Southern Company Operations

Technical Shared Services (TSS) Projects

Hydro Modernization Projects
Environmental, Health, and Safety Specifications

Date	Approvals	
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1.0 ENVIRONMENTAL, HEALTH, AND SAFETY POLICY

The safety and health of Southern Company's employees, contractors, customers, agents, and the public, as well as the protection of our natural environment, are core values of our company. Therefore, Southern Company's commitment is:

- To meet or surpass all environmental laws, regulations, and permit requirements, and to verify this commitment through environmental auditing.
- To provide a safe and healthy workplace for every employee based on employee involvement, ownership, teamwork, education, and leadership.
- To provide employees with a safe and healthy workplace that meets both regulatory requirements and company standards.
- To ensure all employees are provided the time, resources, and training necessary to perform their jobs safely and in compliance with environmental requirements.
- To value the safety and health of each other, customers, agents, and the public by conducting business in a manner designed to preserve their well-being.

Southern Company will not compromise its moral, ethical, and legal responsibilities to conduct its business in a manner that protects the environment and provides a safe and healthy workplace free from danger, injury, and illness.

ADMINISTRATIVE REQUIREMENTS

NOTE

Sections 2 through 17 identify Southern Company-specific administrative policies, procedures, or practices that must be included in the Contractor's Southern Company-specific EHS manual.

NOTE

Additional requirements may be identified in the Special Conditions section of the Contract.

2.0 CONTRACTOR RESPONSIBILITIES

2.1 General

Contractors shall perform work in a safe manner and comply at all times with all federal, state, county, and municipal laws and regulations which in any manner affect the contract and its performance.

Such laws and regulations include, but are not limited to, all laws and regulations with respect to inspection of the work, inspection of construction equipment, and licensing members of crews with respect to observance of all applicable occupational safety and health standards promulgated pursuant to the federal Occupational Safety and Health Act of 1970.

The Contractor shall have, and exercise full legal responsibility for compliance to safety requirements and regulations by itself, its agents, its employees, and subcontractors with respect to its portion of the work on the project.

The safety of all persons employed by Contractor and its subcontractors on Purchaser's premises, or any other person who enters upon the Purchaser's premises for reasons related to this Contract, shall be the sole responsibility of the Contractor. The Contractor shall always take all reasonable measures and precautions to prevent injuries to or the death of any of its employees, its subcontractors, or any other person who enters upon the Purchaser's premises.

By making references to particular laws and regulations, the Purchaser does not intend to restrict or limit in any way the laws and regulations which apply to the Contractor's performance under the Contract. The Contractor shall be solely responsible for providing for the safety and health of its agents, employees, and subcontractors.

In the event the requirements set forth within this document differ from requirements listed in other applicable procedures, standards, rules, and regulations, the most stringent requirements shall apply.

It is understood that if the employees of the Purchaser shall perform any acts for the purpose of discharging the responsibility undertaken by the contractor, whether requested to perform such acts by the contractor or not, such employees of the Purchaser while performing such acts shall be considered the agents and servants of the contractor subject to the exclusive control of the contractor.

2.2 Reporting

On or before the 5th of each month, the contractor shall submit a report to the Purchaser documenting the safety statistics for the contractor and the contractor's subcontractors, including work hours, number of recordable injuries and illnesses, and the number of lost workday cases for the month, year-to-date, and project-to-date.

2.3 Record Retention Requirements

Contractors shall retain copies of documents and completed forms as directed by the Purchaser.

3.0 SAFETY PLANS

Contractors are required to submit a Hydro Modernization Projects-specific safety plan prior to mobilization.

NOTE

Hydro Modernization Project-specific requirements applicable to sections 18 through 85, General Safety Requirements, that exceed regulatory requirements are presented in red text, and must also be addressed in the Contractor's safety plan.

Upon contract award, a site/plant-specific addendum must be developed that includes at a minimum:

- A hazard communication (HAZCOM) pan.
- An emergency action plan, that includes the following site- and project-specific information:
  - Escape routes.
  - Alarms.
  - Rally points during an evacuation.
  - Medical facility, location, and routing.
  - Emergency contact numbers.
- A list of key Contractor management contacts.

- Documentation showing clearly defined responsibilities of management and supervision.
- A personal protective equipment (PPE) assessment tool.
- A list of competent persons identifying competencies for individuals.
- A spill prevention control and countermeasure plan (SPCC), as required.
- Address-related requirements found in the Special Conditions section of the Contract.

The site- and project-specific plan will be submitted to the contract administrator for review and approval prior to mobilization. The written safety plan will be submitted a minimum of 15 working days before mobilization. An alternate schedule is permitted with a prior agreement from Purchaser site management.

The Contractor's plan shall be maintained and updated throughout the performance of the work. If the work scope for the contractor is amended, the contractor's plan shall be reviewed and revised as necessary to ensure the additional scope is covered.

At the Purchaser's request, the Contractor may be asked to produce and/or comply with a specific plan to address emerging health and safety concerns including, but not limited to, contagion, epidemic, or pandemic.

The Contractor is responsible for ensuring subcontractors produce an EH&S plan that meets or exceeds all requirements referenced in this document.

4.0 SUBCONTRACTOR AND VENDOR MANAGEMENT

When working on a Southern Company project, Contractors and subcontractors shall strictly adhere to the responsibilities assigned to them.

Contractors are responsible for the safety and performance of their subcontractors.

Contractors are responsible for ensuring subcontractors meet all requirements of this document.

Vendors shall adhere to all applicable safety requirements found in this document.

5.0 NONCOMPLIANCE

Noncompliance issues shall be handled as specified in the Contract.

6.0 PLANNING AND HAZARD ANALYSIS

6.1 Hazard Analysis

Contractors are required to perform a documented project hazard analysis to address the hazards specific to the project. A thorough project hazard analysis will identify the

following types of issues and the control methods that will be used to mitigate hazards including, but not limited to:

- Confined spaces and enclosed spaces.
- Radiological sources.
- Hazardous materials (asbestos, lead).
- Biological hazards (sewers).
- Potential explosive atmospheres.
- Electrical hazards (minimum approach distances), including electrical hazards associated with mobile equipment operations.
- Lifting and rigging.
- Heavy equipment operations.

The Contractor's completed hazard analysis will be available to the Purchaser upon request.

6.2 Job Briefing (JSA/PJB/etc.)

Prior to beginning work, Southern Company requires workers to participate in a job safety briefing (JSB), job safety analysis (JSA), prejob briefing (PJB). A common JSA form (English or Spanish) is available for use if the Contractor chooses. Contractors may use their own form provided it is at least as detailed as the common form, provided the Contractor has submitted their JSA form for review and approval by site management. Contractors may use their own form in addition to the common form.

- Conduct a documented JSA prior to any activity involving hands-on work, material movement, field inspections, or work in a potentially hazardous environment.
- The purpose of a JSA is to validate workers understand the scope of the work, have discussed specific roles and responsibilities, have fully identified potential hazards and risks, and are properly prepared to perform their assigned work tasks safely and incident-free.
- The employee in charge or designated crew member shall conduct the JSA with the workers involved before they start each job.
- The time and location selected for conducting a JSA should minimize distractions that could reduce the effectiveness of the briefing.
- Worker proficiency with equipment to be used or worked on should be discussed as well as each worker's defined roles.
- Each JSA will clearly define the job scope, including details of items that are not within the scope and any specific stopping points.
- Additional job safety briefings may be conducted at any time during the performance of a job and can be a valuable tool to refocus a team from one task to another.
- If work is stopped for an extended break, interruption, delay, or incident, the work team shall review the job safety briefing prior to resuming work.

7.0 [SECTION RESERVED]

8.0 INCIDENT MANAGEMENT

8.1 Notification and Investigation

The Contractor will immediately report to the Purchaser all injuries, illnesses, and incidents resulting in property damage, fires, crane incidents, personnel falls, near hits and all environmental spills arising out of or in connection with the performance of the contractor and the contractor's subcontractor's work.

For all incidents, an initial report is required within 24 hours with initial information and determination of incident severity. For injury incidents, the initial report shall include a preliminary determination, that is, first aid, doctor visit, recordable, lost time, and other information of immediate importance. This report may be made via email or the Contractor Incident Notification and Investigation Report form.

When requested by Purchaser, the results of the Contractor's full investigation shall be documented in a final report and shared with Purchaser within 7 calendar days of the event. The Contractor's report will include an adequate explanation of who, what, when, where, how, and why along with a final injury classification determination, and corrective actions to prevent similar events. All supporting documents, including, but not limited to, JSAs, photographs, witness statements (unless privacy is a concern), damage estimates, training documents, certifications, and so forth, are to be included with the final report. All employee personal identification information such as Social Security numbers and driver's license numbers should be redacted from the final report.

A copy of the OSHA 300 and 300A log(s) will be provided to the Purchaser upon request.

8.2 Root Cause Analysis / Event Learning

In addition to the investigation report, a formal root cause analysis (RCA) performed by the Contractor may be required for, but not limited to:

- An incident resulting in injury(-ies) classified as OSHA Recordable.
- Lost workday case.
- Damage to plant equipment affecting reliability.
- A reportable environmental incident.
- Upon request by Purchaser.

Exceptions to the above list may be granted by the Purchaser based on the circumstances of the case.

8.2.1 Event Learning

Event Learning exercises may be used for certain events. These may include the above listed types as well as those incidents that have been classified as having a high

potential for serious injury or fatality (PSIF). Upon the Purchaser's request, the Contractor will cooperate and make available all necessary personnel and resources to complete the exercise.

NOTE

While employee discipline is solely the Contractor's responsibility, employers should consider delaying disciplinary actions until all investigation and event learning activities are complete.

8.3 Best Practices / Lessons Learned

Contractors are encouraged to develop, identify, and share Best Practices and Lessons Learned from previous incidents and past experience through the Southern Safety Trilateral - Industry Best Practices page.

9.0 TRAINING

Contractors are responsible for meeting the requirements found in 29 CFR 1926.21, Safety training and education. In addition, Contractors will meet the following requirements:

- The Contractor to participate in the completion of the Southern Company Safety and Health Orientation Checklist and site-specific training at time of mobilization and comply with the requirements.
- The Contractor to provide site-specific safety and health orientation for the general craft.
- The Contractor to provide site-specific safety and health orientation refresher on an annual basis.

  – The Purchaser will provide a Contractor Designee(s) with the required Lockout/Tagout Procedure Awareness Training and access to the Lockout/Tagout Training Video. The Contractor Designee(s) will be responsible to perform training for his or her employees using the materials provided. The Southern Company lockout/tagout procedure, SCG-SH-0201, Lockout/Tagout (LOTO) Procedure, is in compliance with OSHA 1910.147, Lockout/Tagout, and OSHA 1910.269 (the OSHA Standard governing electric utility work). These procedures provide a system of accountability for nonplant personnel and maintains communications between working parties. Strict adherence to the LOTO procedure is a condition of employment for everyone working on plant equipment at Southern Company facilities. Violation of the procedure will lead to being barred from all Southern Company facilities. The applicable lockout/tagout procedure will be communicated to Contractors during the prebid and plant safety orientation. The Southern Company contract administrator will provide additional details.

- Provide hazard recognition training.

- When specified by Contract, front-line supervisors (foreman and above) to receive Southern Safety Trilateral Front-Line Supervisor's Training.

  - The Contractor may arrange for the training through Bevill State Community College or may elect to have one or more representatives attend the SST Train the Trainer course and provide the course curriculum themselves.
  - Bevill State Community College will proctor all testing.
  - Regardless of method selected, all training shall be provided prior to assignment of supervisory responsibilities. Exception based on emergency work and unforeseen manpower needs, such as during a forced outage, may be granted by the Purchaser.
  - Training term is valid for 36 months after which a refresher session is required.
  - Additional information can be found at the Southern Safety Tri-Lateral's website:

    www.southernsafetytrilateral.com

9.1 Training Matrix

The Contractor shall maintain a training matrix that lists the employees' names, training types, dates of training, instructors, and other pertinent information. The matrix shall be available for review by the Purchaser upon request.

10.0 REGULATORY AGENCY INSPECTIONS / REGULATORY AGENCY COMPLAINTS

Southern Company practice is to admit any lawfully delegated government employee who, upon presentation of proper credentials from a local, state, or federal regulatory agency, has the authority to conduct a site or facility inspection. Contractors will not admit regulatory agency inspectors to Southern Company property. Each site will have site-specific protocol to follow in the event of a regulatory agency inspection. Contractors will immediately notify the Purchaser representative of **any** regulatory agency interaction stemming from their work or presence on a Southern Company site. The Purchaser will admit regulatory agency compliance officers after their credentials have been verified. A designated Purchaser's representative shall then escort the inspector to an appropriate location to discuss:

- The nature of the inspection, whether it is random, scheduled, or complaint. If the inspection is due to a complaint, the Purchaser's representative shall request a copy of the compliant.
- The name of the Contractor (if applicable), activity, and personnel being inspected.
- Scope of the inspection: Complaint limited to a specific Contractor, activity, or area.
- The role of Southern Company or the operating company as the site owner will be clarified and each employer working on the site has responsibility for his or her own regulatory compliance.
- The Southern Company or operating company's representative shall request to be present during the opening conference, field inspection, and closing conference involving site Contractors.

Contractors will notify Purchaser's site management if the Contractor receives an inquiry from OSHA regarding an employee complaint arising from activities related to their scope of work. The Contractor will investigate the complaint and share his or her response to OSHA with the Purchaser prior to its submittal.

11.0 NON-ENGLISH-SPEAKING WORKFORCE

The Contractor shall ensure an English-speaking representative of the Contractor is always provided for non-English-speaking contractor employees and its subcontractors ("contractor workers"). The representative must have the ability to communicate with and translate the foreign language of all non-English-speaking contractor workers to ensure the ability to communicate vital information is readily available. If the non-English-speaking contractor workers are divided into work groups, the Contractor is responsible for providing an English-speaking representative for all work groups so vital information is still readily communicated to all non-English-speaking contract workers.

The Contractor represents and warrants that they have communicated and translated to all non-English-speaking workforce, including all information and training required by applicable laws and regulations and all other safety and health requirements, in addition to all job-related duties of the contract. These requirements include, but are not limited to:

- OSHA requirements.
- The Contractor's safety program.
- Contractual safety requirements.
- Job safety analysis (JSA) or similar prejob safety briefing.
- Procedures and work instructions.
- Safety Data Sheets (SDS).
- The project-specific safety plan for the work to be performed for the Purchaser.
- Any relevant hazards and special site conditions the Purchaser has notified the Contractor may be encountered by the Contractor or the Contractor's workforce.

12.0 STOP WORK AUTHORITY

Contractors shall adopt the Southern Safety Trilateral Stop Work Authority program.

http://www.southernsafetytrilateral.com/stop-work-authority.html

13.0 EH&S ASSESSMENTS

Each Contractor shall conduct a weekly field EH&S inspection of his or her work area(s) and those of his or her subcontractor(s). The Contractor shall document the inspection findings and the appropriate corrective actions. The report shall be made available to the Purchaser upon request.

14.0 EH&S STAFFING

The Contractor shall provide individual(s) who have the requisite knowledge, training, and experience to serve as the Contractor's environmental, health, and safety (EH&S) resource/professional(s) for the project.

The Contractor shall submit the qualifications of the EH&S resource/professional(s) to the Purchaser for approval prior to assigning the individual(s) to the jobsite.

The Purchaser reserves the right to reject and/or request replacement of any EH&S resource/professional.

Additional site-specific criteria, including the minimum number of EH&S personnel, may apply and will be listed in the Special Conditions section of the Contract.

15.0 [SECTION RESERVED]

16.0 DEVIATION REQUESTS

Deviation from Hydro Modernization Project-specific requirements must be approved by the Purchaser. Deviation requests must include the following:

- Justification for the request.
- Engineering or administrative controls to be implemented to ensure an acceptable level of risk for the operation.
- Whether the deviation is a one-time event or for the duration of the project.

Any deviation requires the following approvals from the Purchaser:

- Project manager.
- Site manager.
- Site safety and health manager (if applicable).
- Regional safety and health manager.

Contractors may use the Hydro Modernization EH&S Deviation Request Form or equivalent for submissions.

17.0 [SECTION RESERVED]

GENERAL SAFETY REQUIREMENTS

NOTE

Hyperlinks to regulatory standards are provided in blue text as a convenience to the Contractor. No representation is made by the Purchaser that the referenced standards are all inclusive. It is the Contractor's responsibility to ensure they meet or exceed all federal, state, or local regulatory requirements.

NOTE

Hydro Modernization Project-specific requirements applicable to sections 18 through 85, General Safety Requirements, that exceed regulatory requirements, are presented in red text, and must also be addressed in the Contractor's safety plan.

18.0 HOUSEKEEPING

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.25, Housekeeping
29 CFR 1910.22, General requirements

In addition, the following Hydro Modernization Project-specific requirements apply:

- The use of glass bottles will be allowed only in designated lunch and break areas.
- Extension cords, wires, and electrical cables shall be kept in an elevated position (7 ft or more above the walking-working surface) or routed outside of aisleways and walkways where they pose no potential danger to personnel and are not likely to be damaged by activities or equipment.

19.0 SANITATION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.51, Sanitation
29 CFR 1910.141, Sanitation

In addition, the following Hydro Modernization Project-specific requirements apply:

- Contractors shall provide, with Purchaser approval, designated areas for consumption of food and drink.
- Contractor should be prepared to provide potable water to their workforce through use of bottled water, filtration of existing water supplies, or other acceptable means.

20.0 ILLUMINATION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.56, Illumination

In addition, the following Hydro Modernization Project-specific requirements apply:

Contractors shall consider areas that employees travel through while traversing to work locations as general construction areas and provide lighting per 29 CFR 1926.56, Lighting, table D3.

21.0 MATERIAL STORAGE AND HANDLING

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.250, General requirements for storage
29 CFR 1926.251, Rigging equipment for material handling
29 CFR 1910.176, Handling materials – General

In addition, the following Hydro Modernization Project-specific requirements apply:

- When a difference in road or working levels exist, means such as ramps, blocking, or grading shall be used to ensure the safe movement of vehicles between the two levels.
- One person shall not be allowed to manually lift more than 50 lb of material at one time.
- If a load exceeds 50 lb, or the size and shape prevent safe handling or traveling, mechanical help or help from other employees is required.

22.0 ACCIDENT PREVENTION SIGNS AND TAGS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.200, Accident prevention signs and tags
29 CFR 1910.144, Safety color codes for marking physical hazards
29 CFR 1910.145, Specifications for accident prevention signs and tags
ANSI D6.1-20xx, Manual Uniform Traffic Control Devices

23.0 BARRICADES

Contractors shall follow the requirements set forth in Southern Company Operations procedure SCO-SH-0900, Barricades.

24.0 LADDERS AND STAIRWAYS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.1052, Stairways
29 CFR 1926.1053, Ladders
29 CFR 1910.25, Stairways
29 CFR 1910.23, Ladders

In addition, the following Hydro Modernization Project-specific requirements apply:

- Portable metal ladders shall not be used on Hydro Modernization Projects.
- All manufactured ladders shall be extra-heavy-duty type 1A.
- A quarterly, documented inspection by a competent person is required for all portable ladders. Documentation must be available for review by the Purchaser, upon request. A sample ladder inspection form is available.
- Only light, temporary work should be performed from ladders.
- A worker on a ladder shall maintain three points of contact with the ladder (one had and two feet or two hands and one foot), and the worker's body must be centered within the vertical rails of the ladder.
- When the ladder user is 4 ft or more above lower levels, the stepladder shall be secured, or a coworker shall hold the ladder.
- For work over 4 ft above lower levels, Contractors are encouraged to evaluate for fall potential and document safe work practices on the JSA.

25.0 SCAFFOLD SAFETY

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.27, Scaffolds and rope descent systems
29 CFR 1926 Subpart L, Scaffolds

In addition, the following Hydro Modernization Project-specific requirements apply:

Contractors shall follow the requirements set forth in Southern Company Generation procedure SCG-SH-0700, Scaffold Safety Procedure.

NOTE

SCG-SH-0700 will be replaced by SCO-SH-0700, Scaffold Safety Procedure, when approved. Contractors will be notified of the change.

26.0 FALL PROTECTION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926 Subpart M
29 CFR 1910.28, Duty to have fall protection and falling object protection
29 CFR 1910.29, Fall protection systems and falling object protection - criteria and practices
Sample Fall Protection Plan

In addition, the following Hydro Modernization-specific requirements apply:

- Southern Company requires 100-Percent Fall Protection for all elevated work 4 ft or more above a lower level including when there is the potential for a fall into hazardous machinery or equipment. Specific operations excepted from this requirement include:

  - Regular service, inspection, maintenance of mobile construction equipment where the manufacturer designates personnel access and provides steps, handholds, ladders, and guardrails/railings/grabrails meeting the criteria of ISO 11660:2008(E), ISO 2867:2011(E), or SAE J185, and walking/stepping surfaces with slip-resistant properties; or, on cranes, where the employee is at or near the draw-works when the equipment is running, in the cab, or on the deck.
  - Loading/offloading of flatbed trailers while standing directly on the trailer bed surface.

- Before starting any work at an elevated position, the Contractor shall submit a written fall protection and prevention program to the Purchaser for review.
- The use of personnel-owned fall arrest equipment is strictly prohibited.
- Alternative methods of fall protection systems such as safety nets and positioning devices shall not be used as primary means of protection.
- Snap hooks and/or carabineers shall be of the double-action, self-locking type with a minimum gate strength of 3,600 lb.
- Controlled access zones for fall protection are prohibited.
- The warning line system and safety monitoring system are prohibited.
- At a minimum, the fall protection competent person shall inspect fall protection systems on a monthly basis. The monthly inspection shall be documented and made available for review upon request by the Purchaser.

