



Non-Nuclear Generation

Contractor Safety Manual

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PREFACE

Arizona Public Service Company's ("APS") Non-Nuclear Generation is primarily engaged in the generation of electricity using fossil fuels - coal, oil and gas, and various renewable energy sources. The electric service originates from various electric generating stations and is eventually distributed through several hundred substations and thousands of miles of overhead and underground transmission and distribution lines until it reaches APS customers for their use.

As an independent contractor for APS, you must minimize potential safety and health hazards to your employees, to APS employees, or to others who may be on the jobsite, by following applicable governmental regulations and sound work rules for maintaining a safe and healthy workplace and environment. All Contractors' on site equipment shall be in good working order, with all safety devices in place and utilized. Contractor shall ensure its employees utilize appropriate personal protective equipment for the task(s) performed.

APS considers the standards and rules of the Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) (and its state counterparts) to be minimum requirements that must be complied with at all times. Because each work area is unique in and unto itself, some areas or types of work could require steps that go beyond basic compliance with agency standards and rules. Examples where this may occur involve respiratory, systemic and dermal hazards, electrical exposures, and excessive noise and/or heat levels.

The following section lists some of the primary *federal* laws affecting the environment, health and safety with which the contractor must comply, depending upon your contract work scope. In addition, you are required to comply with applicable state, tribal and local rules, regulations and ordinances addressing the same or similar areas. However, the following list is a guide only and is not intended to be a complete list of laws that may apply to your services. As an independent contractor, you are required to identify and comply with all applicable laws, rules and regulations.

PRIMARY ENVIRONMENTAL, HEALTH AND SAFETY ACTS

Hazardous Materials Transportation Act	DOT (HMTA)
National Environmental Protection Act	EPA (NEPA)
Noise Control Act	EPA (NCA)
Federal Insecticide, Fungicide and Rodenticide Act	EPA (FIFRA)
Resource Conservation and Recovery Act	EPA (RCRA)
Toxic Substances Control Act	EPA (TSCA)
Federal Air Pollution Act (Clean Air Act)	EPA (CAA)
Federal Water Pollution Control Act (Clean Water Act)	EPA (CWA)
Standard for Protection against Radiation	NRC (10CFR20)
Comprehensive Environmental Response, Compensation and Liability Act	EPA (CERCLA)
National Emission Standard for Hazardous Air Pollutants	EPA (NESHAP)
Asbestos Hazard Emergency Response Act	EPA (AHERA)
Occupational Safety and Health Act	DOL (OSHA)

CONTRACTOR HEALTH AND SAFETY REQUIREMENTS

Safety is the **overriding value** of all aspects of our business. Safety includes protection of personnel from workplace hazards, protection of property from damage or loss, and protection of the environment. Together, we will provide a safe and healthy environment for our collective employees, APS customers and the communities APS serves. The best interest of all parties is served when reasonable and prudent measures are taken to establish and maintain a safe place to work. Each contractor and subcontractor is responsible and accountable for the safety and wellbeing of its employees. At a minimum, all activities performed on behalf and in support of APS (and other activities performed on APS property or equipment) by the contractor and its subcontractors must comply with applicable federal, state, tribal and/or local laws, ordinances, statutes, rules and regulations, including those promulgated by OSHA, ADOSH, ADEQ, and EPA. Each contractor and subcontractor is expected to have & follow their own documented safety programs & procedures. Additionally, the contractor's and subcontractors' safety programs and practices must meet or exceed all APS safety and health policies, procedures and program requirements, including APS' Accident Prevention Manual (APM). The APM can be found at:

<http://www.aps.com/en/ourcompany/doingbusinesswithus/suppliers/Pages/supplier-program.aspx>

The contractor and its subcontractors are responsible and expected to take all reasonable and lawful actions deemed necessary to prevent incidents and losses. It is APS' expectation that all parties cooperate fully with loss control programs implemented by APS. The following loss control components must be addressed prior to and during all services provided to APS. The contractor, subcontractors and its employees who fail to comply with these requirements may be denied access to the APS project, facility or property and risk termination of the contract.

APS will monitor the contractor's safety performance throughout the term of the contract. If, in APS's sole discretion, the contractor fails to perform the work in a safe and acceptable manner, APS may stop the contractor's work and, notwithstanding any other contract terms and conditions agreed to between the contractor and APS to the contrary, APS may, for convenience, immediately terminate the contractor's work and the contract under which the work is being performed. If work is stopped and APS does not terminate the contract, the contractor shall provide a written "safety improvement plan" to its APS Representative and the APS site Safety Professional, which details what actions the contractor will implement to resolve or mitigate the identified unsafe work behaviors or conditions. If, during or after the period of stopped work, the contractor fails to perform the work in a safe and acceptable manner, APS may terminate the contract as set forth above.

In addition, periodic reviews will be performed on certain contracts lasting longer than a year. The review will cover the contractor's safety performance, identification of best practices and a discussion regarding sustaining safety performance or needed improvements. The contractor will submit a written Safety Improvement Plan to address deficiencies identified in the review to the APS Representative and site Safety.

The contractor and its subcontractor shall:

- ▶ **Ensure contractor's on-site representative, lead personnel and Safety Professional are provided a copy of this manual for their use and reference.**
- ▶ Designate an on-site representative who will serve as the primary liaison and contact for establishing and maintaining communication with APS and the contractor's subcontractor(s). The contractor's on-site representative, or their designee, will take the lead on behalf of the contractor in the performance of safety inspections, assessments, audits and investigations to represent the interest of the contractor and its subcontractor(s) regarding safety matters.
 - The contractor on-site representative, or their designee, will maintain and provide information and reports as requested regarding safety, inspections, assessments, audits and investigations.
- ▶ Participate in a pre-work conference with an APS representative between the award of the contract but prior to performing work under that contract. This pre-work conference allows both sides to discuss and review various contract requirements, including those pertaining to site regulations, safety, environmental considerations and potential hazards. APS personnel may advise of applicable laws, rules, etc., in the areas of importance. However, such actions do not relieve the contractor of its responsibility to comply with all applicable federal, state, tribal and/or local laws, ordinances, statutes, rules and regulations.

- ▶ Ensure contractor & subcontractor employees participate in regularly scheduled safety meetings conducted by the contractor leader or foremen. At a minimum said safety meetings will be held on a weekly basis.
- ▶ Immediately notify the APS Representative upon knowledge of any on-site inspection being conducted by any regulatory agency.
- ▶ Assign a full time Safety Professional to work at the site when the activity or job scope requires an employee base of fifty (50) or more contractor and/or subcontractor employees.
- ▶ Require a site visit by the contractor's Safety Professional initially at the start of the project and at least monthly through the duration of the project.
 - At the sole discretion of the APS Representative and/or the APS site Safety Professional, this requirement may be waived for short-term or minor projects with minimal risk exposure.
- ▶ Receive and participate in an APS Fossil Generation Contractor Safety Orientation to provide an understanding of the expectations regarding safe work practices, prior to performing any work tasks. **No work activities, including offloading of equipment, may take place until the contractor, contractor's employees & any subcontractors have received the APS Fossil Generation Safety Orientation.**

For non-English speaking personnel, Contractor shall have a bilingual supervisor present to translate the orientation to ensure all employees gain an understanding of APS Fossil Generation safety requirements.

