Revised By	Approved By	Revision Date
0	New procedure to align AVS, DFS, DGF, LOS, and LRS. Updated Hot Work Permit for all facilities. Additional definitions and gas testing requirements. Revisions in blue font.	Travis Watson Ashley Fraser Kelly Schafer William Deglman Matt Middlemas	Ryan Fisk Miles McGrew	03/06/2026

ATTACHMENT 5.1 – Hot Work Permit

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

Hot Work Permit

Permit #:
Issued By:
Clearance #:

BEFORE INITIATING HOT WORK, CAN THIS JOB BE AVOIDED? IS THERE A SAFER WAY?

This Hot Work Permit is required for any 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

HOT WORK BEING DONE BY
☐ EMPLOYEE
☐ CONTRACTOR _____

DATE	W/O NUMBER

LOCATION/BUILDING AND FLOOR

WORK TO BE PERFORMED

NAME OF PERSON(S) DOING HOT WORK (Use page 2 for additional employees)

Work is being done on a Classified System YES NO (Circle One)

☐ Hot Work being performed in a Confined Space. Confined Space and Clearance Program followed.

PERMIT DURATION

DATE	TIME
to	to

I verify the Required Precautions have been taken and permission is authorized for this work.

SIGNED (Operating Authority or Supervisor) **Employee No.**

SIGNED (Qualified Employee) **Employee No.**

Employee Assigned Fire Watch **Employee No.**

1/2 hour Fire Watch Check Complete	Date	Time
☐ YES ☐ NO		

FINAL CHECK UP

Work area and all adjacent areas to which sparks and heat might have spread (including floors above and below on opposite sides of walls) were inspected 3 hours after the work was completed and were found firesafe.

SIGNED (Final Fire Watch)	Date/Time

REQUIRED PRECAUTIONS CHECKLIST

☐ Available sprinklers, hose streams and extinguishers are in service and operable.

☐ Hot work equipment or power tools are in good working condition.

Requirements within 35 ft (11m) of Hot Work

☐ Flammable liquids, dust, lint and oily deposits removed.
☐ Flammable atmosphere in area eliminated.
☐ Floors swept clean and trash removed.
☐ Combustible floors wet down, covered with damp sand or fire-resistive/noncombustible materials or equivalent.
☐ Personnel protected from electric shock when floors are wet.
☐ Other combustible storage material removed or covered with approved materials i.e. welding pads, blankets, curtains, fire-resistive tarpaulins, metal shields.
☐ All wall and floor openings covered.
☐ Fire-resistive tarpaulins suspended beneath work.
☐ Ducts or conveyors that might carry sparks to distant combustible material covered, protected or shut down.

Work on Walls, Ceilings and Roofs

☐ Construction is noncombustible and without combustible covering or insulation.
☐ Combustibles on other side of walls, ceilings or roofs are moved away.

Work on Enclosed Equipment

☐ Enclosed equipment is cleaned of all combustibles.
☐ Containers are purged of flammable liquids/vapors.
☐ Pressurized vessels, piping and equipment removed from service, isolated and vented.

Fire Watch/Hot Work Area Monitoring

☐ Fire watch will be provided during and for 30 minutes after work, including any coffee or lunch breaks.
☐ Fire watch is supplied with suitable extinguishers, and where practical, a charged small hose.
☐ Fire watch is trained in use of equipment and in sounding the alarm.
☐ Fire watch may be required in adjoining areas, above and below.
☐ Monitor Hot Work area for 3 hours after job is complete.
☐ Continuous monitoring required due to work in a confined space or potential for hazard atmosphere accumulation.
☐ Fire watch is conducted by the Qualified Employee when power tools are used on a Classified System.