27.0 STEEL ERECTION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926 Subpart R, Steel erection
29 CFR 1926 Subpart CC, Cranes and derricks in construction
Section 26.0, Fall Protection
Section 28.0, Rigging and Lift Plans
Section 30.0, Chains, Slings, and Miscellaneous Rigging Accessories
OSHA Steel Erection eTool

In addition, the following Hydro Modernization Project-specific requirements apply:

- The Contractor must submit a written steel erection plan for review by the Purchaser prior to the commencement of any steel erection activity.

  - Unless otherwise agreed upon between the Purchaser and the Contractor, the steel erection plan must be submitted a minimum of 2 weeks prior to the commencement of activity.

- Protection of roof and floor holes shall follow the requirements of SCO-SH-0910, Floor Opening, Wall Opening, and Guardrail Removal, as they are created.
- The steel erection Contractor shall submit written installation plans for floor grating and Q-decking for approval. The plan shall include details such as, but not limited to, sequencing and fall protection practices.
- The use of modularization and opportunities where components can be joined at ground level is encouraged to minimize risk.
- Employees are not allowed to climb the columns of structural steel.

28.0 RIGGING AND LIFTING

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.251, Rigging equipment for material handling
29 CFR 1926.554 (a)(2), Overhead hoists; General requirements
29 CFR 1926, Subpart CC, Cranes and derricks in construction
29 CFR 1926, Subpart R, Steel erection
29 CFR 1926.1432, Multiple-crane derrick lifts – Supplemental requirements

In addition, the following Hydro Modernization Project-specific requirements apply:

Contractors shall follow the requirements of SCO-SH-0812, Rigging and Lifting.

A rigging and lifting planning form for critical lifts is available.

A prelift worksheet for intermediate lifts is available.

29.0 CRANE-SUSPENDED PERSONNEL PLATFORMS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.500, Subpart M, Fall protection
29 CFR 1926, Subpart CC, Cranes and derricks in construction
ANSI A10.4, Current Safety Requirements for Workman's Hoist
ASME B30.23 Personnel Lifting Systems

In addition, the following Hydro Modernization Project-specific requirements apply:

- The Contractor shall provide documentation for evaluation of alternate methods of reaching the work location and provide documentation to the Purchaser for review. A sample form for evaluating alternate lifting methods is available.
- The Contractor's site manager shall provide documentation authorizing the use of a suspended personnel platform on a per task basis to the Purchaser for review. A sample authorization form is available.
- The Contractor shall have a method of documenting pre-use inspection of suspended personnel platforms by the designated competent person and provide documentation to the Purchaser for review. A sample pre-use inspection form is available.

- While welding from a crane-suspended personnel platform, only nonconductive polyester round slings or insulating links shall be used to make the final attachment from the platform rigging to the hoisting block. The same requirement shall be met for the secondary safety line from the basket to its final attachment point.
- A separate grounding conductor that is at least the size of the welding lead shall always be connected from the crane-suspended platform to the structure while the welding machine is operating.
- The platform-to-structure grounding is in addition to the grounding conductor required by the welding process. The ground attachment shall be a spring-loaded clamp or magnetic ground.

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.176, Handling materials – General

30.0 CHAINS, SLINGS, AND MISCELLANEOUS RIGGING ACCESSORIES

29 CFR 1910.176, Handling materials – General
29 CFR 1910.184, Slings
29 CFR 1926.251, Rigging equipment for material handling
29 CFR 1926, Subpart CC, Cranes and derricks in construction
ANSI/ASME B30.9 – Slings
ANSI/ASME B30.10 – Hooks
ASME B30.20 Below-the-Hook Lifting Devices (current revision)

In addition, the following Hydro Modernization Project-specific requirements apply:

- The Contractor shall develop and provide details of their process for rigging inspection verification (such as monthly/quarterly color codes, and I.D. tags). A sample chain fall and come-a-long inspection form is available.
- The following requirements for beam clamps, plate clamps, and eyebolts shall be strictly adhered to:
  - Workers shall be trained to the manufacturer's make/model specific use instructions and specifications.
  - The Contractor shall maintain a roster of qualified personnel and provide it to the Purchaser upon request.
  - The Contractor shall have a documented method for inventory control and restricted storage to ensure only properly trained and authorized personnel may use with logging process.
  - On TSS projects, the Contractor is prohibited from using beam clamps used in a below-the-hook configuration. Deviation may be approved by the Purchaser provided the clamps are designed for a below-the-hook application and the Contractor provides a detailed plan on how they will ensure proper use.
  - The Contractor shall use only positively self-clamping and locking type plate grips.
  - The Contractor shall use tag lines to control all loads.

31.0 CHAIN HOISTS, LEVER HOISTS, AND JACKS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.241 (d), Jacks
29 CFR 1910. 244, Other portable tools and equipment
29 CFR 1926. 305, Jacks - Lever and ratchet, screw and hydraulic

In addition, the following Hydro Modernization Project-specific requirements apply:

Documented inspections shall be made available to the Purchaser for review upon request.

32.0 HANDTOOLS AND POWER TOOLS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.243, Guarding of portable power tools
29 CFR 1910.213, Woodworking machinery requirement
29 CFR 1910.215, Abrasive wheel machinery
29 CFR 1926.300, Tools - Hand and power - General requirements
29 CFR 1926.302, Power operated handtools
29 CFR 1926.303, Abrasive wheels and tools
29 CFR 1926.304, Woodworking tools

In addition, the following Hydro Modernization Project-specific requirements apply:

- Power tools shall be unplugged or the battery removed when the tool is left unattended, when no longer in use for extended periods, or while workers change tool heads, blades, guards, and so forth.
  - Mag-Drills installed in vertical position or inverted horizontal position are exempted.
- GFCI protection is required for all power tools.
  - GFCI protection is required at the outlet or source.
  - Mag-Drills are exempted.
- Documented inspection by a competent person to be made available to the Purchaser for review, upon request.
- Angle grinders must incorporate an integrated brake, slip clutch and be equipped with a nonlocking dead-man-type switch. Assist handles and guards supplied by manufacturer must be installed, adjusted properly, and used at all times.
- Contractors shall establish rules restricting the use of grinders where a bandsaw or other cutting tool would be the safest option.
- When working with a grinder, the operator and anyone in the immediate vicinity shall wear faceshields and appropriate safety glasses or goggles.
- Workers shall not alter tools without the manufacturer’s approval.

- Job-fabricated specialty jigs, fixtures, and tools must be specifically engineered and fabricated by a qualified person.
- The use of a pocketknife in performance of a work-related task is prohibited.

33.0 EXCAVATION AND TRENCHING

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926 Subpart P, Excavations
29 CFR 1926.651, Specific excavation requirements
29 CFR 1926.652, Requirements for protective systems

In addition, the following Hydro Modernization Project-specific requirements apply:

- The Contractor to notify the Purchaser a minimum of 7 working days prior to performing any trenching, excavation, boring, or soil improvements. Purchaser approval is required before performing this work.
- The Contractor shall be responsible for locating any underground utilities prior to performing any trenching or excavation activity. The estimated location of underground utility installations such as sewers, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered shall be determined and marked prior to beginning any excavation or trenching operation. The appropriate state utilities protection center (811 call center), proper utility company, or owner shall be notified 72 hours prior to excavating.
- Underground utilities shall be protected from damage during trenching and excavation activities.
- Soil classification shall be made by the Contractor's competent person or a registered professional engineer (P.E.) trained in soil classification. Unclassified soil shall be assumed to be type C. The Contractor shall keep written documentation on the methodology used to determine soil classification, and on request, make the record available to the Purchaser for review upon request.
- Fall prevention and/or fall protection systems shall be in place to protect workers in excavations that are not sloped or have vertical wall where a fall potential of greater than 4 ft exists.
- The Contractor shall have a process that includes documented inspections by a competent person. The competent person’s documented inspection shall occur daily before any personnel enter the excavation.
- Workers exposed to vehicular traffic operating in the area of excavations or trenches shall be provided with and instructed to wear warning vests or other personal protective equipment marked with or made of reflective or highly visible material.
- The Purchaser will not provide a rescue team. The Contractor must plan for and provide for rescue services and equipment. Rescue team(s) shall be established to fulfill the needs and requirements of the site/facility and regulatory requirements.

34.0 [SECTION RESERVED]

35.0 [SECTION RESERVED]

36.0 WELDING, CUTTING, AND HEATING OPERATIONS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.350, Gas welding and cutting
29 CFR 1926.351, Arc welding and cutting
29 CFR 1926.352, Fire prevention
29 CFR 1926.353, Ventilation and protection in welding, cutting, and heating
29 CFR 1926.354, Welding, cutting, and heating in way of preservative coatings

In addition, the following Hydro Modernization Project-specific requirements apply:

Contractors shall follow the requirements set forth in Southern Company Generation procedure SCG-SH-0410, Hot Work.

- Soft cap welding is allowed only when no overhead hazard is present.

37.0 [SECTION RESERVED]

38.0 COMPRESSED GAS CYLINDERS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.101, Compressed gases (General requirements)
29 CFR 1910.253, Oxygen-fuel gas welding and cutting
29 CFR 1926.350, Gas welding and cutting

In addition, the following Hydro Modernization Project-specific requirements apply:

- Compressed gas cylinders shall be stored and used in the upright position.
- Cylinders shall be secured with a noncombustible material to provide maximum stability and prevent them from falling.
- Cylinders shall not be secured by their valves or collars.
- Cylinders shall be placed in carts or storage racks only.
- Cylinders must be secured within and hoisted in racks, carts, or similar devices specifically designed for hoisting compressed gas cylinders.

NOTE

Slings manufactured and marketed for hoisting of compressed gas cylinders are not permitted as their use is considered a violation of the OSHA standard 29 CFR 1910.253(b)(5)(ii)(A) and 29 CFR 1926.350(a)(2).

39.0 [SECTION RESERVED]

40.0 WORKING OVER OR NEAR WATER

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.269 (w)(5), Protection against drowning
29 CFR 1926.106, Working over or near water

In addition, the following Hydro Modernization Project-specific requirements apply:

- A personal floatation device (PFD) labeled FOR RECREATIONAL USE ONLY shall not be used.
- A PFD labeled FOR RECREATIONAL AND COMMERCIAL USE is acceptable.
- The PFD must be appropriately sized for the individual and worn per the manufacturer's requirements.

41.0 COMMERCIAL DIVING OPERATIONS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910, Subpart T, Commercial diving operations

In addition, the following Hydro Modernization Project-specific requirements apply:

- Contractors shall follow the requirements set forth in SCG-SH-0610, Commercial Diving Operations Checklist.
- Prior to the beginning of dive operations, the Contractor-developed dive plan shall be submitted to the Purchaser for review, and the Purchaser will complete the Commercial Diving Operations Checklist (SCG-SH-0610).

42.0 DEMOLITION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart T, Demolition
29 CFR 1926.850, Preparatory operations
29 CFR 1926.851, Stairs, passageways, and ladders
29 CFR 1926.853, Removal of material through floor openings
29 CFR 1926.854, Removal of walls, masonry sections, and chimneys
29 CFR 1926.855, Manual removal of floors
29 CFR 1926.856, Removal of walls, floors, and material with equipment
29 CFR 1926.857, Storage
29 CFR 1926.858, Removal of steel construction
29 CFR 1926.859, Mechanical demolition
29 CFR 1926.860, Selective demolition by explosives
29 CFR 1926, Subpart CC, Cranes and derricks in construction
29 CFR 1926.1101, Asbestos
29 CFR 1926.1153, Respirable crystalline silica
SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

In addition, the following Hydro Modernization Project-specific requirements apply:

- Before the start of demolition operations, the Contractor shall submit a predemolition engineering survey to the Purchaser for review. A sample predemolition engineering survey form is available.
- The Contractor shall document the required daily demolition inspection by a competent person. Documentation shall be available for review by the Purchaser upon request. A sample demolition daily checklist is available.

43.0 CONCRETE AND MASONRY CONSTRUCTION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart Q, Concrete and masonry construction

In addition, the following Hydro Modernization Project-specific requirements apply:

When a concrete pump truck is used for concrete placement, the concrete placement subcontractor shall be responsible for adherence to the below tasks.

Establish proper placement of concrete pump truck to include:

- Adequate ground support to support the pump truck and concrete truck.
- Adequate accessibility by concrete trucks.
- Adequate working distances from any obstructions, such as overhead obstructions or power lines.
- Traffic/equipment control needs (such as flaggers or spotters).
- A “clean out” area.
- Ensure safe distance from the edge of any excavation, as determined by the Contractor’s competent person, is maintained.

44.0 [SECTION RESERVED]

45.0 LINE BREAK

The following Hydro Modernization-specific requirements apply:

SCG-SH-0201, Lockout/Tagout (LOTO) Procedure.

The Contractor shall develop a line break permitting system for:

- The initial opening of a piping system.
- Subsequent opening of an undrained system.
- Hot tap tie-ins.
- Any unknown or abandoned piping system.

A sample line breaking permit is available.

46.0 FALLING OBJECT PROTECTION

The following Hydro Modernization Project-specific requirements apply:

The Contractor is responsible for developing a written plan that provides for falling object hazard prevention for work activities performed over sensitive equipment or lower levels where personnel could be subject to hazards from falling objects. Some methods of hazard prevention for consideration include, but are not limited to:

- Lanyards and tethers for handtools.
- Canvas-type bolt bags.
- Load slings and tag lines for crane-lifted loads.
- Barricades or ground man to prevent personnel from entering an area where falling objects can occur.
- Canopies, catch platforms, and debris nets.
- Scaffolds.
- Housekeeping.
- Training, including job safety analyses (JSAs).

47.0 CONFINED SPACE ENTRY

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.146, Permit required confined spaces
29 CFR 1926, Subpart AA, Confined spaces in construction

In addition, the following Hydro Modernization Project-specific requirements apply:

- SCG-SH-0100, Safe Work Procedures for Confined Spaces (most current revision).
- The Purchaser will not provide a rescue team. The Contractor must plan for and provide for rescue services and equipment. Rescue team(s) shall be established to fulfill the needs and requirements of the site/facility and regulatory requirements.

NOTE

When approved, SCO-SH-0100, Confined Spaces and Enclosed Spaces, will replace SCG-SH-0100. Contractors will be notified of the change.

48.0 FLOOR OPENING, WALL OPENING, AND GUARDRAIL REMOVAL

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.21, Walking-working surfaces
29 CFR 1926.502(b), Fall protection systems criteria and practices
29 CFR 1926.501(b)(4)(ii), Duty to have fall protection, holes

In addition, the following Hydro Modernization Project-specific requirements apply:

SCO-SH-0910, Floor Opening, Wall Opening, and Guardrail Removal

49.0 [SECTION RESERVED]

50.0 PERSONAL PROTECTIVE EQUIPMENT (PPE) (COVER ALL PPE CATEGORIES)

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.132, Personal protective equipment
29 CFR 1926.95, Criteria for personal protective equipment

In addition, the following Hydro Modernization Project-specific requirements apply:

- PPE shall be required at the point of entry of the work area and maintained throughout the work area. PPE free zones may be identified in site-specific safety plans.
- The Contractor's written PPE assessment shall cover all PPE categories appropriate to the contractor's scope of work and shall be available to the Purchaser for review upon request. A sample PPE assessment form is available.
- Minimum PPE requirements:

Hardhats	• Hardhats must meet Z89.1 and/or Z89.2. • Workers potentially exposed to any voltage shall wear a hardhat that meets Di-electric standards. • Hardhats shall be worn with the bill facing forward. Welders shall wear their hardhats with the bill facing forward when not welding. • Hardhats will have the following information affixed: – Name of employee and Contractor. – Other such information as required by Site Security. • Soft cap welding is allowed only when no overhead hazard is present. See section 36.0, Welding, Cutting, and Heating Operations.
Safety glasses	• Z87.1-rated safety glasses with side shields or equivalent. Glasses tinted beyond indoor/outdoor (dark tinted) glasses may not be worn indoors. • Contractors shall develop a list of approved protective eyewear types based on tasks and hazards. This list shall be provided to the Purchaser on request.
Footwear	Foot protection shall meet the requirements in ANSI Z41-1991, Safety Toe Footwear.

Clothing	• Shirts with minimum 4-in. sleeves. • Long trousers (no shorts). • High visibility clothing (T-shirt/vest) at a minimum. Workers exposed to vehicular traffic shall wear a high visibility vest meeting ANSI Class II standards. • Arc flash protective clothing when exposed to arc flash potentials.
Gloves	Appropriate gloves for the task to be performed, for example, cut/puncture-resistant, impact protection, chemical-resistant.
Hearing protection	Hearing protection in accordance with OSHA/facility requirements.

51.0 FIRE PROTECTION AND PREVENTION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart F, Fire protection and prevention

In addition, the following Hydro Modernization Project-specific requirements apply:

- Fire extinguishers shall be located on all self-propelled equipment.
- Open-flame burn barrels, burning scrap wood piles, and so forth are prohibited.
- Solid fuel “salamanders” are prohibited.

MAJOR EQUIPMENT

52.0 QUALIFYING EQUIPMENT OPERATORS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart CC, Cranes and derricks in construction
29 CFR 1910.178, Powered industrial trucks
29 CFR 1910.179, Overhead and gantry cranes

In addition, the following Hydro Modernization Project-specific requirements apply:

- Each worker shall have a valid state driver's license to operate mobile equipment or vehicle including utility carts. Mobile elevated platforms are exempted.
- Workers who are assigned to operate mobile equipment shall be trained in the operation and use of the specific piece of equipment.
  - Worker training shall include a written and practical examination demonstrating the worker's ability to safely operate and inspect the mobile equipment. For mobile elevated work platforms, training shall be based on group and type. See section 56.0, Mobile Elevated Work Platforms (Aerial Lifts) and Bucket Trucks.
  - The training, written test, and practical examination shall be conducted and documented by a supervisor designated as an equipment competent person, a recognized outsourced representative, or a manufacturer's representative.
  - After completion of the training and successfully demonstrating competence in the operation of the mobile equipment, the worker shall be issued a written authorization by his or her employer to operate the mobile equipment. A sample equipment operator authorization form is available.
- A worker shall be retrained if there is any reason to believe he or she does not possess the knowledge or skills required to work safely. The following circumstances require retraining:
  - Workplace changes that render the previous training obsolete.
  - The worker demonstrates lack of knowledge of mobile equipment or safe working procedures.
- The Contractor shall maintain a list of authorized employees and the equipment they are trained and authorized to operate. This list shall be made available to the Purchaser upon request.
- The Contractor shall maintain and keep available for review a record of the training, practical examination results, and written authorizations for the Contractor's workers.
- For cranes that are covered by 29 CFR 1926 Subpart CC, Cranes and derricks in construction, all crane operators shall meet the following requirements:

  - Be qualified in strict compliance with 29 CFR 1926 Subpart CC, Cranes and derricks in construction, for third-party certification of operators.
  - Have current certification and hold a license for the class of crane to be operated. The certification shall be issued by a nationally recognized certifying agency, accredited by a nationally recognized agency, such as the National Commission for Certifying Agencies (NCCA).
  - Pass the following examinations and tests:

    - A preassignment physical examination conducted per the requirements of ASME B30.5 (current version).
    - A written examination on the specific make and model.
    - A functions test on the actual piece of equipment to be assigned.

- For “house” cranes covered by 29 CFR 1910.179 Subpart N, all operators shall meet the following requirements:

  - Operators shall receive initial training and pass a demonstrated skills test prior to being qualified to operate an overhead and gantry “house” crane.
  - Training can be conducted by a Contractor’s representative who meets the requirements of a qualified person and has been deemed by the Contractor as a competent person.
  - The training shall include a review of the unique requirements for specific cranes to be operated.

- Operators shall be retrained under any of the following circumstances or at the discretion of the Purchaser:

  - The operator is observed operating a crane in an unsafe manner.
  - The operator is involved in an accident involving overhead and/or gantry cranes.

53.0 CRANES, DERRICKS, AND POWERED HOISTS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart CC, Cranes and derricks in construction
29 CFR 1910.179, Overhead and gantry cranes
29 CFR 1910.180, Crawler locomotive and truck cranes
29 CFR 1910.181, Derricks

Prior to the operation of any crane, the Contractor shall submit operator certification documentation to the Purchaser for review.

In addition, the following Hydro Modernization Project-specific requirements apply:

- After arrival onsite and prior to initial use, all new, newly installed, or altered cranes shall have an OSHA annual certification inspection performed by a third-party crane inspector who meets OSHA/ASME qualification requirements before being placed in service.

  - Before being returned to service, a mobile crane that has been idle for more than 6 months shall have an OSHA annual certification inspection performed by a third-party crane inspector who meets OSHA and ASME qualification requirements.
  - Before being placed in service, a mobile crane that has been idle for 1 month or more, but less than 6 months, shall be given an inspection conforming to the requirements of daily and monthly inspections.

- Prior to use, any mobile crane disassembled for transport and reassembled at the site shall be inspected by a qualified third-party crane inspector. This requirement is applicable even if the crane has a current annual sticker from the previous worksite.
- The Purchaser shall approve all third-party inspection companies and personnel before the third-party inspection company inspects the cranes to be used on TSS projects. A list of Southern Company-approved third-party crane inspectors is available.
- The Purchaser shall approve all crane supplier and erection supervisors who will be supplying and erecting cranes on TSS projects.
- The hook and becket inspection:

  - Shall be performed at the same time as the initial crane inspection.
  - Shall include a nondestructive examination (NDE) performed before the crane is authorized for use. The NDE shall be performed by a person currently certified by the American Society for Nondestructive Testing (ASNT) to a Level II or III in the type of test to be performed. The testing company shall submit test procedures or instructions for each method of testing prepared by a person currently certified Level III by the ASNT. In addition, all applicable certifications of the technician performing the examination shall also be submitted.

