

CNS OPERATIONS MANUAL ADMINISTRATIVE PROCEDURE 0.36 INDUSTRIAL SAFETY PROCEDURE	USE: INFORMATION QUALITY: QAPD RELATED EFFECTIVE: 9/22/09 APPROVAL: ITR-RDM OWNER: GMPO DEPARTMENT: SHU
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REV.	DATE	CHANGES
33	9/16/09	Added specific criteria for hard hat and fixed blade knife requirements. Incorporated guidance on listing the specific PPE requirements on a Hazardous Work Permit and required actions to down grade the PPE. Changed a reference to ANSI standard in regards to safety shoes and modified glove usage in regard to climbing activities.
34	9/22/09	Revised guidance for selection of PPE when work with hazardous chemicals.

1. PURPOSE

1.1 This procedure describes the Industrial Safety Program, provides guidance for use of Hazardous Work Permits (HWP), Safety Exemption Requests, and the requirements to limit acts which could be considered hazardous to the health and safety of individuals.

2. PRECAUTIONS AND LIMITATIONS

2.1 This procedure is an oversight document and provides the Hazardous Work Permit for those identified hazardous operations or conditions which have been recognized in the following procedures:

2.1.1 Procedure 0.36.2, Underwater and Above Hazardous Moving Water Work Activities.

2.1.2 Procedure 0.36.4, Asbestos Program and Work Control.

2.1.3 Procedure 0.36.5, Lead Exposure Control Program.

2.1.4 Procedure 0.36.6, Monitoring for Industrial Gases.

2.1.5 It is not the intent of this procedure to cover radiological hazards in the work area or work covered by Procedure 9.ALARA.4.

3. INSTRUCTIONS

3.1 Senior Managers shall enforce the District's or Site's Safety Policies and Procedures by taking appropriate disciplinary action when non-compliance to these rules are identified. Procedures specific to Cooper Nuclear Station (CNS) are established by the Site Vice President to ensure the safety of all employees in the CNS work environment.

3.2 Managers shall implement the requirements of the District's and Site's Safety Programs along with the requirements of procedures specific to industrial safety at CNS.

3.3 Supervisors shall adhere to the requirements set forth in the District's and Site's Safety Programs and applicable CNS Procedures. They should also coordinate monthly safety meetings and ensure employees under their supervision adhere to these requirements.

3.4 Employees shall follow the District's Safety Department Instructions and the Site's Safety Policies and Procedures.

3.5 Managers and Supervisors are to conduct periodic safety evaluations of the facilities where their employees work and review their work practices to ensure they comply with policies and procedures. Safety evaluations may include the following:

- Facility conditions.
- Equipment conditions.
- Hazards controlled adequately.
- Identified safety hazards or unsafe work practices are corrected as soon as practicable.
- Employees are adequately trained and/or briefed on how to safely perform their work.
- Safe storage of materials, equipment, chemicals, etc.

3.5.1 Observed industrial safety procedure non-compliance should be documented in the NAIT System. When an individual is involved, their Supervisor should be notified as soon as practical to be made aware of the incident.

- 3.6 All CNS employees should attend monthly and site scheduled safety meetings when possible. When an employee is unable to attend their department's scheduled safety meeting, they should attend another department's safety meeting, as an alternative. Departmental safety meetings should cover specific safety-related topics relevant to the interests, procedures, work practices, and accidents related to the department.
- 3.7 A Job Safety Hazards Analysis (JSHA) is a process where the steps required to complete an activity are systematically identified, reviewed, and either Engineering controls, alternate methods, or personnel protective equipment are recommended to eliminate or reduce hazards for employees performing the activity. Procedure 0.36.12 should be used when a JSHA is determined to be necessary.
- 3.8 Unsafe conditions should be recognized and personnel safety must be top priority with unsafe conditions or actions eliminated. In many cases, the unsafe conditions can be eliminated by the individual. If a condition cannot be eliminated by an individual, the unsafe condition should be reported to the individual's immediate Supervisor and the proper department for resolution. Conditions which may require immediate attention should also be reported directly to the Industrial Safety Group.
- NOTE** – The Condition Report process provides a means of getting more than one person's opinion or judgment on the condition considered unsafe. Guidance on the Condition Report process is in Procedure 0.5.CR. If it is not convenient for the individual to discuss the unsafe condition with their Supervisor or if the individual does not get satisfactory answers, explanation, or action, then the Condition Report process can be used to document the condition and make Management aware of the concern.
- 3.9 Safety suggestions are ideas to improve safety or things to make the existing program better. They are not a safety concern or hazard that needs immediate attention. The Safety Suggestion Form is used to document these and enable them to be evaluated. These forms are available at various locations around the plant and on the Safety Department web page. Safety Suggestions will be evaluated by the Safety Committee. The Originator can give these to anyone on the committee, their work group representative for safety, or a member of the Industrial Safety Group.
- 3.10 Equipment is provided to ensure personnel protection from inert, noxious, or radioactive atmospheres. Procedure 9.RESP.1 contains additional information on the description, fitting, maintenance use, training, location, and operation of respiratory equipment.
- 3.11 It is essential that station personnel be aware of the plant's atmospheric conditions and possibilities for atmospheres within the station which may be non-life supporting or of a temporary hazardous condition. Small spaces, rooms, tunnels, chambers, or tanks require special consideration of their atmospheric conditions. Personnel should be aware of the potential for rapid change of the atmosphere in these small rooms due to a pipe break or change in plant operating condition and dangers of high or low pressure steam and the suffocating characteristics of a steam laden atmosphere.
- 3.12 Fire fighting at CNS is performed by the Fire Brigade and are supplemented, as necessary, by local volunteer Fire Departments. The Fire Brigade Leader assumes the duties of the Incident Commander per Procedure 5.1INCIDENT.