Other Precautions Taken:

Atmospheric Testing Record **Monitoring Conducted By:** _____

Gas Testing Results	Time ___:___	Time ___:___	Time ___:___	Time ___:___	Time ___:___
Oxygen, O2 (19.5-23.5%)					
LEL% (<3%)					
Carbon Monoxide (CO) <35ppm					
Hydrogen Sulfide (H2S) <10ppm					
Other:					

ATTACHMENT 5.1 – Hot Work Permit

BASIN ELECTRIC POWER COOPERATIVE A Touchstone Energy® Cooperative	**Hot Work Permit**	Permit #: Issued By: Clearance #:

Additional Qualified Employees	Date	Time
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
Additional Fire Watch		
1.		
2.		
3.		
4.		
5.		

ATTACHMENT 5.1 – Hot Work Permit

BASIN ELECTRIC POWER COOPERATIVE A Touchstone Energy® Cooperative	Hot Work Permit	Permit #:
		Issued By:
		Clearance #:

Atmospheric Testing Record				Monitoring Conducted By: ___		
Gas Testing Results	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__
Oxygen, O2 (19.5-23.5%)						
LEL% (≤3%)						
Carbon Monoxide (CO) <35ppm						
Hydrogen Sulfide (H2S) <10ppm						
Other:						

Atmospheric Testing Record				Monitoring Conducted By: ___		
Gas Testing Results	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__
Oxygen, O2 (19.5-23.5%)						
LEL% (≤3%)						
Carbon Monoxide (CO) <35ppm						
Hydrogen Sulfide (H2S) <10ppm						
Other:						

Atmospheric Testing Record				Monitoring Conducted By: ___		
Gas Testing Results	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__
Oxygen, O2 (19.5-23.5%)						
LEL% (≤3%)						
Carbon Monoxide (CO) <35ppm						
Hydrogen Sulfide (H2S) <10ppm						
Other:						

Atmospheric Testing Record				Monitoring Conducted By: ___		
Gas Testing Results	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__
Oxygen, O2 (19.5-23.5%)						
LEL% (≤3%)						
Carbon Monoxide (CO) <35ppm						
Hydrogen Sulfide (H2S) <10ppm						
Other:						

Atmospheric Testing Record				Monitoring Conducted By: ___		
Gas Testing Results	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__	Time __:__
Oxygen, O2 (19.5-23.5%)						
LEL% (≤3%)						
Carbon Monoxide (CO) <35ppm						
Hydrogen Sulfide (H2S) <10ppm						
Other:						

Hot Work Permit Designated Areas

AVS

Designated Area
An area that has a high amount of flammable or combustible material adjacent to the Hot Work activity Any work around the SNG line.
Flammable or combustible material is more than 35 feet away but is easily ignited by sparks.
Wall or floor openings within a 35-foot radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
Areas where flammable gas (LEL) testing is required.
Areas with an accumulation of combustible dusts that could develop an explosive atmosphere.

DFS

Designated Area
Any time there is an arc or spark created, including outdoors.
The maintenance and electrical shops are exempt if the doors are closed going to the boiler building.

DGF: Non-Exempt Areas

Designated Area
CGS
Unit 1
Natural Gas 6” Pipeline
Fuel Gas Skid and Piping
Turbine Enclosure Gas Piping
Generator Lube Oile Piping
Mineral Lube Oil Tank and Piping
Synthetic Lube Oil Tank and Piping
Safety Cabinet
Generator Stepup Transformer
Mineral Lube Oil Air Oil Separators
Synthetic Lube Oil Air Oil Separators
Oily Waste Water Wash Tanks
Hydraulic Starter Lube Oil Tank and Piping
PCM Battery Room
Warehouse and Shop Area
Administration Building Communications Room
DCS
DCS-CA-100-0003
DCS-GA-100-0025
DCS-GA-100-0026