- The most current certified load-bearing information shall be provided to each Contractor during the inquiry phase of the contracting process and shall become part of the agreement between the Purchaser and the Contractor.
- Updates of the load-bearing certified information shall be provided to all Contractors working on the project site as required. Each Contractor has the authority and control to make the necessary ground preparations to safely perform work. In all crane and derrick activity, the Contractor shall be the controlling entity and shall comply with the regulation.
- The Contractor shall notify the Purchaser a minimum of 7 working days prior to performing any trenching, excavation, boring, or soil improvements. The Purchaser's approval is required before the Contractor performs this work.
- Each Contractor shall designate a competent person for the management of the crane inspection process. This person shall administer and document a crane operator license program and an equipment inspection program.
- All inspection records (daily, monthly, annual) and repair records shall be documented and made available to the Purchaser for review upon request.
- Rented or leased hoists shall have new cable installed with a documented inspection prior to being placed in service.
- Load test certifications for hoists shall be provided and placed on file prior to the hoist being placed in service.

- Hoist operators shall be qualified per section 52.0, Qualifying Equipment Operators.
- Loads to be lifted/pulled with a hoist are restricted to a maximum of 75 percent of the rated capacity of the hoist and/or setup.
- Lifts with a hoist shall follow the requirements found in SCO-SH-0812, Rigging and Lifting.

54.0 MOBILE EQUIPMENT NEAR ENERGIZED ELECTRIC LINES

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926, Subpart K, Electrical
29 CFR 1926, Subpart CC, Cranes and derricks in construction

In addition, the following Hydro Modernization Project-specific requirements apply:

- Before work begins on a project, a site assessment team shall be established, composed of representatives from Transmission, Distribution, Construction, Engineering, plant personnel, and any additional applicable utility owner. The site assessment team shall define areas of concern, boundaries of safe work areas, and other control measures necessary to eliminate or mitigate the hazards associated with energized power lines.
- The preferred safety method for mobile equipment transiting near energized electric lines is to deenergize and ground the lines near the worksite or equipment crossings. If it is not feasible to deenergize lines, the following requirements shall be met:
  - Mobile equipment with rubber tires shall not be parked under high voltage transmission lines. A static charge can build up, and a severe shock can be transmitted to the operator accessing the mobile equipment.
  - All employees shall be instructed on all hazards involved, including the potential hazard of a high-voltage line contacting the earth or an object that is not insulated from the earth.

- Mobile equipment in transit near energized electric lines.
  - Minimum Clearance Distance:

> **CAUTION**
>
> **The minimum safe clearance distance from the power line shall be maintained unless the hazard has been eliminated or properly controlled with the controlling utility and noted on the Overhead Line Permit.**

  - Mobile equipment and materials in transit shall maintain clearance distances listed in table 1, Equipment in Transit - Minimum Clearance Distances, and shall engage the use of a spotter or goalpost.

Table 1, Equipment in Transit – Minimum Clearance Distances

Voltage	Minimum Clearance
Up to 230 kV	10 ft
Greater than 230 kV	16 ft

- If the distance to an overhead or adjacent line is less than 20 ft, a dedicated spotter shall be required. The spotter shall walk ahead of the vehicle and aid the operator in identifying clearance issues.
- The crew foreman, operator, and spotter shall complete the JSA/STA together, identifying control measures for each of the following hazards:
  - Overhead power line locations.
  - Buildings or other obstructions that could pose minimum clearance distance issues.
  - Vehicular traffic.
  - Pedestrian traffic.

55.0 WORKING NEAR ENERGIZED LINES

If the mobile equipment or load can reach the danger zone, a meeting shall be held onsite with the utility to establish safety procedures. Safety procedures shall be established before work begins.

Other than in transit, an approved overhead line permit is required for any piece of equipment or any part of its load coming closer than the minimum distance identified in table 2, Minimum Working Distances for Mobile Equipment in Operation Without an Overhead Line Permit. A sample overhead line permit is available. Determine permit requirements based on information in table 2.

Table 2, Minimum Working Distances for Mobile Equipment in Operation Without an Overhead Line Permit

Voltage	Minimum Distance
Up to 350 kV	20 ft
Greater than 350 kV up to 500 kV	50 ft
Greater than 500 kV	Contact Purchaser Regional S&H Manager

In areas where there is no planned work on, or passage of equipment under, a live overhead line but the equipment is capable of passing under a live overhead line, the Contractor shall do the following:

- Install a barrier to run parallel to the line. The barrier may be fixed post fencing or drums filled with rubble spaced no more than 8 ft apart.
- If cranes are in use, supplement the barriers with a line of flagging at a height of 10 ft.

- Space notices stating **DANGER - LIVE OVERHEAD LINE** at intervals no more than 50 ft.
- The following criteria shall be adhered to during non-permit-required work:

  - Mobile equipment shall not be used to handle material stored under power lines unless the equipment cannot reach the minimum distances identified in table 2. If an overhead line permit is obtained, then mobile equipment is restricted to the distances identified in table 3, Minimum Working Distances for Mobile Equipment in Operation With an Overhead Line Permit (below).
  - Any overhead wire shall be considered energized unless the owner or electric utility provides evidence it is not energized.
  - Mobile equipment operators shall not rely on coverings (insulation) for protection.
  - The equipment and load shall be properly grounded at all times. Only qualified personnel shall determine if grounding requirements are met.
  - The area around the equipment shall be barricaded and signs posted warning personnel to stay clear.
  - The operator is the only person permitted on the equipment.
  - A signal person with no other duties shall ensure specified clearance distances are maintained.
  - All personnel shall maintain a safe distance while the mobile equipment is being positioned and during operation.
  - For load control, nonconductive tag lines shall be used around power lines.

55.1 Permit-Required Criteria

- If working within the bounds of a switchyard, a switchyard permit must be obtained through the Purchaser following Southern Company Operations procedure SCO-SH-0211, Switchyard Access. A sample switchyard access permit is available.
- For all other areas not within a switchyard:

  - If equipment must be used or moved closer than the safe working clearance distance identified in table 2 (above), the Contractor shall complete an overhead line permit. A copy of the approved overhead line permit shall be posted in the mobile equipment cab.
  - The following items shall be considered for an overhead line permit:

    - Can the utility deenergize and visibly ground the power lines?
    - Can the utility move power lines beyond the safe working distance?
    - Is barrier protection an option?

  - If the location of the work requires any part of mobile equipment or its load to be less than the distances specified in table 3, Minimum Working Distances for Mobile Equipment in Operation With an Overhead Line Permit (below), the line shall be deenergized. If lines cannot be deenergized, the Contractor shall contact the Purchaser to coordinate safe work methods.

Table 3, Minimum Working Distances for Mobile Equipment in Operation With an Overhead Line Permit

Nominal kV, alternating current	Minimum Clearance Distance (ft)
Up to 50 kV	10 ft
Greater than 50 kV up to 200 kV	15 ft
Greater than 200 kV up to 350 kV	20 ft
Greater than 350 kV up to 500 kV	25 ft
Greater than 500 kV	Contact Purchaser Regional Safety and Health Manager

56.0 MOBILE ELEVATED WORK PLATFORMS (AERIAL LIFTS) AND BUCKET TRUCKS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.67, Vehicle-mounted elevating and rotating work platforms
29 CFR 1926.453, Aerial lifts
ANSI A92.20

In addition, the following Hydro Modernization Project-specific requirements apply:

- A competent person must perform a documented inspection on all mobile elevated work platforms (MEWP) prior to their use on site and at least quarterly thereafter. Operators shall perform daily pre-use inspections including the testing of lift controls to ensure the controls are in safe working condition. Documentation shall be made available to the Purchaser for review upon request. A sample MEWP inspection form is available.
- All Contractors and projects that use aerial lifts and bucket trucks to access any elevated areas shall develop an effective site-specific plan for dealing with a stuck basket and/or personnel rescue. At a minimum, the plan shall include:
  - How the occupants will be removed from the immobilized basket prior to its extrication.
  - How the stuck basket is to be safely released.
  - How personnel who fall from a stuck basket will be rescued.
- All MEWPs (JLG, Genie, and so forth) with baskets attached to booms must be equipped with secondary guarding. The secondary guarding must be designed to prevent crushing injuries and pinning of operators between the operating controls of the aerial work platform and fixed objects/structures. All rental and Contractor-owned MEWPs shall meet these requirements.
- Operators shall be trained and qualified based on MEWP group and type. All other requirements of section 52.0, Qualifying Equipment Operators, apply:

- MEWP groups:

MEWP groups	
Group A	The MEWP moves vertically but within the tipping lines, such as a scissor lift.
Group B	The MEWP can move beyond the tipping lines (outriggers or wheels), such as a boom lift.

- MEWPs are further classified into types:

MEWP types	
Type 1	The equipment can only be driven with the platform in its stowed position.
Type 2	The equipment can be driven elevated but is controlled from the chassis.
Type 3	The equipment can be driven elevated and is controlled from the work platform.

- Prior to using a MEWP, the Contractor shall perform a documented risk assessment and write a safe use plan to include all of the following information:

  - Identification of the task to be undertaken.
  - Selection of an appropriate MEWP.
  - Assessment of risk.
  - Development of control measures.
  - Identification of safe work procedures.

NOTE

It is important to recognize the risk assessment and safe use plan document is required for all MEWP operations. Documentation shall be provided to the Purchaser for review on request. A sample suspended personnel platform checklist is available.

- The MEWP operator is required to provide instruction or otherwise ensure all occupants have a basic level of knowledge to work safely on the MEWP. This requirement does not authorize nonqualified occupants to operate the MEWP in nonemergency situations.
- When working from a MEWP at height and before exiting the basket to the structure, personnel shall perform a two-part risk assessment:

  - First, personnel shall determine if exiting the basket at height is the safest method of work.
  - If so, they shall then determine a safe procedure for doing so. Fall protection and
    100-percent tie-off shall be a primary consideration.

57.0 FORKLIFTS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.178, Powered industrial trucks
29 CFR 1926.602, Material handling equipment

In addition, the following Hydro Modernization Project-specific requirements apply:

- All material-handling equipment equipped with forks rated under 10,000 lb shall be equipped so the operator can adjust the forks remotely from the cab, either hydraulically or electrically. Manually adjusting forks shall not be allowed.
- Telehandlers shall be designed so a person cannot enter the area between the front and rear tires.
- Contractors shall use only those attachments that are engineered and approved by the manufacturer.
- The following operator sight lines and safety aids shall be included:
  - Operator sight lines from the cab shall be provided for **in one or a combination of the following manners**:

Equipment design	Equipment shall be configured in a manner that the operator has unobstructed sight lines when the boom or mast is in the carry position and when setting or picking up loads at or near the ground. The mounting point of the boom or mast to the structure is an exception.
Operational or safety aids	• A camera system with a display mounted in the cab that provides coverage for the areas where the operator's sight lines may be impeded. • The display must be active when the unit is in operation. Multiple cameras may be used, if needed. If multiple cameras are displayed on a single display unit, the use of a split screen is preferred. • Unless otherwise designed by the manufacturer, the camera systems (camera, display, and associated hardware) are intended to be a safety device only and not an operational aid. • A mirror system that provides coverage of areas where the operator's visibility may be impeded when the boom or mast is in the carry position and when setting or picking up loads at or near the ground. • A proximity warning system that provides an audible alarm if a predetermined distance from the unit has been encroached upon. The alarm activation distance will be determined by the operational specifications of the system but shall be no less than 5 ft.
Spotters	Spotters may be used to provide warning to the operator as follows: • Contractors shall provide a written plan for the use of spotters for review by the Purchaser.

- Operators and spotters shall have documented training on the plan.
- Operational requirements for the use of spotters shall be noted on the task-specific JSA.
- When used, spotters shall position themselves in the operator's sight line at all times.
- Spotters shall have no other function or duties or participate in activities that may distract them from their assigned duties while equipment is in motion.
- If the operator loses sight of the spotter, the operator shall stop immediately.
- Spotters shall be used as needed to provide coverage for impeded operator sight lines.
- Spotters shall also be used while operating in areas of high traffic (pedestrian or equipment), close quarters with minimal equipment or load clearances, or in proximity to vital plant equipment.

57.1 Inspection

Operators shall inspect the equipment prior to each shift. An equipment checklist shall be used to document equipment inspections. Documented inspections shall be made available to the Purchaser for review, on request. A sample forklift inspection form is available.

58.0 [SECTION RESERVED]

59.0 DRILLING EQUIPMENT

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.800, Underground construction

In addition, the following Hydro Modernization Project-specific requirements apply:

- All drilling and boring operations must be approved in advance by the Purchaser. A minimum of 7 working day notification must be given.
- The drilling equipment competent person is responsible for inspecting drilling equipment used on the project.
- The responsible engineer and/or geologist is responsible for considering soil and water conditions to protect personnel from hazards.
- The responsible drilling operator is responsible for surveying the drilling area for above- and below-ground hazards.
- A drilling equipment competent person shall inspect all drilling equipment pre- and post-transportation to the drill site. In addition, the drilling equipment competent person shall conduct a pre-use inspection using a written drilling equipment checklist prior to its use onsite. A sample drilling equipment inspection form is available.
- Before beginning work:

  - The responsible engineer and/or geologist shall consider subsurface soil and water for potential contaminants and appropriate techniques to protect personnel from exposure of identified hazards.
  - The responsible engineer, geologist, and/or and operator shall also survey the area for physical hazards above and below ground.

- Examples of potential hazards include, but are not limited to:

  - Underground pipe.
  - Underground electric cable.
  - Swing radius of equipment.
  - Above-ground power lines.
  - Unidentified backfilled debris.

- If planned activities fall within a DOT right-of-way, contact the local 811 call center, as well as Technical Services.
- Before drilling operations begin, the drilling competent person shall complete either an excavation and trenching permit (such as Trenching and Excavation Permit or equivalent) or an overhead and underground conflict resolution permit (such as Geotechnical and Environmental Drilling Overhead and Underground Conflict Resolution Permit or equivalent).
- The drilling operator shall:

  - Use manufacturer-supplied attachments. If attachments not supplied by the manufacturer are used, the Contractor shall submit appropriate engineering documentation to the construction site manager for review and approval prior to using the attachment. The Contractor should discuss using non-manufacturer-supplied attachments at pre-bid and premobilization meetings to avoid delays in production.
  - Use only attachments that are engineered and approved for use by the manufacturer.
  - Use attachments only for their designed and intended purpose.

- Only properly trained and qualified personnel shall operate drill equipment. See section 52.0, Qualifying Equipment Operators.
- When deenergizing a system where the feed cannot be identified, has been abandoned, or is fed from an unknown source, workers shall follow the requirements in section 78.0, Hazardous Energy Control (LOTO), prior to performing any work.

59.1 Core Drilling

- When core drilling, the drill operator must wear electrically rated gloves and dielectric boots or overshoes rated at a minimum of 600 V.
- Prior to the commencement of any drilling, the employee or Contractor responsible shall obtain all available information relating to the location of embedded services in the required areas.

- When drilling through a floor, wall, or ceiling, the precise position of the penetration is to be determined by the person doing the work so that damage to personnel, plant, and equipment on the other side can be avoided.
- Personnel are to be advised to keep clear of the area, and plant equipment is to be relocated or shielded against damage from water, dust, and falling objects.
- If services expected to be uncovered are not located or if services are uncovered that are not expected, further drilling shall cease, and the Owner notified.
- Barriers shall be placed around all penetrations and areas below penetrations together with appropriate warning signs. For more information on barricades, see Operations Safety and Health procedure SCO-SH-0900, Barricades.
- Water used in drilling operations shall be controlled from flowing to undesirable areas.
- Where it is desired to maintain the fire rating of a particular wall, floor, or ceiling after drilling, suitable materials shall be used for filling the gaps after services have been run through the opening.
- In the event of an incident, all work shall cease immediately, and the Owner informed.
- In the event of any asbestos being discovered, all work shall cease immediately, and the Owner informed.

60.0 MOVEMENT OF OVERSIZED LOADS

Contractors shall, at a minimum, meet the requirements set forth in:

23 CFR 658.15, Truck size and weight, route designations – length, width and weight limitations, Width
29 CFR 1926, subpart G, Signs, signals, and barricades

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to the movement of oversized loads on the Purchaser's property, the Contractor shall submit a written plan to the Purchaser for review.

61.0 COMMERCIAL MOTOR VEHICLE OPERATIONS

Contractors shall, at a minimum, meet the requirements set forth in:

49 CFR 390, Federal Motor Carrier Safety Regulations

OCCUPATIONAL HEALTH

62.0 HAZARD COMMUNICATION (HAZCOM)

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.1200, Hazard communication
29 CFR 1926.59, Hazard communication

In addition, the following Hydro Modernization Project-specific requirements apply:

- Each Contractor shall develop, implement, and maintain at the workplace a written site-specific HAZCOM plan that follows 29 CFR 1926.59, Hazard Communication, in addition to:
  - Each Contractor shall maintain labels and other forms of warning for his or her respective chemicals in the workplace.
  - Each Contractor shall obtain Safety Data Sheets (SDS) and describe how:
    - The information will be used.
    - Workers will be trained on the information. The training shall be documented and made available on request by the Purchaser.
    - The SDS file will be maintained.
    - Workers will be provided access to SDS for the chemicals they will use.
  - **Before any chemical is brought onsite,** the Contractor shall supply the Purchaser with a copy of the SDSs for all chemicals the Contractor plans to bring onto or use at the site for review and approval.

NOTE

Only approved solvents are to be used for cleaning purposes. All hazardous materials, including flammable and combustible liquids, are required to be reviewed and approved by the Purchaser prior to purchase or delivery to the site. Nonflammable or less flammable alternatives shall be substituted for flammable liquids where feasible.

- A copy of each Contractor's chemical inventory and the SDS for each material or chemical on the inventory shall be submitted to the Purchaser providing a centralized location (3E online) from which a SDS may be obtained. This requirement, however, in no way substitutes for the Contractor's maintenance of a HAZCOM program or SDS file. A sample chemical inventory list is available. A sample SDS/product evaluation is available.

63.0 OCCUPATIONAL NOISE EXPOSURE

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.52, Occupational Noise Exposure

64.0 BLOODBORNE PATHOGENS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.1030, Subpart Z, Bloodborne pathogens

65.0 LEAD

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.1025, Lead
29 CFR 1926.62, Lead

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to engaging in any potential exposure activities, the Contractor shall develop a written lead exposure control plan and provide details for lead identification, handling, and abatement. This plan shall be made available to the Purchaser for review upon request.

66.0 SILICA

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.55, Gases, vapors, fumes, dusts, and mists
29 CFR 1926.1153, Respirable crystalline silica

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to engaging in any potential exposure activities, the Contractor shall develop and produce a written silica exposure control plan. This plan shall be made available to the Purchaser for review upon request.

67.0 ASBESTOS

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.1001, Asbestos
29 CFR 1926.1101, Asbestos

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to engaging in any potential exposure activities, the Contractor shall develop and produce a written asbestos exposure control plan. This plan shall be made available to the Purchaser for review upon request.

68.0 [SECTION RESERVED]

69.0 ABRASIVE BLASTING

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.57(f), Abrasive blasting
29 CFR 1910.94, Ventilation
29 CFR 1910.134, Respiratory protection
Section 65.0, Lead

In addition, the following Hydro Modernization Project-specific requirements apply:

- Prior to performing abrasive blasting operations, the Contractor shall develop and produce a written plan for abrasive blasting that details work practices and hazard control processes required for abrasive blasting operations. The plan shall be provided to the Purchaser for review.
- Warning signs shall be posted around the perimeter of all abrasive blasting operations to warn personnel of hazards.
- The operational pressure release switch (deadman-type switch) shall not be tied down or otherwise bypassed by the operator.
- If compressors are too far away from the abrasive blasting operation for operators to monitor the warning devices and safety features, a means must be devised to adequately warn the operators of impending hazards. The means could be a person assigned to monitor the compressors' warning devises and safety features. The means shall be documented in the Contractor's written plan and approved in advance by the Purchaser.

70.0 RADIOLOGICAL NONDESTRUCTIVE TESTING

Contractors shall, at a minimum, meet the requirements set forth in:

10 CFR, chapter I, U.S. Nuclear Regulatory Commission
29 CFR 1910.1200, Hazard communication
29 CFR 1910.97, Nonionizing radiation
49 CFR 172.700, Hazardous materials regulations, training, purpose and scope

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to engaging in any potential exposure activities, the Contractor shall develop and produce a written radiological NDE exposure control plan for radiological nondestructive testing. This plan shall be made available to the Purchaser for review on request.

71.0 LEGIONELLA

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910.132, Personal protective equipment
29 CFR 1910.134, Respiratory protection
29 CFR 1910.1200, Hazard communications

In addition, the following Hydro Modernization Project-specific requirements apply:

SCG-SH-0060, Legionella Exposure Control Guideline

ELECTRICAL SAFETY

72.0 TEMPORARY ELECTRICAL POWER

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910 Subpart S, Electrical
29 CFR 1926 Subpart K, Electrical

In addition, the following Hydro Modernization Project-specific requirements apply:

- Contractors shall protect flexible cords and cables from accidental damage; avoid sharp corners and projections. Installations shall not create additional hazards such as tripping or overhead obstructions.
- All subgrade installations of temporary power shall be clearly identified by placement of detectable locators such as red danger tape marked BURIED ELECTRICAL CABLE (or equivalent) at a distance 12 to 18 in. above the buried cable. Surface signage indicating buried electrical cables shall also be installed at intervals not to exceed 50 ft. The records for temporary power installation should include a surveyed location by the installing Contractor (if needed) of any underground installations.
- All underground temporary electrical installations shall be identified to include survey points (if needed) on a site plot plan to facilitate future identification for excavation work activities during the construction period.
- Contractors shall use only ground-fault circuit interrupter (GFCI) receptacles or receptacles with GFCI breakers. GFCI breakers must be reset by authorized persons identified by the responsible Contractor.
- On completion of the project, the Contractor shall remove any temporary underground cables. If the cables cannot be removed, the Contractor shall provide detailed drawings indicating the location of such cables to the Purchaser. Abandonment in place is only acceptable if there is an incumbrancer to removal of temporary underground cables. Convenience is not considered an acceptable reason to abandon in place.