- The orientation is valid for a calendar year and must be renewed on an annual basis at the start of each calendar year.
- Proof of APS Fossil Contractor Safety Orientation received at another APS Fossil Generating Station within the current calendar year is acceptable. However, site specific requirements still must be covered.
- ▶ Provide documents showing past safety performance upon APS designated representative's or APS Safety's request. This may include OSHA inspection results and citations, incident rates, Experience Modification Rates, and/or DOT-related inspections and citations. Such documents may be requested prior to commencement of work.
- ▶ Provide a written safety program or plan for service to be provided prior to the commencement of any work activities upon APS designated representative's or Fossil Safety's request. At a minimum, the contractor's safety and health program or plan must meet or exceed the requirements of the APS programs. Safety plans will be prepared regarding any of the following:
 - Overall Safety Plan for the job or project;
 - For any project involving dismantling, razing, or wrecking of any fixed building or structures or any part thereof, a demolition plan meeting the requirements of 29 CFR 1926, Subpart T and ANSI A10.6;
 - Critical lifts and rigging associated with critical lifts;
 - Significant evolutions such as chemical cleaning, asbestos or lead abatement, or work near or within minimum approach distances to energized overhead lines.
- ▶ Submit, upon APS' request (Designated Representative or Site Safety), written verification that all the contractor's and subcontractor's employees have received and demonstrated competency in the required training and refresher training of regulatory agencies and APS as applicable to the services being provided. Upon APS' request, provide written documentation of employee safety training records, certifications, etc. A list of potentially applicable training is provided in Attachment A.
- ▶ The contractor will provide a workforce adequately trained in safe work practices. Required training for all employees prior to arriving on site consists of:
 - OSHA 10 Hour Outreach Training for Construction Industry or
 - OSHA 10 Hour Outreach Training for General Industry or
 - Equivalent: For a course to be considered equivalent, the course content must meet or exceed the guidelines issued by the Occupational Safety and Health Administration of the United States Department of Labor for an OSHA – 10 Hour Outreach Course, including without limitation, federal safety and health regulatory requirements specific to the industry in which the employer participates.
- ▶ Submit a copy of all welders' certifications as applicable to the services being provided.
- ▶ Provide a copy of crane operator certification prior to the use or operation of any crane.
- ▶ Submit a copy of the crane certification prior to any crane being brought on site. The most recent annual, monthly and pre-use inspection reports for any crane brought on site must be provided.
- ▶ Provide a copy of the forklift operator certification prior to any forklift operation.
- ▶ Obtain APS written authorization prior to moving parts off-site.

- ▶ Abate all safety discrepancies discovered in a timely manner in accordance with regulatory or contract requirements, as applicable and appropriate. APS reserves the right to conduct periodic inspections of the work site to verify compliance with these requirements.
- ▶ Ensure all employees of Contractor and its Subcontractors park only in the area(s) designated by APS.
- ▶ Ensure no photographs are taken on or around the plant site without prior authorization by a designated APS Representative.

The contractor may be assessed the cost of any fines and/or penalties incurred by APS resulting from the contractor's non-compliance with safety or environmental regulations.

Contractor's Safety Responsibilities

The contractor, subcontractor and its employees shall:

- Understand and comply with all applicable provisions in its respective written safety programs or plans.
 - Immediately notify the APS designated representative upon discovering any safety or health hazard or defect and shall follow up with the APS designated representative until the identified hazard or deficiency is corrected.
 - Immediately correct any safety or health hazard or defect identified by APS personnel, or others, if under the contractor's control.
 - Ensure contractor & subcontractor employees are aware of their right & responsibility to stop work due to the identification of any unsafe work practice or unsafe work condition & notify their leaders for correction.
 - Maintain all on-site equipment in good working order, with all safety devices in place and utilized.
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Fitness for Duty

- Contractors & their employees are responsible to report to work both emotionally and physically fit to perform the work assigned.
 - Contract employees are to report to their company if they are prescribed or taking any prescription or over the counter medication that could affect their ability to safely perform their job prior to performing any work. Use of intoxicating liquor or drugs by any individual during working hours is forbidden.
 - Including prescription or over the counter medication that can affect fitness for duty.
 - Any individual demonstrating reasonable grounds to suspect that he/she has reported to work under the influence of intoxicating liquors or drugs shall be prohibited from working until satisfactory medical or other evidence indicating fitness is secured.
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Pre-Job Brief & Job Hazard Analysis

A **written** pre-job briefing/tailboard is required at the start of each shift and before the start of each new job. Contractor is to utilize the contract company's briefing/tailboard form to document the session. The pre-job brief is usually conducted by the affected on-site contract company leader. The extent of the briefing may vary, depending upon the experience and training of those involved, however the following key points must be included in all cases:

- Task Identification
- Roles and Responsibilities
- Communications
- Hazard Identification
- Special Precautions
- Work Criteria
- Energy Source Controls
- PPE Requirements
- Opportunity for Questions and Worker Input
- Any potential environmental impacts (waste disposal, dust control, used oil, labeling, etc.)

A Job Hazard Assessment (JHA) will be performed prior to the pre-job brief/tailboard for high-risk tasks. The JHA will identify the hazards for each step of the job & detail what is to be done to eliminate/control the hazards. Pre-job briefs/tailboards and JHAs will be documented and available for review by the APS Designated Representative. Upon request by the APS Designated

Representative or Fossil Safety, Contractor shall provide documented pre-job briefs/tailboards and JHAs for review.

Confined Space Entry

APS Fossil Generation plants contain both non-permit and permit required confined spaces. Throughout APS' generating facilities, the definition of confined space applies to most tanks, vaults, drums, mills, pulverizers, chutes, silos, pits, boxes, heaters, compartments, and ducts. Contractor performing any confined space entry is expected to have and follow their own written confined space entry program meeting the requirements of 29 CFR 1926 Subpart AA and employees trained in the requirements of the program. Contractor will inform APS of the confined space program they follow, including any hazards likely to be confronted or created in the confined space.

Upon request of the APS Representative or Fossil Safety, Contractor will provide a copy of their written confined space entry program/procedure.

Contractor is to obtain from APS any information concerning a permit confined space's hazards and previous operations, including special precautions needed to enter the space. Contractor is to provide this information to employees entering the space and any additional information the contractor may have regarding the space, including precautions implemented for the protection of employees in the space. Contractor shall share this information with any and all of their sub-contractors, including the hazards or potential hazards of the confined space being entered.

Contractor must ensure they designate a competent person to identify all confined spaces in which its employees may work, and identify each space that is a permit required space. This is to include evaluation of the elements of the space, work processes & testing as necessary.

Contractor shall designate "Entry Supervisors" to certify confined spaces to be either non-permit or permit-required spaces for the expected duration of an entry into the space based upon the measured contaminants found, or expected, within the space. The Entry Supervisor is responsible for authorizing entry, overseeing entry operations and terminating entry as required.

If Contractor utilizes a local emergency service for confined space rescue from permit required spaces, Contractor must arrange for the responders to give the Contractor notice immediately if they will be unable to respond for a period of time due to another event or emergency. If the local emergency service becomes unavailable, entry and work in the space will be suspended until the designated emergency services advises contractor of their ability to respond.