- 3.13 Protective equipment issued by the District is to protect personnel from injury under specific conditions. Improper use of such equipment is not permitted. Personnel should wear the right personal protective equipment (PPE) for the specific task or conditions. PPE available includes, but is not limited to, hard hats, safety glasses, fall protection, safety shoes, and hearing protection.
- 3.13.1 Eye protection consisting of prescription glasses with side-shields or safety glasses that meet ANSI Standard Z87 and head protection that meets ANSI Z89.1 should be worn in all buildings inside the Protected Area that make up the power block (including, but not limited to, the Intake Structure, Off-Gas Building, Control Building, RCA, Cable Spreading Room, Cable Expansion Room, Turbine Building, Diesel Generators, Boiler Room, Water Treatment Plant, etc.), in all Fabrication or Machining Shops, areas posted as eye protection or hard hats required, and other areas where work creates a hazard of falling objects, flying particles, or potential electrical contact.
- 3.13.2 Eye protection is not required in the following areas/situations unless construction or maintenance work is underway that creates a hazard: office areas, restrooms, designated lunch rooms, Computer Room, outside break/smoking areas, Control Rooms, outdoor areas, and administrative areas including corridors to the Control Building, Instrument and Control Shop, Electrical Shop, Computer Room, and RCA Access.
- 3.13.3 Hard hats shall be kept clean and serviceable, inspected periodically by the user for signs of: excessive wear, loose or torn cradle straps, broken sewing lines, and cracks or penetrations. Do not attempt to repair the shell. Immediately replace if damaged or brittle. Do not place conductive material on the outside, structurally modify, paint, or otherwise deface where the structural or dielectric integrity qualities are affected. Small professional decals may be worn on the hard hat. Estimated hard hat life is 5 years and the service life of the suspension is estimated at 1 year.
- 3.13.4 For limited applications where the bill of the hard hat interferes with a task, the suspension may be reversed and the helmet positioned with the bill at the back of the head for the duration of the task.
- 3.13.5 The following are standing exemptions from hard hat requirements. JSHAs for Personal Protective Equipment are not necessary for these standing exemptions unless construction or maintenance activities create an unsafe work environment.
- 3.13.5.1 Personnel in Office areas, Laboratories, Restrooms, designated Lunch Rooms, and outside break/smoking areas, Control Rooms, outdoor areas, and Administrative areas including corridors to the Control Building, Instrument and Control Shop, Electrical Shop, and RCA Access unless construction or maintenance activities create an unsafe work environment.

- 3.13.5.2 Personnel operating mobile cranes or overhead cranes from a cab with adequate overhead protection are exempt from the head protection requirement.
 - 3.13.5.3 Personnel working on instrument racks where the hard hat may strike sensitive equipment and cause a perturbation to the plant.
 - 3.13.5.4 Tight spaces such as electrical cabinets (when in compliance with Procedure 0.36.8 requirements) or piping runs. Upon exiting the tight space, the hard hat shall be worn.
 - 3.13.5.5 Personnel wearing a communication head set near sensitive equipment.
 - 3.13.5.6 Personnel working in a Zone 1 FME area on Reactor Building 1001'.
 - 3.13.5.7 Personnel wearing a PAPR hood or Delta suit.
- 3.13.6 Safety toed shoes shall be worn in the power block, posted areas, and whenever physical work is performed where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole, and where electrical hazards are present, regardless of location.
- 3.13.6.1 In all areas that require safety toed shoes, the safety toed shoes shall meet the requirements of ANSI Z41, Personal Protection - Protective Footwear standards or ASTM F-2413. Look for the appropriate logo that indicates compliance with ANSI or ASTM.
 - 3.13.6.2 The following is a list of examples of work activities that require safety shoes, but is not all inclusive of work activities outside (Safety Shoes Required) posted areas:
 - a. Safety shoes shall be worn when working in areas where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole, or if feet are exposed to electrical hazards. Examples of tasks which will require safety shoes includes but is not limited to: rigging, lifting, or rolling loads, and work around earth moving equipment.
 - b. Carrying and using heavy tools such as pneumatic wrenches, torque tools, valve wrenches, compressed cylinders, etc.
 - c. Working on and/or with large electrical components, tools used in electrical operations, conduit, etc.
 - d. Carrying containers (drums and cases) of lubricants, chemicals, etc.
 - e. Building and grounds activities such as operating lawn mowers, brush cutters, weed eaters, chain saws, snow blowers, or similar equipment.

- 3.13.6.3 The addition of taps or other hard materials on soles or heels is prohibited, with the exception of grippers used during winter weather.
- 3.13.6.4 Shoes with exposed toe guards shall not be worn.
- 3.13.6.5 If a posted area is to be used as a designated transient walkway, a Job Hazard Safety Analysis shall be performed and the area shall be clearly identified and posted as the transient walkway.
- 3.13.6.6 Activities, such as Management approved tours, through designated plant areas where there is low risk of exposure to foot hazards, serviceable work shoes shall be worn. Serviceable work shoes are defined as follows:
 - a. Soles shall be slip resistant and shall protect against penetration hazards. The upper section should be of made of a sturdy material capable of protecting against lacerations and abrasions.
- 3.13.6.7 Security Officers and Security Officer Trainees shall wear footwear that is deemed appropriate by Management based on the required duties.
- 3.13.6.8 Emergency Response Team members (i.e., Fire Brigade, Confined Space Rescue, and Medical Response) are exempt from the safety shoe requirement when responding to an emergency or unannounced drill.
- 3.13.6.9 If a worker is assigned work requiring use of protective footwear or will enter an area where protective footwear is required by this procedure and the worker cannot wear the protective footwear due to an impairment or disability, he or she shall notify the Site Industrial Safety Group regarding his/her impairment or disability, his or her need for accommodation or relief from the obligation of wearing protective footwear, and his or her specific limitations with regard to the footwear. Reasonable accommodations shall be made for qualified individuals with disabilities on an individual basis provided such accommodation does not result in a direct threat to the safety of the worker or others in the workplace.
- 3.13.6.10 Supervisors may set higher standards, as deemed necessary, in their work areas.

3.13.7 HAND PROTECTION³

- 3.13.7.1 Employees shall use appropriate hand protection (see Attachment 5, Glove Selection Chart) when their hands are exposed to hazards such as those from skin absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, and harmful temperature extremes.

NOTE – Gloves are not required for Management approved tours.