73.0 ELECTRICAL TESTING AND STARTUP

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910 Subpart S, Electrical
29 CFR 1926 Subpart K, Electrical
SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

In addition, the following Hydro Modernization-specific requirements apply:

- SCG-SH-0201, Lockout/Tagout (LOTO) Procedure, shall be the guiding document to ensure personnel and equipment safety.
- Only authorized personnel may energize or deenergize equipment. Contractors shall maintain a roster of authorized personnel and provide a copy to the Purchaser upon request.
- The Contractor shall develop and produce a written testing and startup plan that includes the following components:

  - The process for appropriate coordination with existing facility personnel and procedures.
  - The name, position, and contact information of the person who is responsible for coordinating mechanical and other testing and startup teams.
  - The name, position, and contact information of the person who is responsible for authorizing electrically hazardous work.
  - The mechanism to be used to determine the status of testing and startup. Marked drawings are an example of this mechanism.

- General precautions include:

  - To the extent possible, testing shall be accomplished with the system deenergized.
  - Personnel shall remove all rings, watches, and other jewelry. Rings that cannot be removed shall be covered with electrical tape for electrical and physical protection.
  - Personnel shall wear clothing and PPE appropriate to the job.
  - Hand tracing of wiring without electrically isolating the starter or other electrical equipment shall be avoided.
  - Unknown circuits in wiring have caused fatalities. Extreme caution shall be taken when working on them.
  - Persons performing testing and startup work shall not be placed under time constraints and shall be prepared for unexpected events. Extended work hours should be evaluated for safety implications.
  - All unauthorized or unnecessary personnel shall exit the affected area before energizing the equipment.
  - Deviation from planned activities shall be approved by the team leader and communicated to all appropriate parties before implementing the change.
  - All circuits and equipment rated 480 V and above should be insulation-resistance tested before being energized if required in the testing and startup plan.
  - Before touching uninsulated conducting parts, personnel shall confirm the absence of voltage by using an approved meter.
  - The appropriate lockout/tagout procedure shall be identified and followed.
  - A procedure to control temporary jumpers shall be established. Some examples of how to accomplish this control are tagging the jumpers with red ribbon or keeping a written log of jumpers installed.

74.0 GROUND FAULT PROTECTION

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1926.404, Wiring design and protection

In addition, the following Hydro Modernization Project-specific requirements apply:

- A ground fault circuit interrupter (GFCI) shall be used on all extension cords and portable electric tools. Deviations, including substitution of an assured grounding program in lieu of 100-percent GFCI protection, may be authorized only by the Purchaser with concurrence from the environmental, health, and safety (EH&S) resource.
- Low-voltage (12 V) lighting is recommended in confined spaces because of the possibility of the GFCI tripping and leaving the entrants in the dark.
- Some Class A GFCIs have an automatic reset feature and are not approved for use on Purchaser sites.

75.0 ENERGIZING AND DEENERGIZING ELECTRICAL EQUIPMENT

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910 Subpart S, Electrical
29 CFR 1926 Subpart K, Electrical
29 CFR 1926 Subpart V, Electric power transmission and distribution
29 CFR 1910.269, Electric power generation, transmission, and distribution
SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

In addition, the following Hydro Modernization Project-specific requirements apply:

A sample planning form for energizing electrical equipment is available.
A sample planning form for deenergizing electrical equipment is available.
A sample electrical hazard form for work performed under a lockout/tagout is available.
A sample energized electrical work permit is available.

The Contractor site manager shall ensure the following steps are taken prior to energizing or deenergizing electrical circuits:

- For work that involves plant-controlled equipment, SCG-SH-0201, Lockout/Tagout (LOTO) Procedure, shall be the guiding document to ensure personnel and equipment safety.
- Only authorized personnel may energize or deenergize equipment. Contractors shall maintain a roster of authorized personnel and provide a copy to the Purchaser upon request.
- Only Purchaser Designee(s) will energize or deenergize Purchaser-owned equipment. The designee(s) shall analyze the diagrams, drawings, and field conditions to:

  - Evaluate the possibilities of creating a backfeed to equipment other than the equipment being energized.
  - Determine if temporary feeds have been installed.

- Verify the accuracy of the drawings and the absence of temporary feeds with the facility electrical representative who knows if the equipment has been modified. Any drawings found to be inaccurate shall be marked for updating and submitted to TSS Engineering for correction.
- If the equipment was previously energized, determine the reason it was deenergized, and verify that the equipment is ready to be reenergized.
- Check the operating voltage and energy levels of the equipment or system being energized to classify the work and to determine the types of voltage testers and PPE required to energize the system safely. Refer to NFPA 70E for applicable PPE requirements.
- Determine who will perform each of the following activities:

  - Throwing switches.
  - Voltage testing.
  - High-potential or Megger® testing.
  - Phasing.
  - Phase rotation.

- Notify all personnel affected.
- Determine the test method to assure the system is clear.
- Inspect the equipment visually to verify conditions and to ensure that appropriate labeling has been installed.

75.1 Energizing Equipment or Feeders Over 600 V and 600-V Class Distribution Equipment

- The Contractor management responsible for the work and appropriate Contractor personnel including electrical craft and Purchaser electrical representatives shall hold a planning meeting prior to energizing any equipment over 600 V or any 600-V class distribution equipment. The purpose of the meeting is to establish a common understanding of the scope of work and associated hazards.
- Only authorized personnel may energize or deenergize equipment. Contractors shall maintain a roster of authorized personnel and provide a copy to the Purchaser upon request.
- Only Purchaser Designee(s) will energize or deenergize Purchaser-owned equipment.

75.2 Energizing Utilization Equipment That Is 600 V or Less but Over 125 V-to-Ground

- Only authorized personnel may energize or deenergize equipment. Contractors shall maintain a roster of authorized personnel and provide a copy to the Purchaser upon request.
- Only a Purchaser Designee(s) will energize or deenergize Purchaser-owned equipment.

- Contractor management responsible for the work and appropriate Contractor personnel including electrical craft and Purchaser electrical representatives shall hold a planning meeting prior to energizing any equipment that is 600 V or less but over 125 V-to-ground. This equipment includes motor control centers (MCC), 600-V class distribution panels, 480-V motors, 480-V disconnects, the line side of power and lighting panels, and any other equipment that has a 480-V primary feed.
- The meeting can cover more than one piece of equipment, such as a package or a turnover system. The purpose of the meeting is to establish a common understanding of the scope of work and associated hazards.

75.3 Installing Safety Grounds

- Installing or removing safety grounds is potentially very dangerous and may be classified as hazardous work, depending on conditions.
- When installing safety grounds, the Contractor shall follow SCG-SH-0201, Lockout/Tagout (LOTO) Procedure.
- The Contractor shall not attempt to install or remove safety grounds on Purchaser-owned equipment.
- Personnel who install or remove safety grounds shall be qualified electricians.
- Safety grounds shall be installed on the following equipment and feeders before personnel come in contact with them:

  - Feeders and equipment over 600 V.
  - Switch gear and unit substation buses.
  - 600-V class feeders from substations.
  - All overhead electrical lines on both sides of the point of work.

76.0 WELDING AND PORTABLE GENERATORS

Contractors shall, at a minimum, meet the requirements set forth in:

NEC Article 630

In addition, the following Hydro Modernization Project-specific requirements apply:

- A qualified person shall install and inspect all electrically connected welding machine power sources at each new installation to ensure that the integrity of the conductor and its terminations are adequate.
- A qualified person shall on an annual basis, inspect welding machines that are fixed installations. This inspection shall address the:

  - Insulation integrity of the supply-side conductors.
  - Adequacy of the supply-side conductor terminations.
  - Proper over-current protection for the welding machine.
  - Adequacy of the equipment grounding conductor.
  - Indications of weather or water damage.

- The Contractor shall ensure the following items are including in their daily inspection process by the qualified welder:

  - Inspect welding leads prior to use to ensure that the insulation is not damaged and that the conductor is not exposed. Repair or discard damaged leads.
  - Connect welding leads to the welding machine by a male plug. Ensure that the female portion of the connector is the energized part of the set.
  - Two leads shall be connected at the work location if there is the potential for the return path of the welding current to pass through delicate equipment such as turbines, generators, other rotating equipment, instrumentation, or controls. Do not use building steel or pipelines as the return path for the welding current. When welding to building steel or pipelines, connect the return lead to the same steel part where welding will occur.

- Turn off the welding machine while pulling leads to a new location and in some cases until the welder is in position to make a weld. If the welder has to lie on or lean on a grounded surface to perform a welding task, another person should start the machine when the welder is ready to strike an arc and begin the task.
- Do not support welding leads with tie wire. This practice damages the welding lead insulation. Support leads with nonconductive materials or insulated wire. Install welding leads so that they are not potential tripping hazards.
- Eliminate the possibility of partially exposing a connection while pulling the leads. Male and female connectors of welding leads may need to be taped or otherwise restrained from separating. Welding leads should not be tied in a knot.
- When the welding machine is unattended, remove the rod from the holder.
- Do not weld on material or equipment suspended by a metallic support mechanism (choker, chainfall, and load line) unless it is insulated to ensure the return path of welding current does not pass through the rigging. This practice is prohibited because of the possibility of damage to the choker or the load line. If such an operation is required, the welder shall verify the support includes an insulating element to eliminate the possibility of welding current flowing through the support.
- Pipelines and equipment containing flammable or combustible materials shall not be a part of the welding path.
- If a portable welding machine includes a receptacle for convenience power, the receptacle shall be guarded with a ground fault circuit interrupter (GFCI) if the voltage is alternating current. Many older machines have receptacles equipped with reset buttons that are not GFCIs; in this case, portables GFCIs shall be used. If the voltage is direct current, the receptacle should be disabled and not be used.
- The 120-V convenience receptacle of a portable generator shall be guarded by a GFCI when used to supply power to electric handtools.

77.0 WORKING ON OR NEAR ELECTRICAL SERVICES AND/OR EQUIPMENT

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910 Subpart S, Electrical
29 CFR 1926 Subpart K, Electrical
29 CFR 1926 Subpart V, Electric power transmission and distribution

29 CFR 1910.269, Electric power generation, transmission, and distribution
SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

In addition, the following Hydro Modernization Project-specific requirements apply:

Prior to beginning work on energized electrical service or equipment, the Contractor shall submit a detailed plan to the Purchaser covering the following information:

- The scope of the work.
- The expected hazards.
- The methods to be used to ensure worker safety.

78.0 HAZARDOUS ENERGY CONTROL (LOTO)

Contractors shall, at a minimum, meet the requirements set forth in:

29 CFR 1910 Subpart S, Electrical
29 CFR 1926 Subpart K, Electrical
29 CFR 1910.147, The control of hazardous energy (lockout/tagout)
29 CFR 1926 Subpart V, Electric power transmission and distribution
29 CFR 1910.269, Electric power generation, transmission, and distribution

In addition, the following Hydro Modernization Project-specific requirements apply:

For work that involves plant-controlled equipment, the hazardous energy control procedure in use at the facility (SCG-SH-0201, Lockout/Tagout (LOTO) Procedure) shall be the guiding document to ensure personnel and equipment safety.

SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

ENVIRONMENTAL PROTECTION

79.0 SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC)

The following Hydro Modernization Project-specific requirements apply:

- If specified in the Contract, the Contractor will provide a spill prevention, control, and countermeasures (SPCC) plan that aligns with the facility's current SPCC plan or if the Purchaser directs, the Contractor shall follow the facility's SPCC plan.
- For small-scale spills, the Contractor shall develop a response plan that is compliant with the facility's SPCC plan. This plan shall address:
  - Storage of bulk fuels, oil, and chemicals.
  - Identification of potential spills and hazards produced.
  - A spill response team.
  - Selection, storage, and transportation of cleanup materials.
  - Disposal of contaminated materials in accordance with all Federal, state, local laws, and the facility SPCC.

80.0 STORM-WATER MANAGEMENT

The following Hydro Modernization Project-specific requirements apply:

If specified in the Contract, the Contractor shall develop and produce a storm-water management plan in consultation with the appropriate operating company's environmental affairs department. This consultation should occur as soon as possible after contract award.

81.0 WASTE MANAGEMENT

The following Hydro Modernization Project-specific requirements apply:

- Contractors shall not cause or allow to be released any hazardous wastes or toxic substances and/or any other waste, pollution, noxious gases or substances, or any other substances in violation of applicable Federal, state, or local laws, rules, and regulations in connection with the construction activities.
- If specified in the Contract, the Contractor shall develop and produce a waste management plan in consultation with the appropriate operating company's environmental affairs department. The plan shall address requirements for the proper identification, handling, storage, and disposal/recycling of nonhazardous and hazardous waste generated from construction activities.

81.1 Nonhazardous Solid Waste

- State and local agencies have certain control over the management, disposal, and/or recycling of all nonhazardous solid waste and excess materials that are either brought onsite or generated as a result of construction activities. The site-specific waste management plan shall describe how to handle and dispose of this waste stream during construction.
- Contractors are responsible for the management and timely disposal and/or recycling of all nonhazardous waste and excess materials that the Contractor brought onsite or generated as a result of their construction activities, unless otherwise specified in the contract. The Contractor is responsible for managing waste management vendors and ensuring locations of dumpsters are maintained.
- Contractors shall supply and maintain appropriate numbers and sizes of nonhazardous waste containers. Containers shall be kept covered. The locations of bulk solid waste containers (such as rolloffs or dumpsters) shall be approved in advance by the Purchaser and shall avoid locations under or near transmission or distribution lines.

81.2 Hazardous Waste

- Federal and state regulations cover the generation, handling, storage, and disposal of any hazardous waste generated at a facility.
- Furthermore, if the project is located at an existing facility, any waste generated onsite is counted as being generated for the entire facility and may not be separated.
- No hazardous or potentially harmful waste generated by Contractors shall be allowed to enter the normal waste streams of the Purchaser.
- Specific project contract documents shall specify the party (Purchaser or Contractor) that is responsible for hazardous waste management.
- Additionally, the Operating Company will provide acceptable vendors to handle any waste stream generated requiring disposal.
- If Southern Company Operations is responsible for hazardous waste disposal, the Contractor is responsible for properly packaging the hazardous waste in accordance with applicable laws, rules, and regulations.
- When the Contractor is responsible for hazardous waste disposal, the Contractor shall package and dispose of the waste as directed by the Purchaser.
- Hazardous or potentially harmful waste materials shall not be mixed with nonhazardous waste materials.
- Appropriate hazardous waste storage areas shall be established and maintained as needed.
- Locations of hazardous waste storage areas shall be approved by the Purchaser. The Contractor shall be responsible for documentation and recordkeeping for those areas designated for their exclusive use.
- Hazardous and potentially harmful wastes shall be placed in proper containers, properly labeled, and stored in the hazardous waste storage area. Filled containers shall be removed from the project and properly disposed of in a timely manner with required documentation and recordkeeping.

81.3 Used Oil and Petroleum Products

- State and local agencies have regulations regarding the management of used oil and other petroleum products, as well as oily waste and debris generated.
- Appropriate storage areas, acceptable collection devices, and timely removal from the site of these materials must be adhered to.
- Additionally, spill prevention, control, and countermeasure (SPCC) requirements must be met.
- Contractors are responsible for ensuring all oil products and oily waste generated are reported, handled, and disposed of properly in accordance with the site-specific waste management plan.

82.0 ENVIRONMENTAL ASSESSMENT AND REMEDIATION

- Environmental assessment and remediation tasks shall be coordinated with the appropriate operating company and/or facility representatives.
- For assessment and remediation in energized switchyards and substations, all personnel involved shall receive comprehensive substation safety training prior to beginning operations and shall adhere to all regulatory and these additional requirements:
  - All assessment and remediation work shall be coordinated with the appropriate operating company's transmission maintenance supervision to ensure compliance with operating requirements and request assistance of a transmission maintenance employee while planning and performing any drilling or excavation operations.
  - A review of substation drawings and survey of the site shall be conducted with the operating company's transmission maintenance assistance during the project planning phase to identify any known underground cables, conduit, pipes, or other structures.
- Removal of underground storage tanks (USTs) shall be performed in compliance with the appropriate operating company's EH&S procedures, standards, or guidelines and applicable specifications identified in this manual.

83.0 [SECTION RESERVED]

84.0 [SECTION RESERVED]

85.0 [SECTION RESERVED]

APPENDICES

86.0 TABLES

Table 1, Equipment in Transit – Minimum Clearance Distances (section 54.0, Mobile Equipment Transiting Near Energized Electric Lines)

Table 2, Minimum Working Distances for Mobile Equipment in Operation Without an Overhead Line Permit (section 55.0, Mobile Equipment Working Near Energized Lines)

Table 3, Minimum Working Distances for Mobile Equipment in Operation With an Overhead Line Permit (section 55.1, Permit-Required Criteria)

87.0 ACRONYMS

ANSI	American National Standards Institute
EH&S	environmental, health, and safety
GFCI	ground-fault circuit interrupter
JSA	job safety analysis
JSB	job safety briefing
LOTO	lockout/tagout
NCCA	National Commission for Certifying Agencies
PJB	prejob briefing
PPE	personal protective equipment
PSIF	potential serious injury or fatality
RCA	root cause analysis
SCG	Southern Company Generation
SDS	safety data sheets
SPCC	spill prevention control and countermeasure
SWPP	storm water pollution prevention plan

88.0 REFERENCES

ANSI/ASME B30.9 – Slings

ANSI/ASME B30.10 – Hooks

ANSI A10.4, Current Safety Requirements for Workman's Hoist

ANSI D6.1-20xx, Manual Uniform Traffic Control Devices

ASME B30.20 Below-the-Hook Lifting Devices (current revision)

ASME B30.23 Personnel Lifting Systems

ASME B30.5

ISO 11660:2008(E)

ISO 2867:2011(E)

Lockout/Tagout Procedure Awareness Training

Lockout/Tagout Training Video

NEC Article 630

OSHA 300 and 300A log(s)

OSHA 1910.147

OSHA 1910.269

SAE J185

SCG-SH-0100, Safe Work Procedures for Confined Spaces

SCG-SH-0201, Lockout/Tagout (LOTO) Procedure

SCG-SH-0410, Hot Work

SCG-SH-0700, Scaffold Safety Procedure

SCO-SH-0812, Rigging and Lifting

SCO-SH-0900, Barricades

SCO-SH-0910, Floor Opening, Wall Opening, and Guardrail Removal

Southern Safety Trilateral

89.0 ATTACHMENTS

Generation and Operations procedures:

- SCG-SH-0060, Legionella Exposure Control Guideline
- SCG-SH-0100, Safe Work Procedures for Confined Spaces
- SCG-SH-0201, Lockout/Tagout (LOTO) Procedure
- SCO-SH-0211, Switchyard Access
- SCG-SH-0410, Hot Work
- SCG-SH-0610, Commercial Diving Operations Checklist
- SCG-SH-0700, Scaffold Safety Procedure
- SCO-SH-0812, Rigging and Lifting
- SCO-SH-0900, Barricades
- SCO-SH-0910, Floor Opening, Wall Opening, and Guardrail Removal
- SCG-SH-2101, Hazard Communication

Forms:

- Aerial Lifts and Bucket Trucks Daily Inspection Form
- Authorization for the Use of a Suspended Personnel Hoisting Platform
- Chain Fall and Come-a-Long Inspection Form
- Chemical Inventory List
- Contractor Incident Notification and Investigation
- Crane-Suspended Personnel Platform, Evaluation of Alternate Lifting Methods
- Critical Lift – Rigging and Lifting Plan
- Demolition Daily Checklist
- Drilling Equipment Inspection Form
- Electrical Hazard Form for Work Performed Under a Lockout/Tagout (LOTO)
- Energized Electrical Work Permit
- Equipment Operator Authorization
- Forklift Inspection Form
- Geotechnical and Environmental Drilling Overhead and Underground Conflict Resolution Permit
- Hot Work Permit
- Hydro Modernization EH&S Deviation Request Form

- Intermediate Lift – Prelift Worksheet/Rigger's Reference Sheet
- JSA: Job Safety Analysis (English)
- JSA/AST: Job Safety Analysis/Análisis de Seguridad del Trabajo (Spanish)
- Ladder Inspection Form
- Line Breaking Permit
- Mobile Elevated Work Platforms (Aerial Lifts) and Bucket Trucks Daily Inspection Form
- Open Hole Permit (Maximo item number 1319324)
- Overhead Line Permit
- Planning Outline for Deenergizing Electrical Equipment
- Planning Outline for Energized Electrical Equipment
- PPE Assessment Form
- Predemolition Engineering Survey
- Safety Data Sheets (SDS)/Product Evaluation Form
- Scaffold Integrity Checklist
- Scaffold Tags (Examples)
- Southern Company Safety and Health Orientation Checklist
- Suspended Personnel Platform Preuse Checklist
- Suspended Scaffold Inspection Checklist
- Switchyard Permit
- Third-Party Crane Inspectors
- Trenching and Excavation Permit

90.0 [SECTION RESERVED]

SOUTHERN COMPANY GENERATION

SCG-SH-0060

Legionella Exposure Control Guideline

Revision	***Approval Date***	***Approved by***	***Title***
0	2/7/2018		Executive Vice President and Chief Production Officer

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this document is to standardize practices used by Southern Company Generating facilities to manage exposure to Legionella bacteria associated with water systems.

1.2 Scope

This document applies to Southern Company Generating facilities where there are potential exposures to Legionella bacteria due to presence of potentially contaminated water sources. Examples of potentially contaminated water sources are listed in Attachment 1.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

Legionella – Common aquatic bacteria found in natural and man-made water systems, and occasionally in some soils. More than 50 species of Legionella have been identified. Legionella pneumophila is associated with 90 percent of legionellosis cases.