If determined to be a permit-required space, a trained attendant is required to be stationed outside the confined space to monitor for problems, summon rescue assistance if appropriate, maintain an accurate accounting of who is within the space, monitor activities outside the space that may affect employees within the space, and, if necessary, order evacuation of the space.

Contractor will inform APS via the APS designated representative anytime unexpected hazards are encountered within a confined space and during a debriefing after entry.

Contractor is responsible for providing and for maintaining appropriate confined space inspection/monitoring & rescue equipment and for conducting the required inspections prior to confined space entry by its employees.

Any confined space opening not used as an entry point and not posted with an entry permit shall be barricaded to block access.

Lockout/Tagout

Work shall not be allowed on APS equipment without first obtaining an appropriate Lockout/Tagout (LOTO) through the APS designated representative. All servicing or maintenance that is performed on a machine or equipment, where the unexpected energizing, start-up, or release of stored energy could occur and cause injury, requires a LOTO (complete energy isolation).

- LOTO's exists for the sole purpose of keeping people alive & under no circumstances will a violation be tolerated.
- Non-APS personnel MAY NOT energize, de-energize or operate any plant equipment unless doing so under the explicit instructions of their APS Rep.

Prior to the contractor supervisor/foreman signing on to a LOTO and placing a lock on the associated lock box, his/her APS Representative shall review the Energy Isolating Devices that have been placed on the equipment, sign onto the LOTO Permit Form and place his/her personal lock on the associated Lock Box.

Before a contractor supervisor/foreman prints his/her name on the LOTO Permit Form, he/she must review the Energy Isolating Devices that have been placed on the equipment. The contractor supervisor and APS Rep together, must have a thorough review of the scope job and LOTO with the Issuing Authority to ensure boundaries provide adequate protection to cover the job scope. Contractors shall be afforded the opportunity to walk down the work area and boundary points and verify energy isolation prior to starting work to ensure isolation points cover the job scope.

Each contractor supervisor/foreman shall print his/her name on the LOTO Permit Form and then be issued a contractor's lock, and shall attach that lock and a tag with the contract company's name, company representative's name, and APS Representative name on the Lock Box designated on the LOTO Permit Form.

The contractor supervisor/foreman shall maintain a method by which all his/her employees working on the equipment are accounted for.

NOTE: Contractor is to have a written program for the control of hazardous energy meeting the requirements of either 29 CFR 1910.147 or 29 CFR 1910.269(d). APS expects the contractor to have and utilize a method to meet compliance with these Standards and track any employee performing work under Lockout/Tagout.

The Issuing Authority is responsible for ensuring that all work conducted by the contractor is at all times in accordance with this Procedure, and must provide for a proper Safety Designee when applicable.

At the completion of work the contractor supervisor/foreman and APS Representative shall verify that all contracted work is completed and that all contract employees are accounted for.

The contractor supervisor/foreman shall remove the issued contractor's lock from the designated Lock Box, and then sign off of the LOTO Permit Form.

Excavation and Trenching

A contractor that is performing excavation and/or trenching work will ensure the following is performed:

- Designate a trained "Competent Person" to identify predictable hazards surrounding and within all excavations. This person must have the authority to authorize prompt corrective measures to correct identified problems and shall inspect each excavation prior to entrance each work-shift and after any hazard-increasing event such as rain, earthquake, etc.

- Soils at Fossil Generating Plants shall be considered Class B (previously disturbed) until proven otherwise.
- Identify all underground installations (telephone, gas, electrical, etc.) in accordance with applicable code requirements designed to prevent accidental dig-ins prior to opening any excavation or trench. Any accidental dig-in must be reported to the APS representative immediately.
- All materials on site that are **NOT** WOOD, GLASS, or METAL are considered to contain ASBESTOS until tested or shown otherwise. Refer to Asbestos section of this document when Transite® pipe is encountered during excavation and/or trenching.
- Store excavated materials no closer than two feet (2') from an excavation. Adequate means of access and egress (ladder, ramp, etc.) shall be maintained no further than twenty-five feet (25') from all workers working within excavations four feet (4') or more deep.
- Protect persons working within an excavation from cave-ins by adequate shoring systems unless (1) the excavation is made in stable rock; (2) the excavation is less than four feet (4') deep and the Competent Person determines there is no possibility of cave-in; or, (3) the walls are sloped and/or benched to an angle not to exceed 34 degrees from horizontal or a 1:1.5 slope.



- Protect all excavations, trenches, manholes, etc., opened and/or worked in by using adequate signs, barriers, barricades, lighting and/or flagmen.
 - Trenches and excavations must be flagged with yellow tape unless over 4 feet deep, then the flagging shall be red unless a hard barrier is provided.

Scaffolding

Scaffolding, when used by the contractor, shall be erected in conformance with all applicable OSHA scaffolding standards and a safe means of access or egress must be maintained. It is the contractor's responsibility to ensure that each scaffold utilized by the contractor has been inspected by a "Competent Person" prior to each shift's use.

Personal Protective Equipment

The contractor shall provide and ensure its employees utilize all appropriate personal protective equipment for the tasks performed and hazards present. Personal protective equipment is considered tools of the trade and it is the responsibility of the contractor to ensure adequate personal protective equipment is provided to their employees. Contractor & their employees are to arrive on site with all required PPE & protective clothing. Contractor's employees must wear hard hats and safety eyewear (advanced safety eyewear at the coal plants) at all times within the plant. (Exception: Hard hats and advanced safety eyewear are not required when in office environments unless indoor hazards dictate its use.)

Hard hats shall meet the requirements of ANSI Z89, and a minimum of Class E (some may be labeled both Class G & E) & a minimum of Type 1. Baseball hats may not be worn under hard hats. Hard hats designed to look like cowboy style hats are prohibited.

All personnel shall wear safety eyewear or goggles meeting the requirements of ANSI Z87.1 or Z87.2 when in work areas. Personnel performing work at APS Fossil coal plants shall wear advanced safety eyewear or goggles. (Advanced eyewear provides a sealing surface, such as foam or rubber, against

the face of the user to keep dust or small particles out of the eye.) Advanced safety eyewear shall be equipped with a band or strap to ensure a positive contact is made with the sealing surface. Personnel who wear prescription eyewear must wear goggles over their glasses if they do not have prescription safety eyewear (advanced safety eyewear at coal plants) meeting ANSI Z87.1 or Z87.2. Safety eyewear (advanced safety eyewear at coal plants) will be worn under weld hoods/shields and face shields unless the work being performed requires chemical splash goggles under the face shield (handling chemicals that could become airborne, such as chemical dusts or chemical splashing).

Hearing and respiratory protection are required when dictated by environmental conditions or the work being performed. (Note: The contractor will ensure that its employees who wear respirators, as a requirement of OSHA, maintain a face-to-respirator seal that is free of facial hair or other obstructions.)

Substantial footwear appropriate for the work being performed is mandatory in plant work areas. All contract personnel shall wear safety toe footwear, meeting ASTM F2413-05, or safety toe caps whenever performing any work within the fenced perimeter of any APS Fossil power plant.

The contractor's employees are required to wear flame resistant clothing when working within twenty-five feet (25') of any energized "high voltage" transformer.