- 3.13.7.2 All personnel shall carry work gloves in their possession whenever entering or upon entry into industrial work areas or any area where hand hazards are anticipated to exist, and they shall don them when needed and in accordance with the requirements and guidance below.
- 3.13.7.3 All employees, supplemental support personnel, and visitors are required to protect their hands by wearing gloves appropriate for the type work being performed whenever engaged in maintenance, operational, and other physical work activities.
- 3.13.7.4 Activities that require gloves are, but not limited to, the following:
- a. Climbing activities that have a potential to cause hand injury.
 - b. Material handling activities that have a potential to cause hand injury.
 - c. General work activities with hazards as described in Step 3.13.7.1.
 - d. Welding, cutting, or other hot work.
 - e. Cutting, such as using razor knives or other activities that may cause cuts to the hand or fingers.
 - f. Handling of chemicals and/or corrosives.
 - g. Other tasks as deemed appropriate from a JSHA, Supervision, or Industrial Safety.
 - h. Electrical high and low voltage gloves and rubber gear requirements are detailed in Procedure 0.36.8, Electrical Safety Rule Book.

NOTE – Consult with your Supervisor, Work Leaders, or Safety professionals if you are uncertain about the type of glove to use, about donning them for a particular activity, or about removing them for dexterity.

- 3.13.7.5 Where work gloves are required to be worn, they may only be removed when necessary to perform "delicate" work requiring dexterity not achievable while wearing gloves. Gloves shall be put back on when delicate work is complete. Examples include but are not limited to:
- a. Log taking/paperwork.
 - b. Checking equipment temperatures with the hand.
 - c. Instrumentation calibrations.
 - d. Wiring termination/determination.

NOTE – For prevention of contamination, close-fitting nitrile (or similar) break-away gloves may be worn while this equipment is in service.

- 3.13.7.6 Gloves should be worn during material loading and setup of rotating equipment (i.e., lathe, drill press, milling machines). Gloves can be removed when rotating equipment is placed in service.
- 3.13.7.7 When work gloves are required in contaminated areas, work gloves shall be worn over radiological protective gloves or per Radiation Protection instructions.
- 3.13.7.8 When gloves are used to protect against chemical hazards, the following should be considered in the selection process:
 - a. The toxic properties of the chemical(s) on the skin and other body parts.
 - b. As a general rule, any 'chemical resistant' glove can be used when working with dry powders.
 - c. For mixtures, select the glove based on the chemical component with the shortest breakthrough time.
- 3.13.7.9 Refer to Attachment 5, Glove Selection Chart, for additional information.

3.13.8 SELECTION AND USE OF KNIVES AND OTHER CUTTING TOOLS

- 3.13.8.1 Always use the correct tool for the job. Careful selection of the right tool is essential to prevent an injury and eliminates the need for additional PPE.
- 3.13.8.2 The use of a personal knife or the knife in a company supplied leatherman tool to perform work is strictly prohibited. The only tools permitted for cutting tie-wraps, rope, wire ties, etc. are hinged type cutters similar to cutting pliers and scissors; otherwise, safety knives are permitted for unconditional use. Examples are: Maxisafe® Knife by MARTOR USA or Stanley Interlock® knife.
- 3.13.8.3 Employees shall use the safest tool for the job. In most cases, an open blade knife is not the correct tool for the job. Open blade knives such as insulator knives, razor scrapers, and box knives are permitted for use in the specialty type work, for which they are designed, provided they have been evaluated as the best tool for the job and a JSHA is performed. Kevlar gloves or gloves providing equivalent protection shall be worn and the safe practices described below are followed.
 - a. Employees shall exhibit safe cutting practices when using any knife. Safe cutting practices include:
 - 1. Cutting away from the body.

2. Using barriers as necessary.

- b. Electrical workers using a fixed blade knife for cutting back wire (when other tools have been determined not adequate) has been evaluated and is allowed without performing a Job Safety Hazard Analysis. Cut resistant gloves and proper cutting practices shall be used.
- c. Insulators using a fixed blade knife to perform insulation work (when other tools have been determined not adequate) has been evaluated and is allowed without performing a Job Safety Hazard Analysis. Cut resistant gloves and proper cutting practices shall be used.

3.13.8.4 Kitchen knives are permitted in kitchen/cafeteria areas when used for preparing food for consumption and personal knives are permitted in break areas for preparing food for personal consumption. For health reasons, Kevlar gloves are not required.

3.13.9 Persons working on or near exposed lines, circuits, or equipment which are energized must meet the requirements of Procedure 0.36.8.

3.13.10 All 480V or greater switchgear racking will be accomplished by a performer and a safety watch. The safety watch is to remain within sight of the performer, but a distance no closer than 10'. All other personnel are to be cleared from the immediate area of the switchgear racking operation. Protective equipment for the safety watch must meet the same requirements as that worn by the performer.

3.13.11 During icy/snowy conditions, CNS employees should use caution and be aware that slippery conditions may exist. Employees should wear footwear that has gripping capability. Grippers that slip on over shoes are available and can be worn. Employees should stay on main pathways that have been sanded, cleared, or have ice melt sprinkled upon them. If there is ice/snow on the pathway, employees, if capable, are encouraged to use provided shovels to clear a path for co-workers and sprinkle ice melt or sand on hazardous areas. If the condition cannot be eliminated by an individual, the unsafe conditions should be reported to the individual's Supervisor and the proper department for resolution. ©²

3.13.11.1 When icy conditions exist, these grippers are required for Security or Operations outside rounds and crews when assigned to snow removal.

3.14 Under certain conditions it may be necessary to have a safety exemption from established safety procedures during certain tasks. The personnel requesting an exemption shall complete the Safety Exemption Request Form (Attachment 4) with a detailed description of the need for exemption, and a description of proposed method for correcting the condition, if applicable. The Supervisor or Job Lead should perform and document a Job Safety analysis, reference CNS Industrial Safety Procedure 0.36.12 (Job Safety Hazard Analysis) to uncover, and list potential hazards with recommended corrective actions.