Legionnaires' DISEASE – A common name for any of the several illnesses caused by Legionella bacteria. It is a form of pneumonia caused by a lung infection. Legionnaires' disease is bacterial and is associated with contaminated water-based aerosols that have originated from warm water sources. It is often associated with poorly maintained cooling towers and potable water systems.

legionellosis – The term used to describe any illness caused by exposure to Legionella bacteria. Legionnaires' disease and Pontiac fever are the most common types of legionellosis; Legionnaires' disease is the more serious and of primary concern.

2.2 References

OSHA Technical Manual Section III: Chapter 7, "Legionnaires' Disease"

The Ohio State University, Legionella Exposure Control Plan, 2013

Gulf Power Company, Safety and Health Compliance Guidelines – Waterborne Pathogens Program, 2001

American Electrical Power (AEP), Legionella Exposure Guidelines, 2016

29 CFR 1910.134, Respiratory Protection, 2013

3.0 RESPONSIBILITIES

3.1 Program Manager

The program manager is responsible for the following:

- Provide program oversight and consultation to work groups regarding potential Legionella risks and exposure prevention.

- Periodically review this document and the Legionella site-specific procedure, and identify tasks with potential Legionella exposure.
- Assign a program coordinator.

3.2 Program Coordinator

The program coordinator should be someone who has knowledge of all aspects of the facility water system including cooling towers, potable water systems, and emergency water systems. In addition, the program coordinator is responsible for the following:

- Identify areas and equipment with potential for Legionella growth.
- Develop a Legionella risk assessment for these areas.
- Develop a Legionella site-specific procedure. This procedure should define the evaluation, controls, and personal protective equipment (PPE) needed.
- Update the Legionella risk assessment and Legionella site-specific procedure, and communicate to the Program Manager.
- Determine proper control procedures and PPE as needed.
- Arrange sampling for Legionella contamination if needed.
- Maintain proper documentation of the site-specific procedure.

3.3 Supervisors

Supervisors are responsible for the following:

- Ensure all affected personnel are trained and competent on the Legionella site-specific procedure.
- Provide appropriate PPE when conducting work associated with this procedure.

3.4 Authorized Employees

Authorized employees are responsible for the following:

- Must be properly trained on the Legionella site-specific procedure.
- Obtain and use the appropriate PPE for the task being performed.

3.5 Project Managers or Contractor Liaisons

The project manager or contractor liaison is responsible for the following:

- Ensure all affected contractor personnel are made aware of the hazards associated with Legionella.
- Ensure all affected personnel have appropriate PPE when conducting work associated with this procedure.

3.6 Plant Safety and Health Professional

The plant Safety and Health professional is responsible for the following:

- Assist program coordinator by providing supporting data to make decisions on the Legionella site-specific procedure and PPE.
- Coordinate and facilitate the necessary training.
- Ensure proper records are maintained.
- Review these procedures annually.

3.7 Corporate Industrial Hygiene

Corporate Industrial Hygiene is responsible for the following:

- Assist the program coordinator with decisions regarding the adequacy of the Legionella site-specific procedure and PPE as requested.
- Provide information on sampling and give technical guidance as requested.

4.0 PROGRAM

4.1 Site-Specific Procedure

The program coordinator should develop a site-specific procedure for the facility. The purpose of a site-specific procedure is to reduce the risk of legionellosis by:

- Specifying the types of water systems in a facility.
- Identifying risk factors, which include any favorable conditions for legionella growth.
- Establishing practices to address identified risks.
- Implementing sound preventative maintenance practices using effective controls.

4.2 Site-Specific Information Form

Each area or type of equipment with potential Legionella exposure should be identified and evaluated. A Legionella site-specific information form should be completed, listing those areas and equipment. See Attachment 2 for a template.

4.3 Work Practices

Some Southern Company work activities present a potential exposure to aerosolized contaminated water sources. These work activities include:

- Condenser cleaning.
- Cooling tower sludge cleaning.
- Cooling tower inspections (on-line).
- Washing hydro scroll cases.
- Repairing condenser tube leaks.
- Any activity where potentially contaminated water sources will be used or aerosolized.

These PPE and work practice controls are recommended to prevent possible exposure:

- Half-mask respirator with high efficiency cartridges (P100).
- Neoprene or nitrile gloves.
- Rubber boots.
- Face shield, chemical goggles, or full-face respirator.
- Good hygiene practices; for example, washing face and hands before eating, drinking, or smoking.
- Impermeable coveralls, if necessary, to limit dermal exposure.
- Effective water treatment methods to control organisms (biocides, chlorine) when feasible.
- Limit aerosolizing of water and sludge.

4.4 Treatment Methods

The growth of Legionella can be controlled through regular maintenance activities and a disinfection program. Plant management should determine the best method for disinfection based on treatment effectiveness, cost, and potential for piping or system corrosion.

Additional treatment methods can be employed to ensure Legionella proliferation does not occur. Plant management shall determine when additional treatment methods are required or recommended, based on the types of water systems in the facility.

4.5 Sampling

Sampling for Legionella is not normally required, since protection or mitigation needs are determined by the type of water source. The program coordinator, in consultation with corporate Industrial Hygiene, shall implementing acceptable sampling protocols based on the types of water systems present within the facility. See attachment 3, Sampling Guidelines.

4.6 Training

The plant Safety and Health professional shall ensure initial training is provided to designated employees before they work in any risk areas. Initial training shall be documented in SHIPS #024136. Site-specific annual refresher training shall be captured as part of the plant's site-specific compliance training.

4.7 Respiratory Protection

Employees required to wear respiratory protection must meet the fit-testing, medical, training, and usage requirements of SCG-SH-1000, Respiratory Protection Program.

5.0 KEY CONTACTS

For questions regarding the content and implementation of this program, contact your Generation Safety & Health Coordinator.

6.0 RECORDS RETENTION REQUIREMENTS

The following records are business records generated from following this procedure and shall be retained according to the Southern Company Record Retention Schedule.

7.0 ATTACHMENTS

Attachment 1, General Information

Attachment 2, Site-Specific Information Form

Attachment 3, Sampling Guidelines

ATTACHMENT 1 - GENERAL INFORMATION

In 1976, more than 200 people attending an American Legion convention at a Philadelphia, Pennsylvania, hotel acquired a severe respiratory illness that led to 34 deaths. An investigation revealed that victims had inhaled air containing a previously unknown bacterial strain. The bacteria were traced to cooling tower drift that had entered the hotel's ventilation system. The bacterial strain was named Legionella pneumophila, and the illness was called Legionnaires' disease.

Legionella bacteria are commonly found in drinking water, groundwater, and surface water. While the bacteria have been detected in habitats ranging from alpine lakes to hot springs, growth is strongest in waters with temperatures between 68 and 122 °F. The bacteria thrive in the warm, damp conditions within cooling towers, humidifiers, and evaporative condensers. Cooling towers provide a strong breeding ground because the evaporation concentrates the bacteria's food source of nutrients and organic matter, and stagnant water provides time for reproduction of the organisms.

Legionnaires' disease is not contagious. The mere presence of Legionella bacteria is not an indication that disease will occur. Disease develops only when a susceptible individual inhales a virulent strain of the bacteria. Individuals who are most at risk include the elderly, smokers, alcoholics, young children, and those with suppressed immune systems.

Reaction to Legionella bacteria exposure can range from a mild respiratory illness that may not require treatment, to severe pneumonia-like symptoms 2 to 10 days after exposure. If not detected and treated promptly with appropriate antibiotics, it can lead to death.

Symptoms

Legionnaires' disease has an incubation period of 2 to 10 days. Severity ranges from a mild cough and low fever to rapidly progressive pneumonia and coma. Early symptoms include malaise, muscle aches, and slight headache. Later symptoms include high fever (up to 105 °F), a dry cough, and shortness of breath. Gastrointestinal symptoms including vomiting, diarrhea, nausea, and abdominal pain are common. The disease is treated with erythromycin or a combination of erythromycin and rifampin.

Pontiac fever is a non-pneumonia, flu-like disease associated with, and likely caused by, the Legionella bacterium. This disease has an "attack rate" of 90 percent or higher among those exposed, and a short incubation period of 1 to 3 days. Complete recovery usually occurs in 2 to 5 days without medical intervention.

Growth Conditions

L. pneumophila bacteria are widely distributed in water systems. These bacteria tend to grow in biofilms or slime on the surfaces of lakes, rivers, and streams. They are not eliminated by the chlorination used to purify domestic water systems. Low and even nondetectable levels of the organism can colonize a water source and grow to high concentrations under the right conditions.

Conditions that promote growth of the organism include heat, sediment, scale, and supporting microflora in water. Common water organisms, including algae, amoebae, and other bacteria, appear to amplify Legionella growth by providing nutrients or harboring the organism. Because

of its ability to remain viable in domestic water systems, it is capable of rapid multiplication under the proper conditions.

Water conditions that tend to promote the growth of Legionella include:

- Stagnation.
- Temperatures between 20 and 50 °C (68 to 122 °F). The optimal growth range is 35 to 46 °C (95 to 115 °F).
- A pH between 5.0 and 8.5.
- Sediment that tends to promote growth of commensal microflora; and micro-organisms, including algae, flavobacteria, and pseudomonas, which supply essential nutrients for growth of Legionella or harbor the organism.

Water sources that frequently provide optimal conditions for growth of the organisms include:

- Cooling towers, evaporative condensers, and fluid coolers that use evaporation to reject heat. These include many industrial processes that use water to remove excess heat.
- Domestic hot-water systems with water heaters that operate below 60 °C (140 °F) and deliver water to taps below 50 °C (122 °F).
- Humidifiers and decorative fountains that create a water spray and use water at temperatures favorable to growth.
- Spas and whirlpools.
- Sources such as stagnant water in fire sprinkler systems, and warm water for eye washes and safety showers.

ATTACHMENT 2 – SITE-SPECIFIC INFORMATION FORM

Plant/Location:_____

1. Site-Specific Information Form

The designated program coordinator for this site is:

Program Coordinator:	
Contact Numbers: Office:	
Linc Radio / Cell:	
Other:	

2. Areas and Equipment

The potential Legionella bacteria exposure areas, equipment, and work activities at this facility.

Date	Areas and Equipment	Work Activities
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

ATTACHMENT 3 – SAMPLING GUIDELINES

If sampling is performed, consult with corporate Industrial Hygiene. The OSHA guidelines in Table 1 should be used to assess the effectiveness of water system maintenance and to interpret sampling results. The values in Table 1 are applicable to facilities and buildings occupied by generally healthy individuals.

Table 1: OSHA Recommended Legionella Levels in Water Systems

Results provided in number of colony forming units (CFU) of Legionella per milliliter (ml) of water.			
Action/Response	**Cooling Tower or Evaporative Condenser**	**Potable Water**	**Humidifiers or Misters**
Continue current treatment methods.	0 – 100	0 – 10	0
Clean and disinfect system followed by biocide treatment if necessary.	100 – 1,000	10 – 100	1 – 10
Immediate cleaning and disinfecting of the system followed by biocide treatment. Prevent employee and public exposure.	>1,000	>100	>10

Legionella sources are identified by microbiological examination of water and swab samples. Sample results are evaluated for hazard potential based on potential for exposure and the risk category in Table 2.

Table 2: Risk Factors and Sample Results

Risk Category	**Legionella (CFU/ml)**
High	Greater than 1000
Medium	100 – 999
Low	100

SOUTHERN COMPANY GENERATION

SCG-SH-0100

SAFE WORK PROCEDURES FOR CONFINED SPACES

Revision	*Approval Date*	*Approved by*	*Title*
0	February 10, 2003		Executive Vice President and Chief Production Officer
1	March 18, 2005		Executive Vice President and Chief Production Officer
2	October 19, 2011		Executive Vice President and Chief Production Officer
3	September 25, 2013*		Executive Vice President and Chief Production Officer

* Updated 08/09/2023

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this procedure is to describe the requirements for safely entering and working in confined spaces at SC Generation facilities.

1.2 Scope

This procedure applies to all Generation facilities and Southern Company employees.

2.0 DEFINITIONS, REFERENCES, AND RELATED DOCUMENTS

2.1 Definitions

Alternate Procedure – The work practice used when the only serious hazard in the confined space is atmospheric and it can be demonstrated that continuous forced air ventilation alone is sufficient to maintain the space for safe entry.

atmospheric test readings – Atmospheric checks for (in the following order):

1. Oxygen content. (Between 19.5 – 23.5)

2. Flammable gases and vapors. (<10% LEL)

3. Potential toxic air contaminants. (Use the appropriate levels for the potential contaminant being tested for)

attendant – A trained individual stationed outside one or more permit-required confined spaces who monitors the authorized entrants and who performs all attendant's duties assigned in 3.2, Attendant Responsibilities.

authorized entrant – A trained individual that is authorized to enter a permit-required confined space.

bump test (also called **function check)** – A qualitative function check where a challenge gas is passed over the gas monitoring instrument sensor(s) at a concentration and exposure time sufficient to activate all alarm indicators to present at least their lower alarm setting. The purpose of this check is to confirm that gas can get to the sensor(s) and that all the alarms present are functional. A bump test of portable gas monitors shall be conducted before each day's use in accordance with the manufacturer's instructions. Any portable gas monitor that fails a bump test must be adjusted by means of the manufacturer's full calibration instructions before further use, or it shall be removed from service.

full calibration check – A quantitative test using a known traceable concentration of test gas to demonstrate that the gas monitoring instrument sensor(s) and alarms respond to the gas within manufacturer's acceptable limits. A full

calibration adjusts the sensor(s) response to match the desired value compared to a known traceable concentration of test gas. This full calibration check shall be done in accordance with the manufacturer's instructions. A full calibration shall be conducted at regular intervals in accordance with instructions specified by the instrument's manufacturer. Any portable gas monitor that fails a calibration check must be adjusted by means of the manufacturer's full calibration instructions before further use or it shall be removed from service.

company site contractor coordinator – The person designated to coordinate the work between the company and the contractor.

confined space – A space meeting all of the following criteria:

- Large enough for an individual to enter and perform assigned work.
- Limited or restricted means for entry or exit.
- Not designed for continuous occupancy.

engulfment – The surrounding of an individual by a liquid or particulate that can fill or plug the respiratory system, or cause death by strangulation, constriction, or crushing.

entry – The action by which an individual passes through an opening into a permit-required confined space. Entry includes activities in that space and occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.

entry supervisor – The entry supervisor shall be designated by management as a person who has been trained in the roles and responsibilities associated with the entry of any specific space.

hazardous atmosphere – An atmosphere that may expose an individual to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following causes:

- Oxygen concentration below 19.5 percent or above 23.5 percent.
- Carbon monoxide (CO) concentration above 35 ppm.
- Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL) or lower explosive limit (LEL).
- Any airborne contaminant in a concentration sufficient to expose an employee to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness.
- An immediately dangerous to life and health (IDLH) atmospheric condition.

immediately dangerous to life and health (IDLH) – Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit-required confined space.

nonpermit-required confined space – A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

operating time –All times shall be recorded as operating time, that is, central time in a 24-hour format.

permit system – The written procedure for preparing and issuing permits for entry and for returning the permit-required confined space to service following termination of entry.

permit-required confined space (PRCS) – A confined space that has one or more of the following hazardous characteristics:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material which has the potential for engulfing an entrant.
- Has an internal configuration where an entrant may become entrapped or asphyxiated by inwardly converging walls or by a floor sloping downward and tapering to a smaller cross-section.
- Contains any other recognized serious safety or health hazard.

NOTE

All confined spaces will be considered permit-required confined spaces until the hazards are assessed and controlled or eliminated.

reclassification tag – A tag posted at all points of entry to confined spaces indicating the confined space has been reclassified to a nonpermit-required or an Alternate Procedure confined space.

2.2 References

- 29 CFR 1910.146, Permit-required confined spaces.
- 29 CFR 1910.269, Electric power generation, transmission, and distribution.
- 29 CFR 1910.252, subpart Q, Welding, cutting, and brazing.
- SCG-SH-0201, Lockout/Tagout (LOTO) Procedure.
- Southern Company Generation Emergency Response Team Executive Committee. Technical Rescue Training Standard Operating Guidelines.

2.3 Related Documents

- Generation Confined Space Entry Permit/Reclassification Form.
- Atmospheric Monitoring Data (Addendum).
- Reclassification Tags.
- Confined Space Log.

3.0 RESPONSIBILITY

The following requirements apply to all employees whose jobs involve responsibilities associated with permit-required confined spaces.

3.1 Entrant Responsibilities

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Properly use equipment as required by paragraph (d)(4) of 29 CFR 1910.146:
  - Testing and monitoring equipment as described in 4.8, Atmospheric Testing.
  - Ventilating equipment needed to obtain acceptable entry conditions.
  - Communications equipment so attendants and authorized entrants can communicate.
  - Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees.
  - Proper lighting equipment required to enable employees to see well enough, to work safely and to exit the space quickly in an emergency.
  - Follow all lockout/tagout procedures required prior to entry.
  - Barriers and shields used to isolate the space and protect entrants from external hazards.
  - Equipment, such as ladders, needed for safe ingress and egress by authorized entrants.
  - Rescue and emergency equipment needed to summons rescue and emergency services and to rescue entrants from permit spaces, except to the extent that the equipment is provided by rescue services.
  - Any other equipment necessary for safe entry into and rescue from permit spaces.

- Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.

- Alert the attendant when:

  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or

  - The entrant detects a prohibited condition.

- Exit from the permit space as quickly as possible when:

  - An order to evacuate is given by the attendant or the entry supervisor,

  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation,

  - The entrant detects a prohibited condition, or

  - An evacuation alarm is activated.

3.2 Attendant Responsibilities

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

- Be aware of possible behavioral effects of hazard exposure in authorized entrants.

- Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants accurately identifies who is in the permit space.

- Remain outside the permit space during entry operations until relieved by another attendant.

- Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

- Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:

  - If the attendant detects a prohibited condition.

  - If the attendant detects the behavioral effects of hazard exposure in an authorized entrant.

  - If the attendant detects a situation outside the space that could endanger the authorized entrants.

- If the attendant cannot effectively and safely perform the required duties of an attendant.

- Summon emergency services as soon as the attendant determines that authorized entrants need assistance to escape from the permit space.

- Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:

  - Warn the unauthorized persons that they must stay away from the permit space.

  - Advise the unauthorized persons that they must exit immediately if they have entered the permit space.

  - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

- Perform nonentry rescues as specified by the rescue preplan.

- Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

3.3 Entry Supervisor Responsibilities

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

- Authorize initial entry into only those spaces that meet the following requirements:

If the space is a…	The entry supervisor shall…
Reclassified space	Visually confirm the appropriate sign and the reclassification tags are posted at all doors opened for entry.
Permit-required confined space	Visually confirm the appropriate sign and the permit/reclassification form are posted at the primary point of entry and an attendant is in place.

- Verify the appropriate entries have been made on the permit/reclassification form, that all tests specified by the permit/reclassification form have been conducted, and that the rescue preplans, procedures, and equipment specified by the permit/reclassification form are in place before endorsing the permit/ reclassification form and allowing the entry to begin.

- Terminate the entry and cancel the permit/reclassification form as required.

- Verify that rescue services are available and that the means for summoning them are operable.

- Remove unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

- Determine, when responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit/reclassification form and that acceptable entry conditions are maintained.

3.4 Management Responsibilities

3.4.1 Rescue and Emergency Services

- If site management designates outside rescue and emergency services to provide permit space rescue, they shall:

  - Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified.

  - Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified.

  - Select a rescue team or service from those evaluated that:

    - Has the capability to reach the victim(s) within a timeframe that is appropriate for the permit space hazard(s) identified.

    - Is equipped for and proficient in performing the needed rescue services.

  - Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site.

  - Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

- If site management designates onsite ERT to provide permit space rescue and emergency services, they shall take the following measures:

  - Provide affected employees with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train affected employees so they are proficient in the use of that PPE.

  - Train affected employees to perform assigned rescue duties. Management must ensure that such employees successfully complete the training required to establish proficiency as an authorized entrant.

- Train affected employees in basic first aid and cardiopulmonary resuscitation (CPR). Management shall ensure that at least one member of the rescue team or service holding a current certification in first aid and CPR is available.

    - Ensure that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces.

        NOTE

        Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

    - Ensure rescue training complies with the Generation Technical Rescue Training Standard Operating Guidelines.

- To facilitate non-entry rescue, retrieval systems or methods shall be used when an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements:

    - Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish. The chest or full body harness shall present a profile small enough for the successful removal of the entrant. Wristlets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

    - The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical-type permit spaces more than 5 ft deep.

- If an injured entrant is exposed to a substance for which a safety data sheet (SDS) or other similar written information is required to be kept at the worksite, that SDS or written information shall be made available to the medical facility treating the exposed entrant.

4.0 REQUIREMENTS

4.1 Site Inventory List

A list of all confined spaces shall be maintained by the generating facility and made available to facility employees.

4.2 Confined Space Warning Signs

All confined spaces shall have warning signs posted at all confined space points of entry. One sign can be used for multiple doors when the intention is obvious.

4.3 Site-Specific Instructions

A generating facility may implement site-specific instructions that supplement but do not replace this procedure.

4.4 Employee Training

All employees whose jobs involve responsibilities associated with confined spaces shall be initially trained so they shall have the understanding, knowledge, and skills necessary for working safely in confined spaces. Employee retraining is required when an employee fails to demonstrate knowledge/skills necessary to properly enter a confined space. Annual confined space awareness training is required for designated employees.

4.5 Contractor Requirements for Permit-Required Confined Space Entry

When a facility arranges to have a contractor perform work that involves permit-required confined space entry work, it is the responsibility of the company site contract coordinator to:

- Ensure the contractor coordinates all entries with the Generation employee responsible for the work.
- Inform the contractor that the workplace contains permit-required confined spaces and entry will be allowed only through compliance with the contractor's confined space program that meets the requirements of OSHA 1910.146.
- Apprise the contractor of the confined space conditions, including the serious hazards identified and previous experience in the spaces that make it a permit-required confined space.

- Apprise the contractor of any precautions or programs, such as signage, that the facility has implemented for the protection of employees in or near the permit-required confined space where contract personnel will be working.