Contract personnel working in the power block area of any power plant shall wear long sleeve, non-melting clothing at a minimum. Long pants are required with shorts, cutoffs and other short pants prohibited. Contract employees performing arc based tasks shall wear arc rated clothing appropriate for the arc potential they are exposed to.

Note: Long sleeves are not required when working on or near rotating equipment such as operating a mill or lathe.

Contract personnel shall have gloves in their possession at all times. Appropriate gloves shall be worn when handling rough or sharp objects such as rough lumber, glass, sheet metal with unfinished edges, metal slivers, etc. Chemical resistant gloves, as recommended by the product SDS, shall be worn when handling chemicals. Electricians shall wear the appropriate gloves for the electrical hazard.

Respiratory Protection

For any work tasks that require the use of tight fitting air purifying respirators, the contractor must have a written respiratory protection plan. The workers must have completed respiratory protection training meeting the requirements of the OSHA Standard, have received medical clearance to wear a respirator, and have passed a fit tests on the specific respirator being worn within the last 12 months. The contractor is responsible to provide employees training, medical evaluation and fit tests if respiratory protection is used.

Dust masks are not considered tight fitting air purifying respirators and are convenience items only & not part of this requirement.

Fall Protection

Contractor's employees working from unprotected elevated positions in excess of **four** feet (**4'**) from the surface below shall wear & utilize appropriate fall arrest equipment. The contractor shall have a written fall protection/fall arrest program.

- Tie off/anchor points must be able to withstand a minimum of a 5000 pound load.
- Handrails/guardrails, conduit, and unistrut are not tie off points!

Contractor employees performing these tasks shall receive adequate training and fall arrest equipment from their employer.

Elevated Work

Contractor shall implement adequate measures when working from any elevated position to avoid events that could result in injury or property damage due to a dropped item. Some measures to consider include:

- Using weld blankets or plywood to prevent items from falling through grating;
- Using plywood or other solid barriers to keep material from falling through guardrails;
- Hoisting small objects in canvas bags;
- Installing barriers below that is large enough to prevent others from entering a potential drop zone.

If any of the conditions below are met, a dropped item prevention plan must be created and reviewed prior to commencement of work.

- Erecting/Dismantling scaffolding
- Performing work from scaffolding
- When working with materials that are small enough to pass through grating, includes cutting of material
- When working within close proximity to unprotected/uncovered penetrations. Floor holes or wall holes
- Hoisting/lowering material tools
- Removing or dismantling of any component while working at an elevated position
- Where potential exists to drop tool(s), material(s), or equipment to a lower level

Housekeeping

The contractor shall ensure that debris is contained and removed as often as required to prevent it from interfering with the safety of employees and/or the general public. In any event, containment and removal of debris shall be performed at least daily. All work areas will be kept as neat & clean as possible.

Additionally, hoses, welding leads, power cords, etc., must not be strung across established walkways, but shall be suspended above or below the walkway to avoid the creation of tripping hazards. Any hoses, weld leads, power cords, etc. strung overhead must provide a minimum of seven (7) foot clearance.

The contractor must ensure that personnel never create a hazardous condition by blocking access to emergency equipment such as fire hydrants, fire hose stations, fire extinguishers, electrical switching panels, ambulances, first aid equipment, eye/body wash stations, etc., with equipment, vehicles or supplies.

Hazard Communication

Power plants utilize some products classified as hazardous under OSHA's Hazard Communication Standard. Upon request, the APS designated representative will provide the contractor with a list of those products in use at the facility, in addition to providing access to each product's corresponding Safety Data Sheet (SDS).

The contractor shall provide the APS designated representative with a list of all **chemicals, asbestos and/or radioactive** products proposed to be brought on-site, in addition to its respective SDSs, **for review and approval at least one (1) week in advance of bringing such materials onto APS' premises.** This list must include the quantity of each product or chemical to be used. The amount of

each product or chemical used [on this service] must be provided with the final invoice or at the end of each calendar year (whichever occurs first).

Any parts and materials such as gaskets or packing material in pumps, valves, motors, etc. which are to be supplied by the contractor must be non-asbestos containing and a MSDS/SDS or manufacture's certificate of content must be provided prior to any work being started.

All solvents and other chemical cleaning agents, when used, must be collected, contained and properly labeled as directed by the APS designated representative. Under no circumstances are waste solvents and/or other chemicals to be dumped on the ground, down plant drainage systems, or placed in regular trash receptacles.

Toxic chemicals (e.g., PCBs, sodium hydroxide, sulfuric acid, ammonium hydroxide) and/or radioactive substances may be found within some APS facilities. Contractor personnel must become familiar with the applicable environmental, health and safety rules governing such substances prior to performing any work in the vicinity of these substances. Specific guidelines are available from the APS designated representative upon request.

Opened drums, bags and other chemical containers to be disposed of must be completely emptied by pumping and/or pouring any remaining contents into an appropriate waste receptacle. After emptying, both the empty container and any waste receptacle used to contain chemical residuals must be properly labeled and placed in an area dictated by the APS designated representative.

The contractor must immediately report any accidental spillage of hazardous substances, solvents or cleaning agents to the APS designated representative. The spillage must be contained and removed as directed by the APS designated representative.

All hazardous products not used before the end of the shift, or replaced in its original, labeled, primary containers before the end of that shift, must be placed in secondary containers and labeled to identify the container's contents and appropriate hazard warnings.

Contractor is to ensure compliance of the OSHA Hazard Communication Standard, 29 CFR 1910.1200, by all of contractor's personnel.

Plant Critical Infrastructure Protection (CIP) Access

Critical Infrastructure Protection (CIP) is in place to meet FERC standard to help secure the electric grid from cyber & physical attacks that would disrupt generation and/or transmission. APS Fossil facilities contain both CIP Low & CIP Medium equipment. These assets are protected physically (PSP) and electronically (ESP). The following must be complied with by Contractor's personnel:

- All work performed on a CIP asset or in a PSP must be coordinated with the APS Representative.
- All non-authorized contractors must be escorted at all times by an authorized employee in a PSP.
- Medium PSPs require escorted personnel to be logged in & out with Corporate Security.
- Contractor personnel must coordinate with APS Representative to verify proper approvals & authorizations have been obtained to perform work on any CIP asset.
- Any Programmable Electronic Devices (PED) temporarily connected to a CIP asset must have prior approval.

GENERAL EQUIPMENT SAFETY

Where equipment has a manufacturer-specified weight capacity, the Contractor must:

Ensure Contractor's and subcontractor's employees do not exceed the capacity of the equipment with manufacturer-specified weight limits.

Provide verification of Contractor's and subcontractor's employees' weights when requested to ensure compliance with APS's weight management requirements for meeting specified equipment weight limits. This may be required for APS or contractor equipment on an APS site.

Verify or attest to Contractor's and subcontractor's employees' ability to use the equipment safely and meet all equipment weight restrictions.

Driving/Mobile Equipment

Contractor's personnel must observe posted speed limits within the facility (special conditions may warrant even lower speeds).

Contractor's personnel are not permitted to ride on any type of mobile equipment unless proper cages, seats, seatbelts or other personnel-securing devices are provided and used. **At no time are contract personnel to ride in/on the bed of a truck or utility vehicle.** Additionally, vehicles and mobile equipment with partially obstructed rear views shall be equipped with working backup alarms.