- 3.15 Ladders are placed at stations around the plant per Procedure 0.33 and should be maintained in good condition at all times. They shall be inspected by the user prior to use and returned to the station when work is complete. Those that are defective in any way should be removed from service until made safe for use.
- 3.16 Eye wash stations, showers, and First Aid kits are located around the plant. When handling chemicals, personnel should be protected from injury by wearing the proper personal protective equipment. Eye wash/shower stations are a fall back method of reducing injury caused by chemical splashes. Locations are listed in Procedure 0.33.
- 3.17 Scaffold design and construction should be in accordance with OSHA 1910.28 or 1926.451. A yellow tagged scaffold is completed and should be used with caution. A red tagged scaffold is being erected or torn down and is unsafe to use. All personnel should receive scaffolding training prior to using scaffolding. Check with supervision to have this scheduled. Proper use and construction of scaffolding is found in Procedure 7.0.7.
- 3.18 Heat exposure requires careful evaluation to ensure employee protection. Prolonged uncontrolled exposure to extreme temperatures can be fatal. With adequate planning, employee education, use of protective equipment, and work controls, these hazards can be minimized. Procedure 0.36.1 describes the Heat Stress Prevention Program.
- 3.19 Underwater work activities to include SCUBA or surface air supplied and above moving water work activities safety requirements and methods for controlling them are described in Procedure 0.36.2.
- 3.20 Entry into confined spaces is an inherently hazardous task. A confined space is a space that is large enough and so configured that an employee can bodily enter and perform assigned work; has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry) and is not designed for continuous employee occupancy. Procedure 0.36.3 describes the written confined space program.
- 3.21 When working with any insulation, gasket, or packing materials, a potential exists for them to contain asbestos. When in doubt that a product may contain asbestos, contact your Supervisor or the Asbestos Program Representative before work starts. Procedure 0.36.4 describes the asbestos program and work controls.
- 3.22 Procedure 0.36.5 provides the Lead Exposure Control Program for CNS, establishing the minimum requirements necessary to protect District employees and contractors working at CNS, from exposures to lead greater than allowed per OSHA Standards while performing any of the following activities:
- 3.22.1 Demolition or salvage of structures when lead or materials containing lead are present.
 - 3.22.2 Removal or encapsulation of lead materials.
 - 3.22.3 New construction, alteration, renovation, or repair of structures or components containing lead.

- 3.22.4 Installation or removal of lead products (excluding covered lead blankets and bricks, as long as their protective coverings are intact and proper hygiene and handling is practiced).
- 3.23 The requirements for the Ground Fault Interrupter Program, the use of temporary power, and inspection criteria for using electric power tools and extension cords in the power block are found in Procedure 0.36.7.
- 3.24 Procedure 0.36.8 provides the minimum requirements for working on or near exposed lines, circuits, or equipment which are energized or have not been proven to be de-energized, minimum approach distances, required apparel and equipment.
- 3.25 Procedure 0.36.9 provides information for personnel who could "reasonably anticipate" as the result of performing their duties, contact with blood or other potentially infectious materials (OPIM) including bio-hazardous waste. It is the intent and objective of this procedure to minimize personnel vulnerability by limiting exposures to potentially infectious materials. The Exposure Control Plan (ECP) complies with the OSHA Standard, "Occupational Exposure to Bloodborne Pathogens"; 29CFR1910.1030.
- 3.26 When practicable, work areas and processes should be designed or retrofitted to eliminate fall hazards. If the hazard cannot be practicably abated through design and the potential fall distance is 6' or greater, an approved fall protection system with a plan for fall protection requirements should be provided.
- 3.27 Barriers and signs should be used to warn or prevent personnel from coming into contact or being exposed to real or potential hazards. The extent and seriousness of the hazard determine the required barrier and/or sign.
- 3.27.1 CAUTION signs/barriers denote an area which has potential hazards. Personnel should take proper precautions to protect against the hazard. Personnel should proceed with caution when entering, traveling, and working in CAUTION areas. Examples are wet floors, tripping hazards, welding operations, and overhead hazards.
- 3.27.2 DANGER signs/barriers prevent unauthorized access into a dangerous area. A DANGER barrier means STOP! DO NOT ENTER! AUTHORIZED PERSONNEL ONLY. Access into a DANGER barrier area should be made only by authorized personnel.
- 3.28 USE OF OVERHEAD BRIDGE AND GANTRY CRANES AS WORK PLATFORMS
- 3.28.1 All of the following requirements must be met before employees can perform work such as servicing overhead lights from platforms or walkways on overhead bridge cranes and gantry cranes:
- 3.28.1.1 Fall protection and standard guardrails shall be provided and used.
- 3.28.1.2 Portable ladders shall not be erected.

- 3.28.1.3 Only individuals qualified to the requirements of Procedure 0.36.8 shall be permitted to perform work on or near electrical equipment.
- 3.28.1.4 Actions will be taken to protect individuals from rotating equipment.
- 3.28.1.5 Work from cranes shall be performed only when the crane is stationary.
- 3.28.1.6 Crane Operators shall be notified before work is performed from a crane.
- 3.28.1.7 Crane Operators shall not move a crane unless they have determined that all personnel are located in areas where they will not be exposed to injury.
- 3.28.1.8 Implement actions to prevent a crane from being struck whenever other cranes are in operation on the same runway.
- 3.28.1.9 Signs, which indicate work is being performed, shall be posted whenever work is performed from a crane. Such signs shall be visible from the floor.
- 3.28.1.10 Lockout/Tagout procedures shall be implemented, as appropriate, when work is being performed from a crane.
- 3.28.1.11 Safe egress to and from a crane shall be provided.

3.29 Corporate Policy provides the policy guidelines and requirements for reporting occupational accidents, injuries, illnesses, property damage accidents, property losses, or near miss accidents. Employees should notify their Supervisor before obtaining any medical attention if at all possible. If an injury occurs that results in either a restricted work activity (RWA) or a day away from work (DAW), or a significant near miss occurs as a result of a human performance error, Procedures 0-HU-POLICY and 0-HU-IMPLEMENT should be used.

NOTE – Then individual's Supervisor and the Industrial Safety Group should be notified as soon as practical after an injury or near miss.