- When both company employees and contract personnel will be working in or near permit-required confined spaces, coordinate entry operations with the contractor so that employees of one company do not endanger the employees of the other.

- Debrief the contractor at the conclusion of the entry operations regarding the permit-required confined space program followed and regarding any serious hazards confronted or created in the space.

4.6 Annual Review

The site-specific confined space procedure shall be reviewed annually by the site.

4.7 Entry Permit/Reclassification Form

The Southern Company Generation Entry Permit/Reclassification Form shall be completed prior to entry into a confined space. Cancelled entry permit/reclassification forms shall be retained for 1 year; see 6.0, Quality Records.

A tracking system that documents entry permit/reclassification forms that are approved or cancelled shall be maintained by the generating facility.

The entry permit/reclassification form shall be available to all authorized entrants:

- For permitted spaces, the permit/reclassification form shall be posted at the primary point of entry.

- For reclassified spaces, a green reclassification tag shall be posted at each point of entry to the confined space.

- For spaces entered using the alternate procedure, a yellow reclassification tag shall be posted at each point of entry. See 4.10, Permit-Required Confined Space Entered Using Alternate Procedure.

- Ensure that reclassification tags are posted at all points opened and used for personnel access, or post an attendant. If an attendant is used in lieu of a tag, they shall comply with all duties of an attendant for a PRCS with the exception of logging entrants in and out.

4.8 Atmospheric Testing

Initial atmospheric testing is required prior to entry into a confined space. Depending on the activities or conditions in a confined space, additional atmospheric testing may be required.

The generating facility shall train appropriate personnel to perform atmospheric tests using the gas monitoring instruments provided by the facility.

All monitors shall be calibrated and bump-tested in accordance with the equipment manufacturer's recommendation. Calibration results for each monitor shall be documented and maintained for 1 year. See 6.0, Quality Records.

4.8.1 Initial Atmospheric Testing Requirements

This section establishes company requirements concerning the testing of confined spaces to ensure that no hazardous atmosphere exists before allowing personnel to enter.

When a confined space is to be entered, the atmosphere shall be tested before allowing personnel to enter the space. The test equipment must consist of direct reading gas monitoring instruments. The individual performing the test shall enter all required information on the entry permit/reclassification form.

- The confined space shall be opened and ventilated/purged, as necessary.
- The atmospheric test shall be performed by a qualified individual. Any portable forced ventilation of the confined space shall be stopped prior to performing an initial atmospheric test.
- When conducting the initial test, check for (in the order listed):
    1. Oxygen content (between 19.5 – 23.5)
    2. Flammable gases and vapors (<10% LEL)
    3. Potential toxic air contaminants (use the appropriate levels for the potential contaminant being tested for)
- The initial tests shall be made prior to entry of the space through any opening in the space (such as boiler door and observation doors) without the testing personnel entering the space.
- Any employee authorized to enter a space, or that employee's authorized representative, shall be provided the opportunity to observe any atmospheric testing done for the space in which they are entering.
- After the atmospheric test is complete, fill in the requested information on an entry permit/reclassification form.

If the confined space is classified as a nonpermit-required space, the entry supervisor shall complete the Reclassification section of the entry permit/reclassification form. He or she shall ensure that reclassification tags are posted at all points opened and used for personnel access covered by the atmospheric test, or post an attendant. Only these points of entry may be entered. If an attendant is used in lieu of a tag, they shall comply with all duties of an attendant for a PRCS with the exception of logging entrants in and out.

4.8.2 Additional Atmospheric Testing Requirements

If entrants are present in any confined space and atmospheric hazards that could reasonably be expected to cause the space to become a permit-required confined space are introduced, continuous monitoring is required.

4.9 Reclassification of Permit-Required Confined Spaces

A permit-required confined space can be reclassified to a nonpermit-required confined space provided that:

- All related equipment and systems have been properly isolated and cleared.
- Follow all lockout/tagout procedures required prior to entry.
- Testing and inspection results indicating that all serious hazards in the permit-required confined space have been eliminated shall be documented on the entry permit/reclassification form.
- If it is necessary to enter the permit-required confined space to eliminate the serious hazards, all requirements of permit-required confined space entry apply until the serious hazards are eliminated.
- A reclassification tag is posted at all points opened and used for personnel access covered by the atmospheric test or an attendant is present.
- If hazardous changes to a reclassified space occur that endanger the entrants, the confined space shall be immediately evacuated and the confined space reevaluated.

A green reclassification tag shall be completed and posted at the nonpermit-required space. The green tag indicates that all potential serious hazards in the space have been eliminated and the space is safe for authorized personnel entry.

4.10 Permit-Required Confined Space Entered Using Alternate Procedure

A permit-required confined space may be entered using the Alternate Procedure provided that:

- The only serious hazard or potential serious hazard in the space is atmospheric.
- It can be demonstrated that continuous forced air ventilation alone is sufficient to maintain the space for safe entry.
- The mechanical ventilation used is from a clean air source and is in place prior to entry.
- Periodic atmospheric monitoring is in place.

- The entry permit/reclassification form is completed and indicates the space is entered using the Alternate Procedure.

A yellow reclassification tag shall be completed and posted at the space using the Alternate Procedure. The yellow tag indicates that the hazardous atmosphere has been eliminated through mechanical ventilation and periodic air monitoring is required to verify the space is safe for personnel entry.

The atmosphere within the permit-required confined space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. The results must be recorded. If a hazardous atmosphere is detected during entry:

- Each employee shall leave the space immediately.

- The space shall be evaluated to determine how the hazardous atmosphere developed.

- Action shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

As applicable, each reclassification tag shall have the corresponding number from the entry permit/reclassification form that identifies the confined space, the entry supervisor, and the date reclassified.

4.11 Reclassification Tag Removal

Reclassification tags shall be removed when the work has been completed or when conditions in the space have become unsafe.

When work is completed or when the space has become unsafe for entry, the entry supervisor shall be contacted and shall be responsible for seeing that all of the reclassification tags are removed from entrances. A confined space entrance cannot be closed until the entry supervisor has been notified and he or she verifies that the reclassification tags have been removed. This process shall be accomplished as follows:

- The entry supervisor shall confirm that all personnel, lighting, tools, and so forth, have been removed from the space and notify the party who issued the lockout/tagout.

- The entry supervisor shall ensure the removal of the reclassification tags, account for all of the tags, and ensure each reclassification tag number corresponds with the entry permit/reclassification form number. The entry supervisor shall sign at the bottom of the confined space entry permit/ reclassification form indicating that it has been cancelled. This action shall also be documented in the log book.

- If the entry supervisor is not available, the facility manager or his or her designee can perform this operation.

5.0 KEY CONTACT

For questions regarding the content and implementation of the confined space program, contact your safety and health representative.

6.0 QUALITY RECORDS

6.1 Record Retention

- Generating facilities shall retain the following corporate records for 1 year (Southern Company Records Management record series code RSK.01.09 Safety Inspection – Conventional; Office of Record: O/R105-Safety & Health - Subsidiary / Business Unit / Plant Site):

  - Cancelled Generation Confined Space Entry Permit/Reclassification Forms (see 4.7, Entry Permit/Reclassification Form).

  - Calibration results for gas monitoring instruments (see 4.8, Atmospheric Testing).

  - Completed Confined Space Logs (see 4.7, Entry Permit/Reclassification Form).

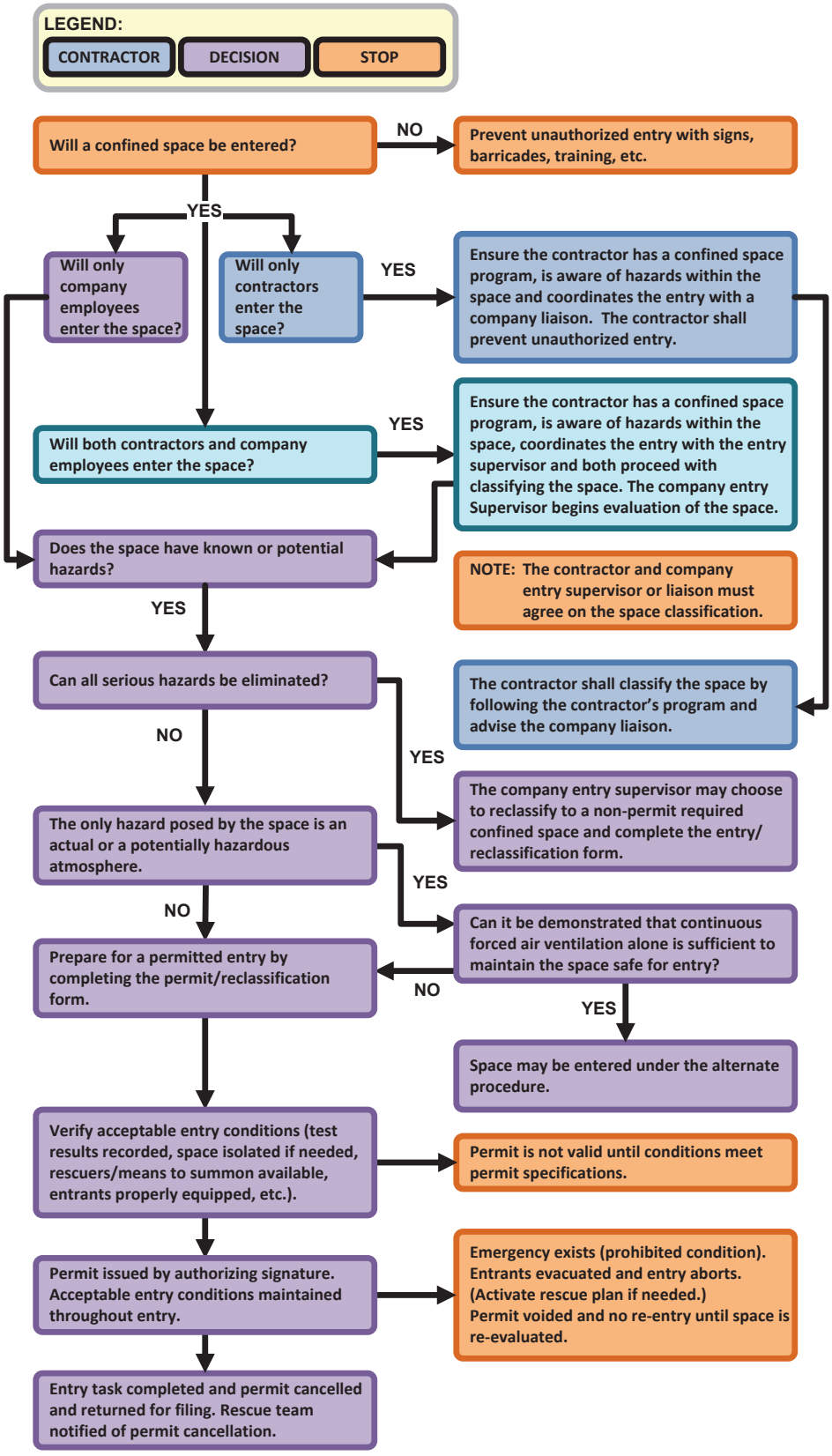
- Reclassification tags are excluded from the record retention requirement.

7.0 ATTACHMENTS

- Attachment 1, Confined Space Entry Flowchart.

- Attachment 2, Completing a Generation Confined Space Permit/Reclassification Form.

Attachment 1 – Confined Space Entry Flowchart



Attachment 2 –
Completing a Generation Confined Space Permit/Reclassification Form

The entry supervisor or his or her designee shall obtain and fill out the Generation Confined Space Permit/Reclassification form and appropriate tags. To obtain and complete a confined space entry permit/reclassification form and tags:

Responsible party	Action
Step 1 – Form Information	
Entry supervisor	• Obtain a Generation Confined Space Entry Permit/Reclassification Form from your site's designated area. If the permit/reclassification form is not prenumbered or the permit number cannot be determined, contact the compliance specialist. • On the permit/reclassification form, enter the: - Permit number. - Unit number. - Confined space to be entered. - Entry supervisor's name (printed). - Detailed purpose of entry. • Obtain the confined space log from your site's designated area. • On the confined space log, enter the: - Permit number. - Unit number. - Confined space location. - Entry supervisor name (printed).
Step 2 – Atmospheric Monitoring Data and Additional Items	
Entry supervisor or designee	• On the entry permit/reclassification form, enter the atmospheric monitor data: - Model/serial number. - Circle the appropriate answer (yes/no) for verification of full calibration per manufacturers recommendation. - Circle the appropriate answer (yes/no) for the daily/before use bump test verified. • Perform the atmospheric test with a monitor with the appropriate sensors. • The permit/ reclassification form should be modified by deleting the gasses that your site does not test for. Recommend that you gray out the lines that are not used. • Record the date and time, test result, and initials of the person performing the atmospheric test. If needed, use the Atmospheric Monitoring Data (Addendum) sheet to record additional tests. • Answer the additional items questions.
Step 3 – Potential Hazards in the Space	
Entry supervisor	• Based on the data in step 2, mark the appropriate YES/NO answers for: - Hazardous atmosphere potential. - Engulfing potential. - Configuration potentially hazardous. - Other serious safety or health hazards. • If there are any YES answers, explain the measures taken to eliminate or control the hazard. • If there are hazards that cannot be eliminated or controlled, the space must be permitted or worked using the Alternate Procedure. (Whichever is appropriate.)
Step 4 – Classifying the Space	
Entry supervisor	Determine how the space can be worked and check the appropriate box on the form: • Reclassified/non-permit space. • Alternate procedure space. • Permit-required confined space.

<table>
<tr><th>Responsible party</th><th colspan="2">Action</th></tr>
<tr><td rowspan="4">Entry supervisor</td><td>If the space is to be worked as a …</td><td>Take this action…</td></tr>
<tr><td>Reclassified/nonpermit space</td><td>In the Entry Supervisor, Reclassification Approved block:
• Sign the form.
• Enter the date and time.
• Complete and hang a green tag at each point of entry.
• Enter the number of tags applied.</td></tr>
<tr><td>Alternate procedure space</td><td>In the Entry Supervisor, Reclassification Approved block:
• Sign the form.
• Enter the date and time.
• Complete and hang a yellow tag at each point of entry.
• Enter the number of tags applied.</td></tr>
<tr><td>Permit-required confined space</td><td>Skip the reclassification signatures, check the box titled A permit-required confined space, and go to step 5 (back of form).</td></tr>
<tr><td>Entry supervisor</td><td colspan="2">When cancelling or terminating the entry of a reclassified space:
• Ensure the tags are removed.
• On the permit/reclassification form in the Reclassification Cancelled block:
- Sign the form.
- Enter the date and time.
- Enter the number of tags removed.
• On the confined space log:
- Complete the information.
- Enter the date and time cancelled.
- Return the cancelled Permit/Reclassification Form to the appropriate location.</td></tr>
<tr><td colspan="3">Step 5 – Rescue Action Items</td></tr>
<tr><td>Entry supervisor</td><td colspan="2">Ensure that:
• The Confined Space Rescue Team has been established and notified.
• The rescue team member in charge (RTMIC) has been notified and a means of communication has been agreed upon. Fill in the radio/phone number.
• The communication procedures are established for entrants and the attendant.
• The RTMIC has completed the pre-entry rescue plan.</td></tr>
<tr><td colspan="3">Step 6 – Permitted Space Approval, Transfer Signatures, Entrants, Attendants and Cancellation of Permit</td></tr>
<tr><td>Entry supervisor</td><td colspan="2">• After the requirements of the entry permit have been met, approve the entry by signing and entering the date and time.
- When the space is being entered as permit-required confined space, post the permit at all open doors used for entry to the space. The permit shall remain there for the duration of the job.
• On the confined space log:
- Complete the information.
- Put an “X” in the Permit Space and the date and time approved.</td></tr>
<tr><td>Attendant</td><td colspan="2">• Enter his or her name and the time he or she began monitoring the space and the time he or she stopped monitoring the space.
• Each new attendant shall enter his or her name and the time he or she began monitoring the space and the time he or she stopped monitoring the space.
• Enter the name of each authorized entrant on the permit as the entrant enters the space. Enter the time in/out each time the entrant enters or exits the space.</td></tr>
<tr><td>Entry supervisor</td><td colspan="2">If the entry supervisor must transfer duties, the new entry supervisor must sign and enter the date and time of transfer.</td></tr>
</table>

Responsible party	Action
Entry supervisor	Upon completion of the work in the confined space, ensure all personnel are accounted for and all permit/reclassification forms are removed.
	When cancelling or terminating the entry of a permitted space: • Obtain the appropriate confined space entry permit/reclassification form and confined space log. • On the permit/reclassification form: - Enter the date and time the permit was cancelled. - Sign the permit/reclassification form cancelled block. • On the confined space log: - Complete the information for the entry by writing in time and date cancelled. • Return the cancelled permit/reclassification form to the appropriate location.

NOTE

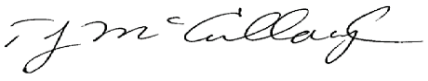
The Atmospheric Monitoring Data (Addendum) sheet can be used for recording additional air monitoring data during a Permit Required Confined Space entry or using the Alternate Procedure.

Southern Company

Southern Company Generation

SCG-SH-0201

LOCKOUT/TAGOUT (LOTO) PROCEDURE

Revision	*Approval Date*	*Approved by*	*Title*
0	June 9, 2016		Executive Vice President and Chief Production Officer
1*	January 1, 2018		Executive Vice President and Chief Production Officer

*Updated 12/05/2022, 07/13/2023

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure establishes a program, consisting of energy control, employee training, and periodic inspections, to ensure that before any worker performs any servicing or maintenance on equipment where the unexpected energizing, startup, or release of stored energy could occur and cause injury, the equipment is isolated from the energy source and rendered inoperative.

NOTE: Failure to follow directives outlined in this procedure is considered sufficient cause for disciplinary action, up to and including discharge.

1.2 Scope

This procedure applies to all persons (employees and contractors) working on equipment under the control and operation of Southern Company Generation facilities.

This procedure does not supersede procedures established for the orderly shutdown of equipment. Those procedures must be followed to avoid any additional or increased hazard(s) to employees because of the equipment stoppage.

NOTE: This procedure does not apply to the following:

- Electrical energy sources less than 50 V.
- Work on cord- and plug-connected equipment, where exposure to the hazards of unexpected energizing or startup of the equipment is controlled by unplugging the equipment from the energy source, and the plug is under the exclusive control of the individual performing the service or maintenance.
- Minor servicing, which includes performing simple adjustments to ensure equipment is functioning properly (without having to disassemble the component being adjusted and/or expose an employee to a hazardous energy source).
- Work that does not involve plant-controlled equipment such as:
  - Equipment under the exclusive control of Transmission or Distribution.
  - Equipment identified as new construction that is under the exclusive control of TSS Projects and has not been connected to the facility.

Generating facilities may develop site-specific procedures to supplement this procedure. Site-specific procedures do not replace material covered in this procedure.

When external maintenance or servicing personnel will be engaged in activities covered by the scope of this procedure, the authorized representatives of the Company and the contractors shall provide and coordinate their respective lockout or tagout procedures.

Details of the LOTO program will be covered as part of the Contractor Orientation Checklist. Southern Company LOTO Awareness Training is available under "Safety Orientation Requirements for Generation Contractors" at the following link: https://www.southerncompany.com/about/suppliers/generating-plant-requirements.html. It is the responsibility of each outside servicing employer to train and document their employees in the requirements of this procedure prior to the start of work.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

active LOTO – A LOTO that has been issued, executed, and has an operating area lock (orange) secured to a master lockbox indicating the associated equipment is isolated and ready for service or maintenance activity.

active LOTO file – A designated file or location, such as master lockbox, that holds all LOTO records that have been issued and are considered to be active.

affected employee – Employee that is affected by a lockout, which means their work involves the equipment that is being locked out and their job will be affected during the lockout. An affected employee is not authorized to lockout equipment.

authorized employee – Employee who has had proper training on equipment isolation and the associated hazards and is allowed to use lockout devices. An authorized employee can be an affected employee.

Authorized employees are qualified by training and evaluation in the Southern Company Generation LOTO procedure in the following categories:

- LOTO Holder – A qualified employee/worker who may request LOTO and/or perform work on equipment or systems held by LOTO.
- LOTO Coordinator – A qualified employee/worker who may request LOTO and/or coordinate work on equipment or systems held by LOTO for non-listed workers or other authorized workers.
- Operating Area Authorized Employee (OAAE) – A person who can lockout or tagout equipment when servicing and/or maintenance is performed by crew, craft, department, or other group. An Operating Area Authorized Employee can perform the following duties:
  - Develop LOTO records.
  - Execute/verify LOTO records.
- Operating Area Leader (OAL) – A person who has primary responsibility for a set number of employees working under the protection of a group lockout device (operating area lock (orange)); has the knowledge and authority to determine if a requested piece of equipment can be taken out of service

based on operational conditions, personnel, unit commitments, worker and equipment safety, and any other factors that may impact system reliability; has been qualified to perform all roles of the OAAE; and has the authority to perform the following duties:

- Accept requests.
- Approve/reject requests.
- Approve LOTO records.
- Issue isolation/release LOTO records.
- Approve boundary modifications.
- Activate LOTO records.
- Complete LOTO records.
- Serve as primary authorized employee, as required (see 3.7, Primary Authorized Employee (PAE)).

NOTE: Operating Area Leader and Operating Area Authorized Employee roles must be independently selected in COOL Compliance to grant permissions within SafeTK.

authorized list – Roster maintained for the facility that identifies authorized workers by name and type of LOTO activity(ies) each worker is permitted to perform. Inclusion on the authorized list is determined at the discretion of the facility's management as approved in Cool Compliance.

capable of being locked out – Energy isolating device capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

designated operating area (DOA) – Area or department of the facility that has the exclusive control of issuing and executing LOTO in their specific area. Examples of designated operating areas:

- Operations.
- Fuels.
- Laboratory.
- Environmental.
- Individual hydro plants.
- Combustion turbine plants.
- Combined cycle plants.
- Solar plants.

energy isolating device – A device that physically prevents the transmission or release of energy, including but not limited to the following: an electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in

addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy.