Material yards or set-up yards shall not be located near or under power lines. Special attention must be given to crane safety and OSHA regulations requiring minimum working clearances from power lines. A signalman/spotter must be used when warranted.

Mobile Equipment Spotters

- When operating mobile equipment, a spotter is required when:
 - Operator's line of sight is obstructed during operation or transit;
 - Area is congested due to work activities or heavy traffic (vehicle or pedestrian);
 - Operating or moving mobile equipment where any part of equipment or load has potential of being within minimum approach distances to energized overhead electrical lines.
 - Anytime the potential is identified for equipment damage or personal injury exists based on the Job Hazard Assessment or Tailboard discussion.
- Equipment cannot be moved without a spotter if any of the above conditions exist.
- Some conditions may warrant the use of more than one spotter.
- Mobile equipment movement will stop immediately if a distraction occurs or the operator loses sight of the spotter.
- High visibility vest (ANSI/ISEA 107) will be worn by spotters unless spotting for passenger vehicle.
- The spotter is responsible for observing the mobile equipment in motion, communicating directions, and giving warning to the operator of obstructions or hazards in the path of travel.
- Communication must be maintained between the operator and spotter during the equipment movement.
- The Operator and the Spotter must walk down the job/travel route before moving the equipment to assess any hazards, obstructions, unusual surfaces or special conditions.

The operator of the equipment assumes ultimate responsibility for the safe movement and operation of the equipment.

Working With or Near Locomotives

Any work performed within nine (9) feet of railroad track centerline requires the contractor to obtain a track clearance permit.

Contractor's employees must stop, look and listen for train traffic before crossing railroad tracks, regardless whether on mobile equipment, on foot or on a bicycle.

Contractor's employees shall not cross railroad tracks after a horn signal warning has been sounded by an oncoming train or if a train is approaching.

Vehicles shall cross the railroad tracks ONLY at designated crossings.

Contractor's employees on foot shall use the designated crossings.

When crossing in front or behind a stopped train, contractor employees shall be no closer than twenty feet (20') from the end car.

Contractor's employees are strictly forbidden to cross over, between or under locomotives or railroad cars at any time.

Materials Handling Equipment

When a crane is to be used, the contractor shall provide the APS designated representative with a copy of the crane certification and crane operator's certification prior to bringing the crane on site. The most recent annual, monthly and pre-use inspection reports for any crane brought on site must be provided. All Riggers, Crane Operators and Signal Persons shall be qualified to meet the requirements of the OSHA Crane Standard (29 CFR 1926 Subpart CC).

- The lifting zone must be protected prior to making a lift.
 - The preferred and most effective method for controlling a lifting zone is with the use of RED barrier tape. If the use of red barrier tape is not feasible contact your APS Representative and alternative methods can be evaluated if necessary.
 - Alternative methods may include the use of barrier tape, spotters, horns, or other effective means to prevent personnel from being under a suspended load.
- NO ONE MAY BE UNDER A SUSPENDED LOAD.
- All rigging will be inspected prior to use.
- Riggers must be qualified.
- Any and all critical lifts shall require the preparation and submittal of a lift plan to the designated APS Representative and site APS Safety.

When a forklift is to be used, the contractor shall provide the APS designated representative with a copy of the forklift operator's certification.

Free rigging from the forks of a forklift is prohibited.

First Aid and Jobsite Emergencies

As required by its contract with APS, the contractor must maintain proper first-aid readiness at the jobsite for its employees. Facility clinics (where available) will **not** provide first-aid treatment or supplies to contractor's employees. Facility clinic or emergency response personnel **may** be available to address significant emergencies for Contractor's employees. The contractor must be aware of the location of the nearest emergency medical facility as well as the facility's Emergency Evacuation Procedure, if established. The contractor should review its contract with APS to confirm the availability of first aid and emergency resources. Any questions should be addressed to the APS designated representative.

Fire Protection

The contractor must recognize all potential fire hazards, become familiar with on-site fire protection systems and enforce applicable fire regulations prior to beginning "hot work" (cutting, welding, brazing, soldering, etc.). A fire watch will be necessary following "hot work" that requires a permit to detect and

extinguish resultant smoldering or fires. The contractor must maintain the proper size and type of fire extinguisher in the immediate work area during any "hot work". Extinguishers brought on site will meet the following requirements:

- Each fire extinguisher must be in good working order
- Each fire extinguisher shall have up to date & documented inspections
- A record of required extinguisher inspections must be maintained by the contractor and made available upon the request of APS
- Each extinguisher must have labels or tags displaying the required inspection dates

Hot work shall be permitted only in areas that are or have been made fire safe.

Hot work performed outside of any designated hot work area will require a permit:

Hot work shall not be permitted in the following areas:

- In areas not authorized by management
- In sprinklered buildings where sprinklers are impaired unless a permit is issued.
- In the presence of explosive atmospheres.
- In the presence of un-cleaned or improperly prepared equipment, drums, tanks, or other containers that have previously contained materials that could develop explosive atmospheres.
- In areas with an accumulation of combustible dust that could develop explosive atmospheres.
- In areas near running conveyors or ventilation ducts that may carry sparks to distant combustibles.

A fire watch shall be required when hot work is performed in a location requiring a hot work permit or where the following conditions exist:

- Combustible materials in building construction or contents are closer than 35 ft. to the point of operation.
- Combustible materials are more than 35 ft. away from the point of operation but are easily ignited by sparks.
- Wall or floor openings within 35 ft. radius expose combustible materials in adjacent areas, including concealed spaces in walls of floors.
- Combustible materials are adjacent to the opposite side of partitions, walls, ceilings, or roofs and are likely to be ignited.

A fire watch shall be maintained for at least 30 minutes after completion of hot work operations in order to detect and extinguish smoldering fires. The duration of the fire watch shall be extended if plant operations determines the fire hazards warrant the extension.

Contractor personnel must strictly adhere to all rules and regulations pertaining to the use, handling, transportation and storage of compressed gases and liquids.

Contractor personnel must also be aware that many ducts, vessels and pipes used within generating plants are lined with combustible liners and that welding and cutting must be avoided until adequate precautions are taken to eliminate the risk of a fire within the equipment.

Explosives

Explosives shall not be used in the performance of the services unless specifically authorized in writing by APS. In case such authorization is granted, Contractor shall be responsible for the proper handling, transporting, storage and use of explosives; and shall give APS at least two (2) days advance notice of any intended use of explosives and shall coordinate and receive approval from APS as to actual time and place of said usage.

Flammable Liquids

Flammable liquids such as gasoline and diesel in two (2) and five (5) gallon quantities shall be stored and used only in UL or FM approved safety cans. Gasoline shall be stored and used in red containers marked properly and diesel shall be in yellow containers marked properly.

Overnight & long term storage of flammable liquids shall meet the requirements of either 29 CFR 1926.152 or 29 CFR 1910.106.

Tobacco Use

Smoking is NOT allowed in any area posted with a "No Smoking" sign.

- Per state law, no smoking is allowed within 25 feet in any direction from doors, windows and/or ventilation systems of any building.
- No smoking is allowed near H2 tanks, fuel oil supply and fuel tank areas, cooling towers, coal handling areas, generator seal oil systems, and turbine decks when hydrogen is in the generators.