- 3.29.1 Form S10, Near Miss Report/Damage to NPPD Property, is used to document all near misses or when there is damage to NPPD Property. The employee and Supervisor should investigate the incident, complete the form, and take the completed form to Industrial Safety within 1 day following the incident.
- 3.29.2 NPPD Form S10B, Alleged Work Related Injury or Illness Report, is used to document any work related injury or illness and should be completed by the employee, as soon as possible, to document their injury or illness. Once completed, the form should be provided to the employee's Supervisor.
- 3.29.3 NPPD Form S10C, Supervisor's Report, is completed by the Supervisor when an employee alleges a work related injury or illness and completes an S10B Form. The Forms S10C and S10B should be provided to Industrial Safety, as soon as completed, not to exceed 4 days.

- 3.29.4 Form S10D, Attending Physician's Return to Work Recommendations Report (or equivalent), should be completed before an employee can return to work after receiving outside medical attention for a job related injury/illness. The individual should provide the completed S10D Form to their Supervisor and Industrial Safety.
- 3.29.5 NPPD Form F20, Report of Personal Injuries of the Public, is used to document accidents, injuries, illnesses, or near misses to members of the general public on NPPD property.
- 3.29.6 Form S10E, NPPD Vehicle Incident Report, is completed by the operator for vehicle incidents involving injury, death, or damage > \$500 to the property of any one person when driving an NPPD vehicle, personal, and/or rental vehicle on NPPD business. Supervisors must report all NPPD vehicle accidents within 4 calendar days.
- 3.30 Except in solid rock, the sides of all excavations and trenches including embankments 5' or more in depth shall be shored, sheeted, braced, sloped, or supported by a means of sufficient strength to protect employees as determined by a competent person. When employees are required to enter these areas, an adequate means of exit, such as a ladder or steps shall be provided and located within 25' of lateral travel. Excavated material shall be stored at least 2' away from the edges.
- 3.31 Caution is required by all personnel who handle, transport, store, or use high pressure gas. High pressure compressed gas cylinders are potential sources for fire, explosion, and toxic releases. When in use or storage, secure cylinders at a height which prevents the cylinder from toppling from the top or sliding from the bottom. More than one securing device or restraint may be required. Cylinders shall not be tied off or secured to electrical conduit, electrical panels, fire protection systems, air lines, instrument air lines, gas, or water lines. When designed, cylinders should have a protective cap in place during transportation, storage, or handling. When cylinders are being moved by a hoist or overhead crane, a transporting rig designed for compressed gas cylinders should be used.
- 3.32 Cylinders shall be transported by means of a suitable cart, hand truck, or forklift with rack. The cylinder shall be secured during transport to the transport device through the use of a chain, rack bar, or belt device to prevent falling.
- 3.33 Cylinders shall be properly labeled with the names of the gases contained within.
- 3.34 Cylinders should be protected from any object that may produce a harmful cut or other abrasion in the metal surface of the cylinders.
- 3.35 Compressed gas cylinders shall not be stored in stairwells, near elevator shafts, or unprotected platform edges.
- 3.36 Compressed gas cylinders should not be stored where the temperature will exceed 130°F.

- 3.37 Should an acetylene cylinder be found in a horizontal position, it shall be placed upright, secured, AND SHALL NOT be used for at least 30 minutes to allow the liquid to resettle.
- 3.38 In-line acetylene check valves are always required on oxy-acetylene cutting units.
- 3.39 Oxygen cylinders, valves, regulators, hoses, and any associated oxygen related equipment shall be kept free of oil, grease, and shall not be handled by personnel with oily hands, oily gloves, or greasy equipment.
- 3.40 Oxygen cylinders in storage shall be separated from fuel gas cylinders by a minimum of 20' or by a 5' high non-combustible barrier. Oxygen and acetylene cylinders stored together on welding carts, torch carts, or in welding stations are allowed.

NOTE – Seismic requirements are listed in Procedure 0.41 and requirements for control of combustibles are listed in Procedure 0.7.1.

- 3.41 In seismic sensitive areas during temporary storage and use, compressed gas cylinders shall be secured by restraints ~ 3/4 height and near the bottom to prevent the cylinder from being toppled.©¹
- 3.42 When work environments involve unique hazardous work functions or operations, an HWP should be used to establish the appropriate health and safety considerations prior to performing the work. This permit is used to control conditions, specify necessary engineering controls, compensatory measure, or PPE. The HWP is a control instrument which provides for the Job Supervisor's evaluation of particular tasks for industrial safety and health concerns, and is an "oversight" document for Procedures 0.36.2, 0.36.4, 0.36.5, and 0.36.6.
- 3.42.1 In order to establish these controls, the HWP should be used to control conditions, specify necessary engineering controls, compensatory measures, or PPE to be used, including respirators, clothing, and safety equipment requirements, maintain a record of the personnel involved in the actual work or area and the controls used to protect them.
- 3.42.2 An HWP, Attachment 1, should be initiated by the Job Supervisor, control working conditions, such as: atmospheres which contain hazardous or toxic chemicals/materials (e.g., lead based paint removal projects); working within pressure boundaries of high energy systems which are not protected by double isolation; working on energized electrical equipment which is not covered by an existing station procedure or written instructions which include safety directions.
- 3.42.3 The Job Supervisor will ensure adequate precautions are established when working on high energy systems with single valve isolation. The Job Supervisor shall ensure the portion of the system to be worked is verified depressurized and drained prior to commencement of work and a contingency plan shall be developed to back out of the work in the event that the isolation valves fail to hold. Additional guidance is listed in the section for Piping System Requirements in Procedure 0.9.®¹

- 3.42.4 An HWP is not required when working on the energized electrical equipment or systems such as thermocouples, resistive thermal devices, instrument loops (4 to 20 mA and 10 to 50 mA), sensor signals $\leq 10V$, video signals, security system microwave zones, and station lighting systems $< 120 VAC$, including changing ballasts, outdoor lighting, or work governed by procedures or instructions (e.g., Work Orders, Standard Operating Procedures, etc.).
- 3.42.5 The Hazardous Work Permit Supplementary Time Report Form (Attachment 2) serves as the record (i.e., sign-in log) for personnel entering an HWP controlled area, provides special instructions, and provides a record to indicate the total time personnel were in the controlled area.
- 3.42.6 An HWP should be included in packages identified by the Maintenance Planning Group as possibly needing an HWP.
- 3.42.7 The Job Supervisor should review the work function and the work location, evaluate safety hazards associated with the proposed work, and may choose to initiate an HWP, even if it is not already part of the prepared work package.
- 3.42.8 Job Supervisors should review the MSDS documents, as necessary, for hazards associated with chemical products being used in the work area.
- 3.42.9 The responsible Job Supervisor should initiate the HWP based upon an evaluation of the task/hazard and the permit should be completed and signed by the responsible Job Supervisor. Industrial safety conditions and requirements described on the HWP shall be reviewed with personnel assigned to perform the job/task during the pre-job briefing.
- 3.42.10 The Job Supervisor, when initiating the HWP, should provide the following information: INITIATOR (Section 1), DATE (Section 2), WORK ORDER (Section 3), JOB SITE LOCATION (Section 4), DESCRIPTION OF WORK (Section 5), and CONDITION(S) REQUIRING HWP (Section 6).