NOTE: Push buttons, selector switches, and other control circuit type devices are not energy isolating devices. See attachment B, Example LOTO Tag, for an example of an Operational Control Tag when control devices require exclusive control of the operating area.

energy source – Any source of electrical (50 V or greater), mechanical, hydraulic, pneumatic, chemical, thermal, gravitational, or other energy.

hasp – A device that allows energy isolating devices to be locked with multiple locks.

isolate – Removal of all sources of energy from the equipment to be worked on.

isolation test – The method used to ensure all stored energy sources cannot create the potential for injury or accident while servicing or maintenance is being performed on the equipment. The test method is documented on the LOTO Record, as follows:

- Visual – A visual inspection to ensure an air gap exists or an installed voltage indicator determines absence of energy between energy sources and isolation devices.
- Test equipment – Use of instrumentation to verify electrical energy sources are isolated. Voltage meters and noncontact voltage detectors that alarm in the proximity of voltage applications are acceptable, based on the skills and training of the qualified person. All devices must be properly rated for voltage.

  NOTE: Proximity meters are not acceptable for shielded cables. DC circuits and shielded cables must be tested at termination points.

- Test/try – Test performed by attempting to operate a piece of equipment either remotely or locally to ensure the equipment will not operate.
- Drain/depressurize – Verification that a system or component is drained, depressurized, and safe for work.

issued LOTO – LOTO record identified in the software (SafeTK) as in-progress by the OAL while the OAAE performs steps to isolate equipment for upcoming service or maintenance activities.

lockbox – Box with multiple locking points in which the key(s) to the lockout device(s) are placed and secured by authorized employees. Lockboxes are red or yellow, based on the following criteria:

- Master lockbox – Red lockbox in which key(s) to red isolation locks are placed and secured by an operating area lock (orange). LOTO holders secure locks (individual (blue)/coordinator (green)) after the operating area lock (orange) is secured, to hold the LOTO for service or maintenance activity. The original completed LOTO documentation (LOTO records, LOTO test records, and so forth) shall be maintained in an active LOTO file, and the LOTO cover sheet is attached to the master lockbox (red).
- Satellite lockbox – Yellow lockbox that is an extension of the master lockbox (red). It may be located remotely in an area that provides convenient access for workers while under the exclusive control of the LOTO Coordinator. One or more satellite lock(s) (yellow) will be used in conjunction with the satellite box and is secured to the master lockbox; the associated key is secured in the satellite box with a coordinator lock. A copy of the LOTO documentation (LOTO records, LOTO test records, and so forth) is attached to the satellite lockbox.

lockout – Placement of a lockout device on an energy isolating device, in accordance with an established procedure, to ensure the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

lockout device – Device that employs a positive means (lock and key) to hold an energy isolating device in the safe position and prevent the energizing of equipment. See attachment A, Example Lockout Devices, for an example of lockout devices. Southern Company Generation approved lockout devices include the following:

- Isolation lock – Red in color, used to secure energy isolation devices. Always secured with an attached tagout device.
- Operating area lock – Orange in color, used for operating area continuity; indicates equipment has been isolated per the LOTO record. Operating area locks are always the first lock on and last lock off to ensure continuity of the active LOTO and the position of isolation devices have not been altered. No other lock shall be placed on the master lockbox without an operating area lock previously installed.
- Individual lock – Blue in color, assigned to individuals for their personal protection while performing work under a LOTO. Individuals are assigned five locks for this purpose. Individual locks must display worker name and contact number.
- Coordinator lock – Green in color, used by departments to coordinate multiple work crews, ensure the continuity and integrity of an active LOTO for the protection of other workers. Coordinator locks are issued and controlled as approved by plant management, as required for each department. Requires an attached LOTO information tag.

- Satellite lock – Yellow in color, used to maintain continuity while a satellite lockbox is in use. Satellite locks are assigned to a corresponding satellite lockbox. Requires an attached LOTO information tag.
- Non-listed/visitor lock – Brown in color, used for non-listed workers to enable them to perform service or maintenance under the protection of a LOTO. Only used at the direction of a LOTO coordinator and after a coordinator lock (green) is secured. Non-listed/visitor locks are issued for temporary use at the discretion of plant management. Requires an attached LOTO information tag.
- Contractor lock – Lock provided by contractors for adherence to the Southern Company LOTO procedure and protection of their employees. All contractor personal protective locks shall be individually keyed and individually assigned to that worker.

  When securing to Southern Company lockout devices, contractor locks shall adhere to the following:

  - Contain worker's name, contact number, and company.
  - Not be manufactured by American Lock.
  - Shall be silver, gray, or black in color.

lockout/tagout (LOTO) – A safety procedure used to ensure equipment is properly shut off and not able to be started up until the completion of maintenance or service work. It requires hazardous energy sources to be "isolated and rendered inoperative" before work is started on the equipment in question. Lockout/tagout can be accomplished in the following ways:

- Group LOTO – A LOTO executed by authorized workers within a designated operating area for other workers requesting to perform service or maintenance work on equipment.
- Simple LOTO – A LOTO executed by authorized workers where personal protection locks are applied directly to isolation devices when the below criteria are followed:
  - Workers have knowledge, training, skills, tools, and time to perform work safely.
  - Scope of work is of short duration (can be completed in one shift).
  - Isolation steps include five or fewer isolation devices.
  - Scope of work has no special conditions such as confined space, grounding, hydrogen, natural gas, or process safety management chemicals.
  - Parts are readily available.
  - Facility has defined acceptable equipment or type of equipment in site-specific procedures.

- Permission of the designated operating area (DOA) to proceed exists.
- Approved documented procedural steps exist and must be followed.

NOTE: Procedural steps are not required if the equipment has a single energy source that can be readily identified, isolated, and verified, and no prior accidents exist involving the unexpected activation or re-energization of equipment during service or maintenance.

LOTO administrator – Individual responsible for administration of the LOTO software. Each facility has LOTO administrator(s), who administer responsibilities, approve standards, and perform other local functions. There is also a corporate LOTO administrator who is responsible for the overall administration and configuration of the LOTO software across all Southern Company Generation facilities.

LOTO boundary – Energy isolating devices required for a designated scope of work.

LOTO information tag – Tag that identifies the responsible person using a lockout device. Each tag is secured via the lock shackle and, at a minimum, contains the worker's name and contact number. See attachment B, Example LOTO Tag, for an example of a LOTO information tag.

LOTO record – Instructional checklist of energy isolating devices needed for a LOTO boundary, used to place and secure equipment in a desired isolation or service position.

minor servicing – The act of performing simple adjustments to ensure equipment is functioning properly (without having to disassemble the component being adjusted and/or expose an employee to a hazardous energy source).

non-listed worker – Person performing service or maintenance under the direction of a LOTO coordinator and who is not included on the facility's authorized list. These individuals may be unfamiliar with the equipment or lack the necessary experience or training to individually hold LOTO.

A non-listed worker may perform work under LOTO at the request of the LOTO coordinator in either of the following two ways:

- Individual accountability – By securing directly to an approved Southern Company LOTO device with the permission of the LOTO coordinator.
  - All non-listed workers shall secure a personal protective lock directly to the LOTO device. Under this system, a Southern Company LOTO coordinator shall be responsible for the non-listed group of individuals and assume responsibility for the accountability and notification of any changes to the LOTO.

- Alternate accountability – A system where a contractor responsible person holds LOTO for other workers. This system can be used when approved by Southern Company plant management. The contractor responsible person, specified by the contractor, may be a contractor superintendent, crew foreman, project coordinator, or any other responsible individual associated with the group and shall be responsible for the following:

  - Communicating with all non-listed individuals who intend to work on plant equipment.
  - Securing a lock designated as an alternate accountability responsible person device behind a coordinator lock on either the hasp or the satellite box.
  - Ensuring each individual worker secures an individual personal protective lock to the appropriate lockout device per their employer's energy control program.

- Under this system, a Southern Company LOTO coordinator shall hold the LOTO for the contractor responsible person and provide them all information, including limitations and boundaries associated with the scope of work and LOTO record.

NOTE: Contractors shall maintain an effective energy control program of accountability using locks for personnel that meets all requirements set forth in 29 CFR 1910.269(d),1910.147, and this procedure. Program shall demonstrate controlled means to remove individual worker's lockout devices when not at the facility. Prior to using alternate accountability, contractor shall submit their site-specific alternate accountability system to plant management for approval.

normal production operations – Use of equipment to perform its intended production function.

personal protective lock – Lockout device used for the protection of individuals performing work under a LOTO. Personal protective locks can be individual, non-listed/visitor, or contractor locks.

qualified person – Person who is competent, by their electrical knowledge and skills, to safely work on energized circuits. Competence includes the demonstration of proper use of precautionary techniques, personal protective equipment, insulating materials, voltage detection devices, and insulated tools.

NOTE: Third-party qualified persons shall be trained and qualified by their respective employer.

requestor – Employee/worker on the authorized list who has requested a LOTO to have scheduled service or maintenance activity performed on a piece of equipment.

SafeTK – Software used to manage, document, and track activities within the LOTO process. SafeTK is the official repository of LOTO documentation, including standards.

servicing and/or maintenance – Workplace activities such as constructing, installing, adjusting, inspecting, modifying, and servicing and/or maintaining equipment. These activities include lubrication, cleaning or unjamming of equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energizing or startup of the equipment or release of hazardous energy.

standards – LOTO records, grouped by equipment, developed, approved, and saved for recurring maintenance activities. Standards for each facility are approved by a LOTO administrator at that facility.

system break – The intentional opening of a pipe, line, or duct that is or has been carrying a flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

tagout – Placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled cannot be operated until the tagout device is removed.

tagout device – Prominent warning device, securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled cannot be operated until the tagout device is removed. See attachment B, Example LOTO Tag, for an example of a tagout device.

NOTE: When TPGs are installed as part of the LOTO record by the Southern Company Generation qualified person, two red tags shall be fastened to the TPGs. Where a lockout device(s) cannot be affixed directly to the energy isolating device, a tagout device shall be located as close as safely possible to the energy isolating device in a position obvious to anyone attempting to operate the device.

Where tagout devices are used to control isolation devices, additional means shall include the implementation of additional safety measures, such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energizing.

NOTE: Tagout devices without a lock shall only be used on isolation devices until a permanent means to hang a lock can be designed and installed.

temporary protective ground (TPG) – Device installed by a qualified person for the purpose of grounding electrical equipment previously energized at a voltage greater than 600 V.

temporary protective ground (TPG) tags – Orange tags affixed to grounds by a qualified third party to control the installation and removal of the grounds.

worker – Person performing service or maintenance under LOTO.

2.2 References

- Frequently Asked Questions (FAQ), SCG-SH-0201, Lockout/Tagout (LOTO) Procedure
- 29 CFR 1910.269, Electric power generation, transmission, and distribution
- 29 CFR 1910.147, The control of hazardous energy (lockout/tagout)
- SCG-SH-0230, Temporary Protective Grounds
- TSS Engineering and Design standard D-11, Design Functional Tags and Descriptions

3.0 RESPONSIBILITY

3.1 Plant Manager

The plant manager maintains overall responsibility for the administration of the LOTO program and is responsible for implementing and strictly enforcing this procedure. The plant manager or designee also has responsibility and control of all spare and backup keys issued for removing locks of other employees or departments.

3.2 Operating Area Manager

The operating area manager ensures the LOTO procedure is correctly administered by all designated operating area employees and they are following the LOTO procedure and performing their respective duties. The operating area manager also defines the process for assigning a single designated primary authorized employee per shift.

3.3 LOTO Administrator

There are LOTO administrators for each facility, appointed by management, responsible for the following:

- Reviewing and approving standards at a facility.
- Interfacing with corporate LOTO administrators on software changes or improvements.
- Administration of LOTO training at a facility.

The corporate LOTO administrators will represent operating companies (Alabama Power, Georgia Power, Mississippi Power, and Southern Power) and are responsible for the following:

- Administration of the LOTO software across the Southern Company Generation facilities.
- Gathering input on software changes or improvements.

The Southern Company Generation corporate LOTO administrator is the primary interface with the LOTO software provider and coordinates changes or improvements.

3.4 Authorized List Administrator

The authorized list administrator is designated by the plant manager and is responsible for approving or denying permission requests for the plant's authorized list through COOL Compliance.

3.5 Requestors

The requestor collaborates with the operating area leader (OAL) to ensure the LOTO request record is appropriate for the work to be performed. The requestor works with the OAL to complete the LOTO request record. The LOTO request record populates the LOTO information section of the LOTO record and notifies affected workers of scheduled service or maintenance activity. The requestor is responsible for the following:

- Determining what equipment requires isolation for the purpose of servicing for maintenance activity.
- Reviewing with the OAL all applicable scopes of work, work orders, electrical or mechanical prints, and/or other relevant documents to ensure all energy isolations are properly identified.
- Confirming, in collaboration with the OAL, mutual understanding and agreement on energy isolation points are achieved.

3.6 Operating Area Leader (OAL)

The operating area leader (OAL) is identified as the person with authority to perform specific roles in the LOTO process. The OAL may be a supervisor, operator, or other designee as defined by management, and is responsible for the following:

- Implementing the LOTO procedure.
- Reviewing and understanding the LOTO Request Record.
- Ensuring the operating area (unit) can support and approves the request for LOTO.
- Developing or assigning an OAAE to develop the LOTO isolation record.
- Create standards for approval by the local LOTO administrator.

- Ensure the proper LOTO boundaries are established through reviewing scope and type of work, performing system walk-downs, reviewing drawings, and ensuring the proper positioning of devices.
- Ensuring the LOTO record is appropriate for the scope of work and is completed before initiating the isolation process.
- Approving selected LOTO records.
- Assigning OAAE and issuing the LOTO record to execute.
- Resolving any LOTO boundary issues.
- Reviewing the completed LOTO record for accuracy and completeness.
- Authorizing placement or removal of third-party grounds. Tracking (SafeTK), issuing, and collecting TPG tags (orange).
- Ensuring all locking devices are accounted for and the number of locks/tags matches the number of entries on the LOTO record.
- Assigning a verifier to walk down and verify the execution of the LOTO record.
- Activating the LOTO by ensuring all isolation keys are placed inside the master lockbox and are secured with an operating area lock.
- Activating the LOTO record (SafeTK).
- Notifying the requestor of an active LOTO.
- Controlling access to the master lockbox. Ensuring all LOTO holders have reviewed the LOTO information prior to locking on the appropriate lockbox or devices.
- Ensuring all locks are removed before any release for test, boundary reduction modification, or release.
- Removing the operating area lock on the master lockbox to support a release for test, boundary reduction modification, or final release.
- Assigning an OAAE to release the LOTO.
- Reviewing the completed LOTO documents and verifying the LOTO documents indicate the LOTO has been released and equipment is ready for operation.
- Completing the LOTO Record (SafeTK) and storing the completed LOTO documents per the record retention schedule.

3.7 Primary Authorized Employee (PAE)

When workers are servicing or maintaining equipment under a group LOTO, a single primary authorized employee (PAE) is identified and documented in each designated operating area for every shift. Transfer of the PAE responsibilities may only be conducted during shift or personnel changes to ensure continuity. Responsibilities of the PAE include the following:

- Having overall job-associated lockout or tagout control responsibility when employees are working under the protection of a group lockout or tagout device(s).
- Coordinating affected work forces and ensuring continuity of protection.
- Providing oversight, ensuring the designated operating area follows provisions for each authorized employee to affix a personal lockout device to the group lockout device, group lockbox, or comparable mechanism, when he or she begins work, and ensuring they remove those devices when he or she stops working on the equipment being serviced or maintained.
- Ensuring the designated operating area follows procedure for orderly shutdown and startup of equipment.
- Identifying the PAE in the turnover log system for each designated operating area when turnover review has been completed and responsibility has been transferred.

3.8 Operating Area Authorized Employee (OAAE)

The operating area authorized employee (OAAE) is identified as the person with authority to perform specific roles in the LOTO process. The OAAE may be an operator or other designee as defined by management. The OAAE is responsible for the following:

- Developing a LOTO boundary on the LOTO record that is appropriate for the scope of work, eliminating hazardous energy.
- Reviewing the LOTO record with the OAL.
- Placing isolation locks, associated locking devices, and tags on the isolation component, in the proper sequence as outlined on the LOTO record.
- Ensuring the appropriate energy sources to equipment being worked on are properly isolated by a visual, test try, test equipment, or drain/depressurize method.
- Completing each line item on the LOTO record to document the device position and test method used.
- Removing the locking devices and restoring the equipment to the desired position as determined on the LOTO release record.
- Visually verifying personnel are not exposed to equipment before re-energizing equipment.
- Creating standards for approval by the LOTO administrator.

3.9 Verifier

The verifier validates (through review) completion of the LOTO. The verifier may not reposition or remove any lockout device placed on equipment.

The verifier is responsible for the following:

- Verifying each device listed on the LOTO record is correctly tagged and locked per the LOTO record and the *Test Method* section is complete.
- Initialing and signing required sections of the LOTO record.
- Notifying the OAL immediately when any devices are discovered in conflict with the LOTO record.

3.10 LOTO Holder

The LOTO holder is an authorized employee/worker who may request LOTO and/or perform work on equipment held by LOTO. The LOTO holder is responsible for the following:

- Before securing any lock to the lockbox, gaining permission of the designated operating area and ensuring an operating area lock (orange) is secured.
- Reviewing the LOTO information; knowing and understanding the limitations and boundaries associated with the scope of work and LOTO record before locking on and off the appropriate lockbox or device as required, using an individual lock (blue).
- Prior to starting work, verifying by walkdown the LOTO is adequate for the work being performed, and equipment is properly isolated and safe for the work he or she intends to perform.
- Before beginning a new shift, verifying the LOTO is still active.
- Participating in prejob briefings to understand the scope of work and LOTO boundaries involved.
- Not changing or repositioning any LOTO isolation devices or removing any locks during the course of their work task.
- Immediately communicating any concerns noted with the LOTO boundaries or associated scope of work to the designated operating area.
- Immediately removing personal protective locks when work is complete and safe to return to service or suspended.
- Prior to removing an individual lock, ensuring a coordinator lock is secured if work is not complete and safe to return to service.

3.11 LOTO Coordinator

The LOTO coordinator is an authorized employee/worker who may request LOTO and/or coordinate work on equipment held by LOTO workers. The LOTO coordinator is responsible for the following:

- Before securing any lock to the lockbox, gaining permission of the designated operating area and ensuring an operating area lock (orange) is secured.
- Reviewing the LOTO information; knowing and understanding the limitations and boundaries associated with the scope of work and LOTO record before locking on

and off the appropriate lockbox or device as required, using a coordinator lock (green).

- Prior to starting work, verifying by walkdown the LOTO is adequate for the work being performed, and equipment is properly isolated and safe for the work he or she intends to perform.
- Before beginning a new shift, verifying the LOTO is still active.
- Participating in prejob briefings to understand the scope of work and LOTO boundaries involved.
- Changing or repositioning any LOTO isolation devices or removing any locks during the course of their work task as authorized by Maintenance Release LOTO.
- Immediately communicating any concerns noted with the LOTO boundaries or associated scope of work to the designated operating area.
- Controlling access to the satellite lockbox. Providing information (including limitations and boundaries associated with the scope of work and LOTO record) to all workers performing service or maintenance under the coordinator lock (green).
- Managing the installation and removal of third-party TPGs.
- Working with the designated operating area to track the issue and return of TPG tags.
- Securing an individual lock prior to performing any maintenance, inspection, or service of equipment controlled by an active LOTO.
- Removing all locks immediately when work is complete or suspended.
- Completing a Coordinator Continuity Transfer Record prior to taking responsibility of a coordinator lock and either having full understanding of work scope status or obtaining permission of the current LOTO coordinator.
- Securing a coordinator lock and LOTO information tag before removing the prior coordinator lock.

NOTE: The LOTO coordinator attaches the Coordinator Continuity Transfer Record to the appropriate lockbox or active LOTO file for the duration of the work. At completion of work, the LOTO coordinator returns the record to the DOA, retaining per Southern Company Records Retention Schedule.

3.12 Non-Listed Worker

A non-listed worker is a worker performing service or maintenance under the direction of a LOTO coordinator. The non-listed worker shall be responsible for the following:

- Successfully completing LOTO awareness training.
- Knowing that equipment is not safe for performing service or maintenance unless a LOTO has been established and workers are locked on to the appropriate lockbox or device.

- Understanding their role in the LOTO procedure and implementing methods to ensure compliance with this procedure.
- Participating in prejob briefings to understand the scope of work and LOTO boundaries involved.
- Personally locking on and off the appropriate lockbox or device when required, but only after a coordinator lock (green) is secured. Only securing a personal protective lock to a hasp or yellow satellite box.
- Reviewing the LOTO information provided by the LOTO coordinator. Obtaining a copy of all requested LOTO documents.
- Knowing and understanding the limitations and boundaries associated with the scope of work and LOTO record before locking on and off the appropriate lockbox or device and performing work.
- Knowing they have the option, and are encouraged, to personally walk down the LOTO boundaries to ensure a safe work condition.
- Not changing or repositioning any LOTO isolation devices or removing any locks during the course of their work task.
- Stopping work when any deficiencies of the LOTO are identified or when concerns are noted with the LOTO boundaries or associated scope of work and reporting immediately to the LOTO coordinator.
- Immediately removing personal protective locks when work is complete or suspended.

See *non-listed worker* definition for details on working under LOTO.

NOTE: Non-listed workers shall always secure personal protective locks on a hasp or yellow satellite box behind a coordinator lock (green). Non-listed workers shall not secure a lock directly to a master lockbox. Non-listed workers shall not secure a lock to any Southern Company LOTO device without the permission of the LOTO coordinator or additionally when a coordinator lock is not secured to that device.