Smokeless tobacco must be disposed of in a closed container. Spitting of tobacco is not allowed within any plant areas. Sunflower seeds shall be treated the same as smokeless tobacco.

Electrical Safety

The contractor must provide, and require personnel to use only non-metallic portable ladders near electrical facilities. No portable conductive ladders are allowed on APS Fossil Generating facilities.

The contractor is also responsible for determining the location of underground and overhead energized conductors that exist within the work area prior to beginning work. The contractor must take the necessary safeguards to ensure the integrity of these systems as well as the proper separation of personnel, materials and equipment from these systems where appropriate.

Clearance (between objects) for overhead *high/low voltage* lines must be observed and applies to any direction, vertical or horizontal. *Tailboard meetings* must emphasize these issues continuously.

Non-electrically-qualified contract personnel must adhere to the *circle of safety* requirements as identified in the **Minimum Approach Distance (MAD)** chart below when using conductive equipment near energized sources (qualified electrical workers use distances listed in the appropriate MAD chart contained in APM):

Required Clearances for Overhead high-voltage Lines	
Voltage (Phase-to-Phase)	Minimum Required Clearances (Ft)
750 - 50,000	10
over 50,000 - 75,000	11
over 75,000 - 125,000	13
over 125,000 - 175,000	15
over 175,000 - 250,000	17
over 250,000 - 370,000	21
over 370,000 - 550,000	27

The above clearances apply in any direction, vertical or horizontal

Crane operations must adhere to the Minimum Clearance Distance (MCD) identified in the chart below:

MCD for Overhead high-voltage Lines – Crane Operation	
<i>Voltage (Nominal kV, AC)</i>	<i>Minimum Clearance Distance (Ft)</i>
Up to - 50,000	10
<i>over</i> 50 - 200	15
<i>over</i> 200 - 350	20
<i>over</i> 350 - 500	25
<i>over</i> 500 - 750	35
<i>over</i> 750 – 1,000	45
<i>over</i> 1,000	As established by power line owner/operator

Temporary Power Cords

Regardless of voltage, the following applies to all temporary power cords:

- Temporary power cords/extension cords may not be used as a source of permanent power.
- Do not plug an extension cord into another.
- Temporary power cords in service beyond one (1) shift shall have a tag attached, showing the installer’s name, supervisor’s name/company, contact phone number and date of installation (MM/DD/YYYY).
- Temporary power cords may not be in service beyond ninety (90) days.

Arc Flash Protection-Live Electrical Work

- Prior to performing any work tasks on energized electrical equipment, Contractor will coordinate with their APS Representative in obtaining any required Energized Work Permit from plant Operations.
- At voltage levels 50 volts or greater, shock and arc flash protection is required when doing electrical work that exposes personnel to energized electrical parts within the prohibited approach boundary.
- When performing work on, or associated with, exposed energized equipment at 50 volts or more, the contractor shall ensure an adequate number of employees are First Aid/CPR trained to meet the requirements of either 1910.269 (b) or 1926.951.
- Contractors that will be performing work on electrical equipment shall provide adequate arc flash apparel to their employees while performing arc related activities.
- Under no circumstances will a non-qualified employee be allowed in the proximity of areas where potential Arc Flash is likely.
- During arc related work, signs will be posted or barricades installed to warn personnel of the potential hazard.
- Contractors that are required to remain clear of the area and obey all posted signs and barriers related to arc related activities.
- Contractors performing arc related work are required to place adequate barricades or signage to warn of hazards present.

Switchyard Entry & Exit

Unescorted contractor personnel may enter a plant switchyard area only after receiving permission and meeting **ONE** of the following requirements:

- Be recognized as “Qualified” person & successfully completed the APS “Switchyard Entry/Exit” training course. OR
- Shall be escorted/supervised by a “Qualified” person(s) who has successfully completed the training above during their performance of all assigned work activities

A plant radio shall be available at all times while performing work within the switchyard areas.

When entering any plant switchyard areas the following notifications are required:

- Plant Control Room – This notification should be done by at least one member of the work party and shall include the following information:
 - Individual's name
 - Contractor Name
 - Reason for entry
 - Estimated time in area
 - Contact number or radio channel (cell, control house, or radio)

ECC (Energy Control Center 602-250-1070) – This notification shall be made by the APS authorized representative for **ANY** of the following:

- Performance of work within thirty feet (30') of electrical structures that could have a potential to interrupt operations (i.e., transformers, lolly columns, control houses, overhead bus, transformers, towers, lines)
- Work using any type of aerial equipment
- Performance of trenching and/or excavation
- Performance of work near EHV equipment (rated 325kV and above)

Note: If ECC was notified upon initial entry, it must be contacted upon exit

Some switchyards are monitored and alarmed for security purposes. Before entering these to perform work, access approval must be obtained through your APS Representative with Corporate Security.

Contractor's personnel shall not enter Control Blockhouse buildings unless permission is granted by an APS authorized employee and the tasks require access inside the structure.

Contractor's personnel shall immediately notify the Plant Control Room, if any safety or reliability related concerns are detected once inside the switchyard areas.

When leaving any switchyard area, the designated person in charge of the work is required to notify the Control Room and the APS Representative.

Permission must be obtained from the APS designated representative when wishing to store a vehicle or any material for a job in any switchyard areas.

High Voltage Transformers

- Warnings are in place to ensure that you stay 25 feet from energized transformers.
 - If working within 25 feet of an energized transformer, you are required to wear flame resistant clothing.
 - If you have the need to be closer, contact your APS Representative.
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Asbestos

Some APS power plants have asbestos containing materials in use. These materials may be present in the form of thermal system insulation (piping, boiler walls, etc.), gasketing, duct expansion joints, Transite pipe, Transite cooling tower panels, ceiling panels, roofing materials, and asphalt or vinyl flooring. Products of this or similar types must be assumed to contain asbestos until proven otherwise. Contractor is hereby informed of this potential and notified that contractor is **not to disturb any such materials at any time** unless directed to do so by the APS designated representative. The contractor is also required to notify the APS designated representative anytime it encounters thermal system insulation or surfacing materials which have been disturbed and can potentially release fibers into the work area. OSHA and EPA have enacted rigid health and safety standards designed to minimize exposure to asbestos and these standards must be adhered to by the contractor and its personnel.

Gaskets, packing material (in pumps, valves, motors, etc.) that contractor supplies with its services (either as a separate item or already installed in equipment) must be non-asbestos containing and provide the product verification.

If performing asbestos abatement, requiring a regulated area, Contractor may be required to submit a work plan and previous air monitoring used for any negative exposure assessment, which is to be reviewed by site Safety. All abatement activities will meet the requirements of 29 CFR 1926.1101.

Lead

The contractor shall comply with 29 CFR 1926.62 while performing lead abatement work activities. Contractor may be required to submit a work plan and any previous air monitoring to be used for a negative exposure assessment.

Hexavalent Chromium

The Contractor shall be responsible for identifying Hexavalent Chromium (Chrome (VI)) in its work areas, (notifying its employees of the presence of Chrome VI), training its employees on the methods to detect Chrome VI, monitoring Chromium dust, fumes or mist levels in the work areas, discussing with employees measures that they can take to protect themselves from these hazards, (e.g., appropriate work practices, emergency procedures, and protective equipment to be used), and establishing and enforcing appropriate procedures for the use of proper personal protective equipment and clothing if necessary.