WARNING – Monitoring or sampling shall be requested prior to entry into an area involving atmospheric or environmental hazards. This may be done prior to or in conjunction with the Job Supervisor's pre-job review in order to assess the associated health and safety hazards involved. Such hazards include: toxic atmospheres, lead or asbestos, high energy systems, etc.

NOTE – If Section 7 does not apply to a particular activity, the Monitoring Required is marked N/A by the Job Supervisor.

- 3.42.11 ENVIRONMENTAL SURVEY DATA (Section 7) - When requested by the Job Supervisor, the Industrial Safety Group shall complete Section 7, Environmental Survey Data, for specific toxic gases (e.g., H_2S), in the spaces provided for recording data for toxic atmospheres. Contact the Industrial Safety Group for guidance.

3.42.12 ATMOSPHERIC MONITORING USING SHORT-TERM DETECTOR TUBES

3.42.12.1 Employees who identify odors, dusts, fumes, or mists (not otherwise expected) while performing their work activities are to evacuate the area, control access to the area, and notify their Supervisor immediately.

3.42.12.2 The Job Supervisor should then review the work package and request atmospheric monitoring for specific contaminants from the Industrial Safety Group. This request will be completed using the HAZARDOUS WORK PERMIT "other" in Section 7.

WARNING – All paint at CNS is considered to contain lead, unless previously tested or documented as non-lead based paint. Refer to Procedure 0.36.5.

3.42.13 The Job Supervisor should indicate by marking the word "Lead" or "Asbestos" to show that either Sampling or Monitoring is required and mark the appropriate YES/NO box.

3.42.14 SUPERVISOR'S REVIEW AND APPROVAL (Section 8) - The Job Supervisor should review all sections and ensure they are completed appropriately for those activities which are considered hazardous to the health and safety of the employees.

3.42.15 DEPARTMENT MANAGER'S APPROVAL (Section 9) - The Department Manager's review and approval of this form shall only be required if personnel will be working: in explosive or toxic atmospheres; on energized electrical equipment which is not covered under existing station procedures or instructions, which include safety directions.

3.42.16 PERSONNEL PROTECTIVE EQUIPMENT, TOOLS, OR PROCEDURES AND PRECAUTIONS (Section 10) - The Job Supervisor should establish the requirements for respirators, personnel protective clothing, and the tools and equipment required for a job by checking the appropriate sections and equipment required. The Job Supervisor shall also identify the appropriate space(s) provided, for necessary safety precautions, relative to the prevailing hazards associated with the job to include defining buffer zones when handling hazardous materials, and making public announcements to keep personnel away from the work area.

3.42.16.1 Use the MSDS to complete a conservative evaluation and selection of PPE for the eyes or other organs identified on MSDS when working with or around hazardous chemicals. The Supervisor or Job Supervisor should be specific on required PPE and other requirements. Once identified on a HWP, if a change is required, concurrence from the individual's Supervisor or a member of the Safety Group should be obtained prior to reducing PPE requirements.

- 3.42.17 HWP TERMINATED BY SUPERVISOR (Section 11) - Coincides with the removal of the hazardous conditions or the completion of a job or task function. This requires the signature, time, and date that the HWP was terminated by the Job Supervisor and should be kept with the work package (e.g., Work Order, Surveillance, etc.) available for review and it should remain part of the work package's documentation with a copy should be sent to the Industrial Safety Group.
- 3.42.18 The Hazardous Work Permit Supplementary Time Report Form, Attachment 2, should be used in conjunction with Attachment 1, the HWP.

NOTE – When the HWP and Hazardous Work Permit Supplementary Time Report Form are being used only to document the PPE and equipment requirements for a specific task and are not being used to control personnel entries into hazardous areas (e.g., requiring fall protection), the personnel need only sign in when starting the task, acknowledging the necessary requirements for PPE, tools, and equipment.

- 3.42.19 Each individual assigned to a work task covered by an HWP shall sign the Hazardous Work Permit Supplementary Time Report Form, and in so doing, acknowledges understanding and compliance with all specific requirements set forth in the HWP.

4. RECORDS

- 4.1 HWPs (when completed and attached to work packages or work documents) are sent to CNS Records (quality record upon TECO).
- 4.2 Those HWPs which are not part of any work package or work document should be sent to the Industrial Safety Group for maintenance of the file (not a quality record).

ATTACHMENT 3 SHORT-TERM DETECTOR TUBE ANALYSIS REPORT FORM

Date:**Time:****IS Group:****Person Requesting Analysis/Job Supervisor:****Area to be Analyzed:****Material to be Analyzed:****OSHA PEL/STEL for Material:****Actual Analysis Results:****Date/Time:****Comments/Actions:**

Industrial Safety Signature/Date (Analyst): _____

Job Supervisor Signature/Date: _____

Requesting Employee Signature/Date: _____

SAFETY EXEMPTION REQUEST FORM S-20

Date Exemption Request Initiated: _____

Safety exemptions will be considered in areas, or during tasks, where administrative controls, Engineering controls, and standard safety procedures or equipment either will not be used properly or will result in a greater hazard to the individual involved with the work.

Start Date and Time: _____ End Date and Time: _____

Location and Work Task to be Exempted:

State Current Policy/Requirement:

Results of Job Safety Analysis (refer to Procedure 0.36.12):

List Required Personal Protective Equipment:

This authorization is a temporary exemption of established safety procedures. A Job Safety Analysis was performed per Procedure 0.36.12 and time limits established prior to approval. The risks have been thoroughly evaluated. This exemption is authorized as warranted by the results of the Job Safety Analysis. Approval is obtained by the Supervisor, Department Manager, and Industrial Safety signing the completed form. The Safety Exemption should be posted at or near the work area.