DCS-GA-100-0024
GGS
Unit 1 & 2
Natural Gas 10” Pipeline
Fuel Gas Skid and Piping
Turbine Enclosure Gas Piping
Generator Lube Oil Piping
Mineral Lube Oil Tank and Piping
Synthetic Lube Oil Tank and Piping
Safety Cabinet
Generator Stepup Transformer
Mineral Lube Oil Air Oil Separators
Oily Waste Water Wash Tanks
Water Wash Waste Tanks
Hydraulic Starter Lube Oil Tank and Piping
Unit 1
Clutch Generator Lube Oil Tank and Piping
Clutch and Clutch Piping
Clutch Generator Lube Oil Air Oil Separators
LCS
Unit 1
Clutch Skid
Clutch Cooler
Unit 1 and 2
Fuel Gas Skid and Piping
Unit 1-6
Turbine Enclosure Gas Piping
Generator Enclosure
Oil Cooler
Exhaust Duct
Aux Skid
Anhydrous Ammonia Injection Skid
PCM Battery Room
Fire Safety Cabinet
Anhydrous Ammonia Skid
Warehouse and Shop Areas
Natural Gas 6” Pipeline
PGS
Unit 1-3
Natural Gas 6” Pipeline
Fuel Gas Skid and Piping
Turbine Enclosure Gas Piping
Generator Enclosure
Oil Cooler
Exhaust Duct
Safety Cabinet
Aux Skid
Anhydrous Ammonia Injection Skid
PCM Battery Room
Unit 1

Clutch Skid
Clutch Cooler
Anhydrous Ammonia Skid
Warehouse and Shop Area
Unit 11-22
Fuel Gas Skid
Flammable Safety Cabinets
Flammable Storage Area
Tank Containment Building
Fire Pump Storage Building
PWND & PWSD
Vehicle Fuel Storage Area
Oil Storage Area
Nacelle
Blade Hub
Turbine
PWND - O & M Building

SMS

Designated Area
Unit 1 & 2
Turbine Building
Fuel Forwarding Building
Fuel Receiving Building
Fuel Tanks and Associated Valves and Piping
Control Building – (in areas where Flammable Materials are stored)

WDG

Designated Area
Unit 1
Gas Skid
Flammable Storage Area
Battery Storage Area

LOS

Designated Area
An area that has a high amount of flammable or combustible material adjacent to the Hot Work activity.
Flammable or combustible material is more than 35 feet away but is easily ignited by sparks.
Wall or floor openings within a 35-foot radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
Combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
Areas where flammable gas (LEL) testing is required.
Areas with an accumulation of combustible dusts that could develop an explosive atmosphere.

LRS

Designated Area
Acid Storage Tanks
Acid Lines, Unit 1, 2, and 3
Fuel Oil Pumps & Piping
Fuel Oil Storage Area
Hydrogen Seal Oil System to include:
Surrounding Areas of Main Generator
Hydrogen Storage
Coal System to include:
Live Coal Pile Storage
Rotary Dumper
Pulverizers (not inerted)
All conveyor galleries
Cascade areas
Feeder areas
Transfer Buildings
Coal Bunkers
Coal Silos
Vehicle Fuel Storage Area
Oil and Paint Storage Areas
Lube & Oil Storage Area
Warehouse(s)
Office/Administration Building
Cooling Towers (off line)
Battery Rooms

ATTACHEMENT 5.4 – Elevated LEL Hot Work Approval Form (4% to Maximum 10% LEL)

- Elevated LEL Hot Work Approval Form must be shared and communicated with affected employees prior to commencing work.
- Elevated LEL Hot Work Approval Form must stay with Hot Work permit and be turned into Operating Authority with Hot Work Permit.

BASIN ELECTRIC POWER COOPERATIVE

ELEVATED LEL HOT WORK APPROVAL FORM (4% TO MAXIMUM 10% LEL)

Facility:	
Date:	
Time:	
Area/Unit:	
Hot Work Permit #:	
Hot Work to be Completed:	
Describe the Source of the Flammable Vapors (list monitoring completed with PPM or %:	
Justification to Complete the Hot Work at Increased LEL:	
Additional Control Measure or Procedures Required to Complete the Hot Work Safely:	
Conditions When the Hot Work Must be Stopped (Suspend Work Obligation):	
Approvals (must have at least 2)	
Supervisor:	
Operating Authority:	
Safety Coordinator:	
Maintenance Superintendent (if applicable):	
Contractor Foreman (if applicable):	

SAF 280 R0 Hot Work Program

Final Audit Report 2026-03-09

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