It is the Contractor's sole responsibility to determine the materials its employees will be welding or cutting and to take all required precautions prior to commencing the work activity. Any communication or approvals by APS shall not relieve the Contractor from any and all of its responsibilities regarding Chrome VI.

The Contractor shall comply with (1) the OSHA Hexavalent Chromium standards when it prepares any chrome/stainless steel cutting and welding operations and (2) the OSHA Respiratory Protection standards, if applicable. Respiratory protection will always be required unless the Contractor can demonstrate, in writing, that it has the appropriate historical monitoring data or initial monitoring records indicating that employee exposures are below the action level as defined in the OSHA standards. The Contractor shall make available to APS, if requested, all air monitoring records and to immediately produce to APS all air monitoring or other exposure records which signify or indicate that employee exposures exceed the OSHA PEL.

Temperature Extremes

The contractor will have a program in place to address the effects of temperature extremes.

Prior to the commencement of work during hot weather, contractor leaders and workers must determine if heat will potentially affect workers when performing a task:

- in areas where the ambient temperature exceeds 100°F;
- outdoors when the temperature exceeds 100°F;
- in areas of unusually high humidity.

During cold weather, contractor leaders & employees will determine if work activities present the risk of hypothermia & take appropriate actions to reduce the risk of cold stress illnesses.

Caution and Danger Demarcation – Barrier Tape

The contractor must ensure that its personnel are completely familiar with, and follow, the meaning of the various colored barrier tapes.

It is the responsibility of the individual who puts up the barrier tape and tags to ensure they are maintained during the work activities and removed immediately upon completion of the work or removal of the hazard. Barrier tape is not to be left in place for convenience. Barrier tape and tags will be properly disposed of immediately after use.

Barrier tape shall completely enclose the hazard; tags filled out properly and placed on all sides of the hazard so they are easily recognized. Barrier tape must be readily visible, approximately chest level. Tags must be read each time entry is made to recognize and take appropriate measures for protection from the hazard(s). If the contractor or their employees do not have a job or task in the enclosed area, entry should not be made.

The lack of DANGER or CAUTION tags does not change the meaning of the colored barrier tape.

Red barrier tape with DANGER tags attached indicates a dangerous condition within the taped area and entrance to the taped area is prohibited without the authorization of the individual whose name appears on the DANGER tag. ***Unauthorized entrance into a Red barrier taped area is considered to be a serious safety violation and will not be tolerated.*** If permission to enter is granted, one must first evaluate the hazards and take all measures needed to protect themselves from the hazards prior to entry.

Yellow, or yellow and black, barrier tape with CAUTION tags attached indicates that caution is necessary within the taped area. Entrance is permitted as long as personnel take the necessary precautions to protect themselves from the hazardous condition(s). These precautions may include waiting to enter the taped area until the hazard is corrected or the hazardous operation is completed. If the contractor or their employees do not have a job or task in the enclosed area, and if there is an alternate route, entry should not be made.

Reporting Incidents, Injuries and Close Calls

The contractor shall immediately report all, no matter how minor, close calls, personal injury/illness incidents and any incidents that result in property or vehicle damage to their designated APS Representative and APS site Safety. A written report shall be submitted to the APS Representative and APS site Safety within 24 hours. The written report shall identify causal factors and corrective actions. Corrective actions will detail the contractor's plan to minimize the chance of a similar event from recurring. The contractor shall perform a root cause investigation for any serious event (medical attention or significant damage) or upon the request of APS. The root cause report shall be submitted to plant management, the APS Representative and site Safety by an agreed upon date between APS and the contractor. Performance of a root cause investigation does not preclude the requirement to submit an initial written report within 24 hours of the event.

- The Fossil MMC will also provide immediate notification and related written reports mentioned above to the Fossil Fleet MMC Safety Liaison.

NOTE: If during a plant outage, the plant Outage Manager will also be immediately notified..

APS will assess the incident and provide any necessary reporting to the Arizona Corporation Commission.

For serious incidents (medical attention or damage that requires replacement or reconstruction), a meeting will take place between APS and the contractor to fully understand and communicate the results of the investigation. APS may require a joint investigation to ensure all facts, findings and corrective actions are addressed in a final report.

Contractor shall provide their APS Representative and site Safety with a weekly and monthly report regarding any, no matter how minor, close calls, injuries and incidents. Additional information may be requested by the APS Representative or Fossil Safety to monitor & evaluate the contractor's safety performance.

The contractor will provide the APS Representative and site APS Safety with a log of all OSHA recordable injuries/illnesses that occur to their personnel while performing work at APS, along with the OSHA recordable Incident Rate & DART Rate for their employees during the work. Reporting of the Incident & DART Rates will occur on a monthly basis or end of project, whichever occurs first.

Radiation Safety

The contractor must be aware that APS utilizes radiation sources in density and level gauges located throughout its facilities. These areas are marked with the 'radiation propeller' universal symbol as well as labeling warning personnel to remain a minimum of three feet (3') away. Work necessary within three feet (3') of a source, or damage to a radiation source, requires the contractor to contact the facility's Radiation Safety Officer via the APS designated representative.

Conveyor Safety

- Conveyor Safety Training is required for all contract employees prior to being assigned to work on or around any conveyor equipment.
- This training is intended to provide information about the hazards and precautions associated with working on and around moving belts.

Combustible Dust

- Combustible Dust hazards exist in enclosed coal handling and processing areas of the plant. If work is to be performed in these areas, special precautions shall be taken to prevent ignition or explosion of combustible dust.

- Use Hot Work Procedure to prevent ignition of combustibles.
- No Smoking or open flame while working within coal processing areas.
- Electrical equipment shall be Class II (Dust Proof)
- Contract employees are required to obey all signage posted at the entrances to confined areas such as, coal reclaim tunnels, bottom ash enclosures, or any building within the coal processing area that coal dust can accumulate.
- If there are questions related to working in areas containing combustible dust contact your APS Representative.

Electrical Devices

No personal electronic devices (such as cell phones, iPods, MP3 players, etc.) shall be used while operating any piece of mobile equipment or performing a work task.

CONTRACTOR'S ENVIRONMENTAL REQUIREMENTS

APS expects our contractors and suppliers to act as responsible corporate citizens and take a positive, proactive stance regarding environmental and sustainable issues. We ask that they pursue a policy of continuous improvement and be forthright in sharing relevant information with us. Contractors and suppliers need to understand APS' expectations and manage to them. APS contractors and suppliers must comply with all national and other applicable laws and regulations, and they must require their suppliers do the same. Contractors and suppliers must comply with all APS' requirements specified in the Environmental Section of this document and must conform to all environmental requirements and expectations. Supplier must be aware of our EMS (Environmental Management System) requirements as all APS Fossil sites are ISO 14001 certified.

ISO 14001

Each plant in APS Fossil Generation has achieved ISO 14001 certification and is striving to maintain it. The following policy statement depicts our goals:

Be Environmentally S.M.A.R.T

- **Strive** for continuous improvement
- **Manage** all environmental risk
- **Always** communicate
- **Reduce** environmental footprint
- **Target** beyond compliance

APS Fossil Generation plants in Arizona are regulated by ADEQ and EPA & some must comply with additional county & city requirements. The APS Fossil Generation plant in New Mexico is regulated by the EPA.