Approved: _____ Date: _____
Job Supervisor

Approved: _____ Date: _____
Department Manager

Approved: _____ Date: _____
Industrial Safety Coordinator or Designee

ATTACHMENT 5 GLOVE SELECTION CHART

ATTACHMENT 5 GLOVE SELECTION CHART

TYPE OF GLOVE	PROTECTS AGAINST
Rubber	Acids, bases, caustics, solvents, diluted-water solutions of chemicals, alcohol.
Canvas, cloth, leather	Dirt, wood splinters, sharp edges.
Metal mesh/Kevlar/Kleen Guard	High resistance to cuts and scratches.
Heat-resistant	Heat and flames.
Cryogenic lab glove	Liquid nitrogen.
Hypoallergenic and powder free	Skin problems in workers with allergies.
Cuffed	Liquids trickling down into the glove.
Nitrile (synthetic rubber)	Oils, many solvents, esters, grease and animal fat, high resistance to cuts and abrasions.
Neoprene	Broad range of chemicals, oils, acids, caustics and solvents, less resistant to cuts, punctures, and abrasions than nitrile.
Polyvinyl chloride (PVC)	Acids, caustics, alkalis, bases, and alcohol; good abrasion and cut resistance. NOTE – Some types of PVC are susceptible to cuts.
Polyvinyl alcohol (PVA)	Aromatics, chlorinated solvents, esters, and most ketones; resists cuts, punctures, and abrasion. NOTE – PVA breaks down when exposed to water and light alcohol.
Ethylene vinyl alcohol (EVOH), also called flat film gloves	Highly resistant to chemicals and hazardous materials; little resistance to cuts and tears (usually worn as a liner under PVC or nitrile gloves).
Butyl	Acetone and dimethyl formamide; not useful against cuts, punctures, and abrasions.
Viton	Benzene, methylene chloride, and carbon disulfide; little resistance to cuts, punctures, and abrasions.

1. DISCUSSION

1.1 The Management of CNS recognizes the importance of safety and health, and is committed to providing a work place for our employees in which recognized hazards are controlled.

1.1.1 The philosophy and objectives behind this commitment are:

1.1.1.1 The safety and health of all personnel working at CNS is our first priority.

1.1.1.2 The only acceptable level of safety and health performance is one that prevents injuries and accidents.

1.1.1.3 Safety and health are an integral part of power production and like all other essential functions, it cannot be separated or bypassed.

1.1.1.4 Safety and health functions are a responsibility that must be shared equally and without exception by everyone within this organization.

1.1.1.5 Management and Supervision will be held accountable for the safety and health of the personnel for whom they are responsible.

1.1.1.6 Employees shall be required to make their safety and the safety of fellow employees the first priority.

1.2 Accidents can be caused by the use of inadequate or faulty equipment, but most are caused by neglecting to follow the approved procedures and safe methods for doing a task. Conscientious safe work practices are required of all personnel.

1.2.1 Periodic random observations of the work area and evaluations of the work practices being used by employees should be made by the Job Supervisor.

1.3 DEFINITIONS

1.3.1 Hazardous Material - A substance, material, or waste resulting from the use of a substance or material which has been determined to be capable of posing an unreasonable risk to health, safety, and property; a substance which by its nature, containment, and reactivity has the capability for inflicting harm; characterized as being toxic, a reproductive toxin, a carcinogen, corrosive, flammable, reactive, an irritant, a strong sensitizer, or an agent that damages the skin, eyes, or mucous membranes and thereby pose a threat to health and the environment.

1.3.2 High Energy Systems - A fluid piping system which carries high energy fluids (i.e., those which have temperatures exceeding 212°F or have pressures exceeding 150 psig) and have not been removed from service by double isolation.

- 1.3.3 Job Supervisor - The Job Supervisor (NPPD or Contractor) is directly in charge of any District activity and is responsible for the safety of their personnel and the associated public. Job Supervisors are responsible for the actions of persons who report to or are assigned to them. They are to see that all reasonable precautions and safeguards are used and ensure personnel are qualified and capable of handling their work assignments safely.
- 1.3.4 Oxygen Deficient Atmosphere - An atmosphere containing < 19.5% oxygen by volume.
- 1.3.5 Oxygen Enriched Atmosphere - An atmosphere containing more than 23.5% oxygen by volume.
- 1.3.6 Permissible Exposure Limit (PEL) - The allowable concentration of a liquid, solid, or gas that the Federal Government allows an individual to be exposed to, based on an 8 hour time weighted average.
- 1.3.7 Personal Protective Equipment (PPE) - A term referring to disposable coveralls (Tyvex™ or other materials), clothing, gloves, respirators, or other protective equipment used.
- 1.3.8 Plastic Protective Clothing - Full body or two-piece impermeable plastic suits used to prevent skin contamination from hazardous chemicals.
- 1.3.9 Short-Term Exposure Limit (STEL) - The allowable concentration of a liquid, solid, or gas that the Federal Government allows an individual to be exposed to over a short period of time before possible acute or chronic symptoms of exposure may arise.
- 1.3.10 Work Time Limits - The calculated time most average healthy individuals can expect to work under an adverse working conditions before a break should be given.
- 1.3.11 Respiratory Protection Devices - A device which supplies filtered, supplied or self-contained, respirable air to the individual wearer.

2. RESPONSIBILITIES

- 2.1 Vice President-Nuclear and CNO has overall responsibility for the Safety and Health Program at CNS. The implementation of functional elements of the program is delegated to his staff and line organization.
- 2.2 Safety and Human Performance Supervisor is responsible for:
- 2.2.1 Formulation and coordination of Industrial Safety Program designed to minimize the likelihood and consequences of accidents, injuries, and industrial illnesses, and to maintain compliance with regulatory requirements.
- 2.2.2 Providing the on-site functional elements of the CNS Industrial Safety Program.