All APS Fossil Generation plants must protect the aquifer, navigable water ways and river waters from any contamination. Do not allow any discharges to the water or drains without approval from the Environmental Department

Some of the Environmental programs to be addressed by the contractor include:

AIR QUALITY – The contractor's activities must minimize the creation of dust and Volatile Organic Compound (VOC) emissions. Additionally, the open venting of CFC's (Freon) is prohibited.

DUST CONTROL - Any time a project involves the moving or handling of material likely to product dust, precautions must be taken such as controlling the drop height of material, water suppression, etc. such that the opacity of emissions is less than forty percent (40%) at all times. Plant personnel must document each day the work is done including; the date, type of work, type of equipment used, and the control measures used. Contact the designated APS Representative to obtain the appropriate form.

WATER QUALITY – The contractor must understand that cooling water lakes, nearby washes (wet or dry), etc., may be considered Waters of the United States and, in some cases, are the source of facility drinking water. No discharges or spills at the facilities are allowed unless permitted by the EPA. NPDES (National Pollutant Discharge Elimination System) permits are very specific about what may be discharged. Spills or other material discharges into any drainage systems must be responded to quickly and efforts to minimize or eliminate discharges must be implemented **as soon as possible**. Questions should be referred to the APS designated representative.

Contract shall not discharge water, wastewater or waste into storm drains. Contractor will take measures to avoid tracking dirt or mud onto paved roads, as much as practical. Contractor will store materials under cover and away from storm drains.

CHEMICALS - Contractor shall provide a list of the amount of Persistent-Bioaccumulative and Toxic (PBT) chemicals and Toxic Release Inventory (TRI) chemicals to be brought on site. Once the Service

has been performed, Contractor must provide the amount, in pounds, of the actual PBT and TRI chemicals used.

Any paint on any equipment, parts, etc. must be lead free per ASTM analysis.

UNIVERSAL WASTE - Batteries (Ni-Cd, lithium, and lead-acid), fluorescent bulbs, and mercury-vapor lamps cannot be disposed of in the solid waste roll-off containers. Contact the designated APS Representative for details.

CHEMICAL SPILLS - Contractor is responsible to notify designated APS Representative, Plant Manager, or Environmental Manager/Representative immediately of all spills of chemicals. Environmental laws under the Clean Water Act, CERCLA, SARA and/or RCRA require immediate notification to state and federal agencies when a listed substance is released to the environment in amounts exceeding the Reportable Quantities (RQ). APS Management is responsible to ensure that proper release notifications are made to National Response Center (NRC), local and state emergency response committee (LEPC & SERC) and EPA and ADEQ.

WASTE MANAGEMENT - APS practices waste minimization principles and requires the same of its contractors. Activities that potentially create waste should include recognition of waste minimization, reuse, and recycling principles. This includes proper use of materials during the job as well as after the job is completed in addition to an analysis of how to minimize the waste of left-over products. These principles should be adhered to for both solid and hazardous waste materials generated at a given facility.

Solid wastes include any used or unused materials that are intended to be discarded. Solid wastes can include debris, scrap materials, broken or unusable equipment, empty containers and packaging, chemicals, solvents and any other material that can no longer be used for its originally intended purpose. Some solid wastes may qualify as special or hazardous wastes, and the contractor and APS are jointly responsible for properly identifying and managing solid, special and hazardous wastes.

Solid wastes that do not qualify as special or hazardous wastes must be properly discarded by the contractor in designated dumpsters or other appropriate waste receptacles. The APS designated representative must be consulted for specific directions concerning proper disposal of solid wastes.

Contact the APS Representative for the clean-up and disposal of broken fluorescent bulbs and mercury-vapor lamps. Solvent contaminated rags, sand blast media, asbestos, lead-abatement debris, paint and spent solvent will be handled on a case-by-case basis.

Empty containers must contain less than one inch (1") of liquid residue before being placed in the trash. No liquids are allowed in any trash container.

Special wastes are solid wastes that are subject to additional management standards and disposal restrictions. In particular, asbestos and potentially asbestos containing wastes are subject to a variety of state and federal laws, and must be handled and disposed of by trained APS personnel.

Hazardous wastes are also subject to very restrictive and complex management standards. The contractor is responsible for familiarity with these standards. Hazardous wastes must be managed and disposed of in accordance with all applicable laws, and as specified by the APS designated representative. In the event of a spill, release or discharge of hazardous waste, the contractor shall immediately notify the APS designated representative.

Contact the designated APS Representative for questions about the following wastes: oil spills and spent absorbent, used oil and petroleum contaminated soils. New, un-used material and partially used products to be discarded will be handled on a case-by-case basis.

Aerosol cans (full or empty) must never be put in a dumpster. Aerosol cans must be placed in the proper "Aerosol Waste Cans" container. Contact the APS designated representative for further information.



Attachment "A"

ARIZONA PUBLIC SERVICE COMPANY OCCUPATIONAL SAFETY & HEALTH QUALIFICATIONS OF CONTRACTORS AND SUBCONTRACTORS

Potential Safety & Health Training Requirements Applicable To Contractor / Subcontractor

OSHA 10 Hour Outreach Training Courses

OSHA 10 Hour Outreach Topics – General Industry	OSHA 10 Hour Topics – Construction Industry
Introduction to OSHA - Mandatory	Introduction to OSHA - Mandatory
Walking & Working Surfaces, including fall protection – Mandatory	OSHA Focus Four Hazards (Falls, Electrocution, Struck-By, Caught-In or Between) – Mandatory
Exit Routes, Emergency Action Plan, Fire Prevention Plans & Fire Protection – Mandatory	Personal Protective and Lifesaving Equipment – Mandatory
Electrical – Mandatory	Health Hazards in Construction – Mandatory
Personal Protective Equipment – Mandatory	Cranes, Derricks, Hoists, Elevators, & Conveyors
Hazard Communication – Mandatory	Excavations
Hazardous materials	Materials Handling, Storage, Use and Disposal
Materials Handling	Scaffolds
Machine Guarding	Stairways and Ladders
Introduction to Industrial Hygiene	Tools – Hand and Power
Bloodborne Pathogens	
Ergonomics	
Safety and Health Program	
Fall Protection	

Facility or Task Specific Training

Confined Space Entry	Hazardous Energy Control – Lockout/Tagout
Mobile Crane & Rigging Practices	Respiratory Protection
Safety Related Work Practices-Working with Energized equipment	Hexavalent Chromium (Chrome/stainless steel cutting and welding)
Fall Protection	Aerial Equipment – Manlifts
Vehicle Safety/Driving CMV/Forklift Operation	Excavation and Trenching
Facility Safety/Mobile Equipment	Materials Handling
Hearing Conservation	Scaffolding
Caution and Danger Demarcation	Chemical Control
First Aid and Emergencies	Fire and Emergency Evacuation
Asbestos Awareness	Asbestos Handling/Removal
Lead Awareness	Lead Removal
Tool Safety	Equipment Safety
Construction Ladders and Stairways	Housekeeping
Hazardous Waste Operations	Arsenic Awareness (Boiler Slag)
Radiation Safety	Temperature Extremes