- 2.2.3 Determining the adequacy of the CNS Industrial Safety Program.
 - 2.2.4 Implementing the station's Industrial Safety Program.
 - 2.2.5 Day-to-day administration of the Occupational Health and Safety Program at CNS; and
 - 2.2.6 Providing Management with the tools necessary for them to execute their industrial safety responsibilities.
 - 2.2.7 Provides Management and Supervision with the technical input needed to implement the CNS Industrial Safety Program, and assist them by focusing their efforts and attention on identified weakness and deficiencies needed for the program's improvement.
 - 2.2.8 Is available to provide guidance and assistance to the Managers and Job Supervisors, as needed.
 - 2.2.9 Has the responsibility and authority for the direction and/or implementation of immediate corrective actions necessary to eliminate unsafe acts or conditions or to stop hazardous operations.
 - 2.2.10 Conducting and documenting field observations to ensure existing instructions concerning elimination of industrial safety hazards are being observed and that safety equipment is in good condition.
- 2.3 Managers and Supervisors are responsible for ensuring safety is integrated into the day-to-day routine as they manage the total job. Implementation of the Safety Program is the responsibility of all line Management within the organization.
- 2.3.1 Managers and Supervisors are responsible for being actively involved in the implementation of the Industrial Safety Program.
 - 2.3.2 Managers and Supervisors are obligated to provide safe working conditions, tools, equipment, procedures, practices, and materials necessary for personnel to execute their jobs safely.
- 2.4 Job Supervisors should ensure employees are qualified and capable of handling their work assignments safely.
- 2.4.1 It should be the duty of each Job Supervisor to provide specific safety instructions and see that all reasonable precautions and safeguards are used.
 - 2.4.2 Job Supervisors are responsible for developing proper attitudes toward safety and health in themselves and in those they supervise; and for ensuring operations are performed with utmost regard for the safety and health of all personnel involved.

- 2.5 Radiation Protection (RP), Chemistry, or other personnel who are qualified to perform atmospheric monitoring, at the request of a Job Supervisor, should provide monitoring of the work area atmosphere or environment.
- 2.6 Confined Space and Rope Rescue Team (Bee Team) members can be made available to assist personnel in the performance of those activities which could use their unique training and qualifications.
 - 2.6.1 The Bee Team members perform as the CNS Site High Line Rescue Team and can also provide Managers and Supervisors with guidance and direction.
- 2.7 Employees on-site are responsible for their safety and health, and this responsibility belongs to every member of the organization.
 - 2.7.1 The employee's Job Supervisor should be consulted in those cases where work assignments or safety rules are not clearly understood.
 - 2.7.2 Work should be performed per established CNS Procedures.
 - 2.7.2.1 CNS Site Specific Procedures take precedence over the District's Policies as they relate to industrial safety.
 - 2.7.2.2 The District policy allows for each Site to have their own specific procedures (or Directives and safety handbooks) as long as they are equal to or more restrictive than the District's Policies.
- 2.8 Contractor personnel should follow CNS Procedures, unless their safety procedures can be proven to be more restrictive than those of CNS.
 - 2.8.1 Contractors should provide a copy of their Industrial Safety Policies, Procedures, and/or Programs to the Industrial Safety Group for review prior to their being used at CNS.

3. REFERENCES

3.1 COMMITMENTS AND OBLIGATIONS MATRIX

COMMITMENTS AND OBLIGATIONS	AFFECTED STEPS
QAPD	None
Ⓟ ¹ CR-CNS-2007-03552, CA-8	3.42.3
Ⓟ ² SCR 2001-0146, Action Item 10	3.13.11
Ⓟ ³ CR-CNS-2008-07915, CA-22, Provide Clear Guidance on Glove Use to Remove Ambiguity	3.13.7
© ¹ NRC Inspection Report 92-22	3.41

3.2 CODES AND STANDARDS

- 3.2.1 29CFR1910 and 29CFR1926, U.S. Department of Labor, Occupational Safety and Health Administration.

3.3 PROCEDURES

- 3.3.1 Administrative Procedure 0-EBS-NOT, SAP Notifications.
- 3.3.2 Administrative Procedure 0-HU-IMPLEMENT, Human Performance Policy Implementing Procedure.
- 3.3.3 Administrative Procedure 0-HU-POLICY, Human Performance Policy.
- 3.3.4 Administrative Procedure 0.5.CR, Condition Report Initiation, Review, and Classification.
- 3.3.5 Administrative Procedure 0.7.1, Control of Combustibles.
- 3.3.6 Administrative Procedure 0.9, Tagout.
- 3.3.7 Administrative Procedure 0.33, Personnel Safety Equipment.
- 3.3.8 Administrative Procedure 0.36.1, Heat Stress Prevention Program.
- 3.3.9 Administrative Procedure 0.36.2, Underwater and Above Hazardous Moving Water Work Activities.
- 3.3.10 Administrative Procedure 0.36.3, Confined Space Procedure.
- 3.3.11 Administrative Procedure 0.36.4B, Asbestos Work Control and Handling.
- 3.3.12 Administrative Procedure 0.36.5, Lead Exposure Control Program.
- 3.3.13 Administrative Procedure 0.36.6, Monitoring for Industrial Gases.
- 3.3.14 Administrative Procedure 0.36.7, Electrical Cord Control/GFCI Program.
- 3.3.15 Administrative Procedure 0.36.8, Electrical Safety.
- 3.3.16 Administrative Procedure 0.36.9, Bloodborne Pathogens Exposure Control Program.
- 3.3.17 Administrative Procedure 0.36.12, Job Safety Hazard Analysis.
- 3.3.18 Administrative Procedure 0.41, Seismic Housekeeping.
- 3.3.19 Emergency Procedure 5.1INCIDENT, Site Emergency Incident.
- 3.3.20 Maintenance Procedure 7.0.7, Scaffolding Construction and Control.

3.3.21 Rad Protection Procedure 9.ALARA.4, Radiation Work Permit.

3.3.22 Rad Protection Procedure 9.RESP.1, Respiratory Protection Program.

3.4 MISCELLANEOUS

3.4.1 Nebraska Public Power District's Employee Handbook.

3.4.2 SER 35-88, Inadequate Work Controls, Work Practices, and Reserve Preparations Contribute to Fatality.