4.0 PROCEDURE

4.1 Routine Lockout/Tagout (LOTO)

Process Map

Routine LOTO defines the overall process for isolating equipment for servicing and maintenance in which the unexpected energizing or startup of the equipment, or release of stored energy, could harm employees. This process establishes minimum performance requirements for the control of such hazardous energy.

NOTE: All LOTO records shall be created and issued via the SafeTK software. In the event of an unscheduled software outage, each facility shall manually create and issue temporary LOTO records until the software returns to service. An index shall be kept of

each record using a sequential log number for the designated operating area. All fields on each LOTO record shall be completed to include device descriptions and device number. Associated temporary LOTO tags shall contain at minimum the log number and date. See attachment C, Example Temporary LOTO Records, for an example of temporary LOTO records.

Existing active LOTO records shall be completed and retained in a temporary folder until SafeTK records are updated and documents can be filed per the record retention schedule.

4.2 Simple LOTO

Process Map

Simple LOTO defines the process for applying individual locks directly to isolation devices by authorized workers to maintain local control of equipment under LOTO.

NOTE: If the work has not been completed and/or the equipment is not ready to be placed in service at the end of shift, or when the authorized employee leaves the facility, the OAL shall be contacted immediately and proceed to 4.3, Develop LOTO Record.

1. OAL selects the Simple LOTO record for the scope of work in software (SafeTK).
2. OAL assigns the authorized employee from the *LOTO Activated By* dropdown list (SafeTK) to execute the LOTO.
3. LOTO holder receives the LOTO simple record and executes according to the execution steps, then places devices in the isolation position, and installs individual locks (blue) and tags. Each step is installed to document execution.

   Proceed to 4.5, Verify Isolation.

   NOTE: When executing a Simple LOTO, the LOTO Holder performs the duties of the OAAE in the Verify Isolation process.

4. LOTO holder signs the simple LOTO record (in the LOTO Activated By field) to document execution of the LOTO steps.
5. LOTO holder performs prejob briefing.
6. LOTO holder performs maintenance activity.
7. LOTO holder determines if work is completed and equipment is safe to return to service.

   If yes, proceed to Step 8.

   If no, proceed to 4.3, Develop LOTO Record.

8. LOTO holder removes the locks from the isolation devices, positions, and initials each step according to the LOTO simple record (release).
9. LOTO holder signs the LOTO simple record (in the LOTO Released By field) to signify scope of work is complete and the equipment is released to Operations.

10. The OAL, along with the LOTO holder, reviews the returned documentation with the LOTO holder for completeness and ensures the proper number of tags has been returned.
11. OAL completes the LOTO (SafeTK) to document the simple LOTO is completed.
12. OAL files the original completed LOTO documents and retains per Southern Company Records Retention Schedule.

End of process.

4.3 Develop LOTO Record

Process Map

Develop LOTO Record defines the process for requesting and developing LOTO records identifying procedural steps to develop, document, and control potentially hazardous energy when employees are engaged in service and maintenance activities.

Employees shall request LOTO when performing servicing and/or maintenance activity on equipment in which the unexpected energizing, startup, or release of stored energy from the equipment could cause injury to employees.

1. Requestor identifies equipment to be worked on.
2. Requestor submits a LOTO request record (SafeTK) to outline the scope of work and equipment to be isolated for servicing or maintenance.

   NOTE: If maintenance release or simple LOTO is required, begin Reason for LOTO field with “Maintenance Release” or “Simple LOTO.”

3. OAL, along with the requestor, reviews the request and scope of work to ensure understanding. (SafeTK)
4. OAL determines if the equipment can be removed from service without interrupting unit operation.

   If yes, proceed to Step 5.

   If no, proceed to Step 20.

5. OAL approves LOTO Request (SafeTK).
6. OAAE reviews the LOTO request record and defines the isolated boundaries to match the scope of work.
7. OAAE searches the LOTO standards in database to determine if a standard already exists.

   If yes, proceed to Step 8.

   If no, proceed to Step 9.

8. OAAE selects the standard (SafeTK) to match the scope of work.

   NOTE: If Maintenance Release, use satellite box and assign at least two additional separately keyed isolation locks.

9. OAAE creates the LOTO record and saves (SafeTK).
10. OAAE modifies the LOTO record (SafeTK).

    NOTE: Indicate isolations on LOTO Isolation Record that will be used for Maintenance Release.

11. OAL reviews the LOTO record (SafeTK) to confirm the isolation boundaries match the scope of work.
12. OAL determines if request is for Simple LOTO.

    If yes, proceed to 4.2, Simple LOTO.

    If no, proceed to Step 13.

13. OAL determines whether to approve the LOTO for execution.

    If yes, proceed to Step 14

    If no, proceed to Step 6

14. OAL selects an available lockbox (SafeTK).
15. OAL assigns the authorized employee selected from the LOTO Isolation Executed By dropdown list (SafeTK) to execute the LOTO.
16. OAL assigns the authorized employee selected from the LOTO Isolation Verified By dropdown list (SafeTK) to verify the LOTO.

    NOTE: If using independent verification and the name of the authorized employee is not available, manually complete this section as assigned in the Isolate Equipment Process (Step 17).

17. OAL determines if a Maintenance Release is required.

    If yes, proceed to Step 18

    If no, proceed to Step 19

18. OAL issues two single locks for the isolation devices associated with the maintenance release.
19. OAL approves the LOTO (SafeTK) and prints the forms and tags (issues) for the LOTO.

    Proceed to 4.4, Isolate Equipment

20. OAL notifies the requestor unit operations cannot support the request.

End of Process

4.4 Isolate Equipment

Process Map

Isolate Equipment defines the process for isolating (device positioning, locking, tagging, grounding, and so forth) equipment when servicing and/or maintenance is performed by a crew, craft, department or other group (Group LOTO). All hazardous energy sources shall be isolated in such a manner as to prevent their inadvertent activation. Only approved energy isolating devices specifically provided by the facility for the purpose of controlling hazardous energy shall be used. Operating Area Authorized Employees shall be responsible for isolating equipment per the LOTO record as issued by the Operating Area Leader.

NOTE: Southern Company Generation Qualified Persons shall install temporary protective grounds (TPGs) per the identified steps on the LOTO record. TPGs shall be secured at minimum with an isolation lock on the ground side of the cable and tagged on both sides of the ground with a danger tag.

1. OAL determines if the concurrent verification is to be used per site-specific procedure.

   If yes, proceed to Step 2.

   If no, proceed to Step 3

2. OAL assigns a verifier to go with the LOTO executor (SafeTK).
3. OAAE receives the LOTO record and executes according to the execution steps, then places devices in the isolation position, and installs locks and tags. Each step is initialed to document execution.

   NOTE: If any device requires an isolation test to be performed prior to securing a lockout device, proceed to 4.5, Verify Isolation, prior to securing isolation lock and tagout devices.

   Proceed to 4.5, Verify Isolation.

4. OAAE determines if internal grounds are required.

   If yes, proceed to Step 5.

   If no, proceed to Step 8.

5. OAL requests a qualified person to install internal grounds.

6. Prior to installing the grounds, the qualified person performs a walkdown and tests the conductor to verify absence of energy.

   NOTE: Use device properly rated for voltage.

7. Qualified person, with guidance from the OAAE, installs the internal grounds.

   Reference: SCG-SH-0230 Temporary Protective Grounds

8. OAAE signs the Executed By section of the LOTO Isolation Record and returns to OAL for review.
9. OAL reviews the completed LOTO Record with the OAAE to ensure completeness of the record and all steps are executed.
10. OAL determines if concurrent verification was performed.

    If yes, proceed to Step 11.

    If no, proceed to Step 16.

11. OAL determines if LOTO is a maintenance release.

    If yes, proceed to 4.7, Maintenance Release.

    If no, proceed to Step 12.

12. OAL places the key(s) to the isolation devices in the master lockbox, then secures the master lockbox with an operating area lock.
13. OAL activates the LOTO Isolation Record (SafeTK).
14. OAL attaches the cover page to the master lockbox and places the associated LOTO record(s) in the active LOTO file.
15. OAL notifies the requestor the LOTO is active.

    Proceed to 4.6, Perform Work.

16. OAL assigns a verifier for independent verification.
17. Verifier walks down the equipment per steps on the LOTO Isolation Record to confirm LOTO devices are properly installed on correct devices. The verifier initials that all devices are correct per LOTO Isolation Record.

    NOTE: The verifier shall not reposition any devices as a part of this walkdown. If any portion of the LOTO record is in question, the verifier shall return to the OAL for resolution.

18. The verifier signs the LOTO Isolation Verified By field on the LOTO Isolation Record.
19. OAL reviews the completed LOTO Record with the verifier to ensure completeness of the record and all steps are verified.

Proceed to Step 11.

20. OAL reviews the boundary issue with the OAAE.
21. OAL determines if the boundary can be modified to resolve the boundary issue.

    If yes, proceed to Step 22.

    If no, proceed to Step 24.

22. OAL reviews boundary issue with the LOTO with the OAAE and revises LOTO record to resolve the boundary issue.
23. OAL determines if the boundary modification record is approved.

    If yes, proceed to Step 1.

    If no, proceed to Step 24.

24. OAL notifies a requestor the unit cannot support the isolation request.

    Proceed to 4.9, Release LOTO

4.5 Verify Isolation

Process Map

Verify Isolation defines the process for ensuring the equipment is properly removed from service and that all stored and/or potentially hazardous or residual energy has been relieved, disconnected, or properly restrained.

The verifier shall not reposition or remove any lockout device placed on equipment. Any devices discovered in conflict with the LOTO record shall be identified and brought to the Operating Area Leader (OAL) for resolution.

The Operating Area Authorized Employee (OAAE) assigned to execute the LOTO record shall be responsible for verification of isolation.

1. OAAE determines if any isolation devices are electrical components.

    If yes, proceed to Step 2.

    If no, proceed to Step 13.

2. OAAE determines if it is possible to perform a visual inspection either through (1) ensuring an air gap exists between the source and equipment or (2) an installed voltage indicator to verify the absence of voltage.

NOTE: When an installed voltage indicator is used, the OAAE shall verify the voltage indicator is operating properly prior to performing the isolation step. If the voltage indicator is not working properly, it cannot be used as a verification method.

If yes, proceed to Step 9.

If no, proceed to Step 3.

3. OAAE determines if a test try will be performed.

   If yes, proceed to Step 10.

   If no, proceed to Step 4.

4. OAAE determines if test equipment can be used.

   If yes, proceed to Step 5.

   If no, proceed to Step 6.

5. The qualified employee will use test equipment to verify the absence of the energy and prove to the OAAE that hazardous energy is absent.

   NOTE: Use a device properly rated for the voltage.

6. OAAE determines if hazardous energy is absent.

   If yes, proceed to Step 7.

   If no, proceed to 4.4, Isolate Equipment (Step 22).

   NOTE: If any required mechanical component by design cannot be tested for isolation, plant management will work with the appropriate personnel to establish safe work procedures for a system break prior to activating the LOTO.

   Using a system break for an isolation test shall only be used until a permanent means for isolation test can be installed.

7. OAAE updates the Test Performed By section of LOTO Isolation Record to indicate the verification action performed.

   NOTE: When isolation devices have an active LOTO in place (overlapping LOTO), it shall be assumed that the prior isolation test has not been compromised. The test method section shall be lined through and indicated as a visual test method. The test performed by section shall be initialed, and the prior active LOTO number shall be referenced in the notes section.

8. OAAE determines if a Simple LOTO record is used.

   If yes, proceed to 4.2, Simple LOTO (Step 12).

   If no, proceed to 4.4, Isolate Equipment (Step 4).

9. OAAE confirms absence of voltage by confirming a visual air gap exists or the voltage indicator validates an absence of voltage.

   If yes, proceed to Step 6.

   If no, proceed to 4.4, Isolate Equipment (Step 22).

10. OAAE clears the area for the equipment that will be attempted to start.

    NOTE: Ensure area around equipment is clear of hazards and all personnel in case the equipment should start inadvertently during the test try. Controls should be placed in the “stop” or “off” position following verification of a test try.

11. OAAE performs a test try by attempting to start the equipment using control devices.

    NOTE: Attempt to start equipment. (Emergency stops and other interlocks should be checked to make sure they would not block the startup of the equipment.) If using a Start button for the try test, press the Stop button afterward.

12. OAAE determines if the equipment started.

    If yes, proceed to 4.4, Isolate Equipment (Step 22).

    If no, proceed to Step 7.

13. OAAE verifies the system or device is drained, depressurized, and safe for work. Verification can be confirmed by using a pressure gauge, drain, vent, or equivalent method.

    Proceed to Step 6.

4.6 Perform Work

Process Map

Perform Work defines the process for all workers to ensure an energy isolating device remains in a safe position and prevents the energization of equipment while performing servicing or maintenance activities.

1. LOTO Holder selects the LOTO and verifies with DOA the selected LOTO matches the scope of work.

2. LOTO Holder secures the master lockbox with an individual or coordinator lock.
3. LOTO Holder determines if third-party grounds are required.

   If yes, proceed to step 4.

   If no, proceed to step 15.

4. LOTO Holder obtains TPG tags (orange) from the OAL.
5. OAL indicates (SafeTK) the LOTO coordinator's name and time/date the tags were issued. The TPG Tag Tracking index remains in the electronic file as part of the LOTO documentation.

   NOTE: The LOTO coordinator shall request TPG tags (orange) from the OAL in the designated operating area. The OAL shall prepare the appropriate number of TPG tags (orange) by writing the associated LOTO and tag number on the tag(s) in ink.

6. LOTO holder performs a prejob briefing with the third-party qualified person.
7. Third-party qualified person secures lockbox (hasp or satellite as needed) behind the coordinator lock with a non-listed (contractor or visitor) lock.
8. Third-party qualified person performs walkdown with the LOTO holder and verifies the absence of energy.

   NOTE: Use a device properly rated for voltage.

9. Third-party qualified person installs grounds and TPG tags (orange).
10. LOTO holder performs work with all workers.
11. LOTO holder determines if testing is required.

    If yes, proceed to 4.11, Testing.

    If no, proceed to Step 12.

12. LOTO holder determines if work is complete.

    If yes, proceed to 4.8, Work Completed.

    If no, proceed to Step 13.

13. LOTO holder determines if a boundary modification is needed.
    If yes, proceed to Step 14.

    If no, proceed to Step 10.

14. LOTO holder determines if a decreased boundary is needed.

    If yes, proceed to 4.10, Suspend Work

If no, proceed to 4.12, Modify Boundary

15. LOTO holder performs a prejob briefing.
16. LOTO holder performs a walkdown.
17. LOTO holder determines if they will coordinate the LOTO for other workers.

    If yes, proceed to Step 18.

    If no, proceed to Step 10.

18. LOTO holder performs a prejob briefing with all workers involved in servicing and maintenance activity.
19. Non-listed worker secures lockout device behind the coordinator lock with a personal protective lock.

    NOTE: Each worker may determine to his or her satisfaction the appropriate isolations are in place and the isolations are secure for the task in which he or she is involved. A copy of the LOTO record shall be provided when requested.

    NOTE: If non-listed worker, follow 4.13, Non-Listed/Visitor Lock, to obtain lock.

    Proceed to Step 10.

4.7 Maintenance Release

Process Map

Maintenance Release defines the process for when a LOTO coordinator needs local control to operate equipment under LOTO to perform an assigned maintenance activity such as jogging, rotating, or intermittently moving the equipment. Examples include rotating an air heater to replace baskets and rotating intake water screens to replace or repair them.

A maintenance release authorizes a LOTO coordinator holding stated equipment under LOTO to operate the equipment only when the following condition has been met:

A minimum of two isolation devices have been identified and shall be used to isolate and control equipment under the maintenance activity. The isolation devices shall remain under the exclusive control of the LOTO coordinator via independently keyed isolation locks and satellite box.

Only one person may hold a maintenance release on a piece of equipment or component at one time.

1. OAL secures all nonmaintenance release isolation keys in master lockbox with operations lock

NOTE: OAL restricts access to master lockbox ensuring other workers understand the LOTO boundary does not include the devices associated with the maintenance release.

2. OAL places maintenance release isolation keys in satellite lockbox.
3. LOTO coordinator secures coordinator lock to satellite lockbox.
4. OAL activates LOTO isolation record (SafeTK).
5. OAL attaches the completed LOTO isolation record to lockboxes. OAL attaches original LOTO isolation record to the master lockbox and a copy of the record to the satellite box, then places a cover page for the LOTO on each lockbox.
6. OAL notifies requestor that LOTO is placed.
7. LOTO coordinator relocates satellite lockbox to work area. The satellite lockbox will remain in the maintenance release work area under the exclusive control of the LOTO coordinator for the duration of the job.
8. LOTO coordinator controls access to maintenance release work area.

   NOTE: Use barricade procedure to secure the area and control access.

9. LOTO coordinator conducts prejob briefing with all workers involved in maintenance release activities.

   NOTE: LOTO coordinator shall document and communicate process for securing and releasing locks during maintenance release.

   A briefing with the immediate work group shall address:

   - The person(s) who shall operate the controls. When working around the clock, a person shall be identified for each shift.
   - The means of controlling access to the work area.
   - The type of communication method that shall be used to notify others in his or her work group to clear the area prior to energizing the equipment.
   - Each person’s communication method to respond back that he or she has taken a safe position that shall prevent him or her from making or coming in contact with rotating or energized equipment.

10. Workers secure satellite lockbox with personal protective locks.
11. Workers perform maintenance activity with the LOTO coordinator.
12. LOTO coordinator determines if additional maintenance release activity is required.

    If yes, proceed to Step 13.

    If no, proceed to 4.8, Work Completed.

    NOTE: If Maintenance Release activity is completed prior to other work on the associated LOTO, the isolation devices shall be placed in the position indicated on the Isolation Record and secured with isolation locks and tags. The keys shall be

returned to the Designated Operating Area and placed in the master lockbox by the OAL until all work activity is complete and ready to return to service.

13. Workers remove personal locks from satellite box.
14. LOTO coordinator removes coordinator lock from satellite lockbox and obtains keys for maintenance release.
15. LOTO coordinator removes isolation locks and tags.
16. Worker repositions equipment for maintenance activity.
17. LOTO coordinator isolates, tags, and locks devices per LOTO Isolation Record.
18. LOTO coordinator places the keys to the maintenance isolation locks in satellite lockbox and secures with a coordinator lock.

Proceed to Step 10.

4.8 Work Completed

Process Map

Work Completed defines the process for removing workers from an active LOTO following the completion of all servicing and maintenance activities.

1. Workers remove non-listed personal protective locks.

   NOTE: If non-listed/visitor lock is used and no longer needed, follow 4.13, Non Listed/Visitor Lock. LOTO holder determines if coordinating other workers.

   If yes, proceed to Step 3.

   If no, proceed to Step 11.

2. LOTO coordinator verifies all personal protective locks are removed.

   NOTE: Excluding qualified person locks.

3. LOTO coordinator determines if third-party grounds are installed.

   If yes, proceed to Step 5.

   If no, proceed to Step 10.

4. Third-party qualified person removes grounds and TPG tags and returns tags to LOTO coordinator.
5. LOTO coordinator returns TPG tags to the DOA.
6. OAL indicates each TPG tags returned in tool (SafeTK).
7. Third-party qualified persons remove lock(s).
8. LOTO coordinator verifies all personal protective locks have been removed.
9. LOTO coordinator verifies all personnel are clear of work area.

NOTE: Collect tools from work area.

10. LOTO holder determines if equipment is safe to return to service.

    NOTE: If any equipment is left in a condition not safe to return to service, all LOTO holders shall remain locked to the master lockbox until a LOTO coordinator responsible for the servicing or maintenance activities can maintain continuity by securing a coordinator lock.

    NOTE: The LOTO Holder shall assign a coordinator associated with the specific scope of work.

    If yes, proceed to Step 12.

    If no, proceed to Step 13.

11. LOTO holder removes individual lock and/or LOTO coordinator removes coordinator lock from lockbox.

    Proceed to 4.9, Release LOTO.

12. LOTO coordinator installs coordinator lock.
13. LOTO coordinator determines if work should be suspended for testing.

    If yes, proceed to 4.10, Suspend Work (step 2).

    If no, proceed to 4.6, Perform Work.

4.9 Release LOTO

Process Map

Release LOTO defines the process for restoring equipment to normal production operations.

1. OAL determines if all LOTO holder locks are removed.

   If yes, proceed to Step 2.

   If no, proceed to 4.14, Lock Emergency Removal.

2. OAL releases LOTO (SafeTK).
3. OAL assigns OAAE to release LOTO (SafeTK).
4. OAL issues LOTO Release Record (SafeTK).
5. OAL removes operating area lock from lockbox and issues keys for items to release.
6. OAL determines if internal grounds require removal.

If yes, proceed to Step 7.

If no, proceed to Step 9.

7. OAL requests electrician to remove internal grounds.
8. Qualified person removes internal grounds with OAAE.
9. OAAE removes locks and tags and repositions and initials each step per LOTO record.
10. OAAE signs LOTO Released By section of LOTO Release Record.
11. OAAE verifies all locks returned and stores lockbox.
12. OAL accounts for and disposes of all tags.
13. OAL completes LOTO (SafeTK).
14. OAL files original completed LOTO documents and retains per Southern Company Records Retention Schedule.

End of process.

4.10 Suspend Work

Process Map

Suspend Work defines the process for removing workers from an Active LOTO to support testing or a reduced boundary.

1. LOTO coordinator determines if third-party TPGs are installed.

If yes, proceed 4.8, Work Completed (Step 6).

If no, proceed to Step 2.

2. LOTO coordinator verifies all workers have removed locks.
3. LOTO holder verifies all personnel are clear of work area.

NOTE: Collect tools from work area.

4. LOTO holder removes lock from lockbox.
5. OAL places lockbox(es) in a secure area to prevent access by workers.

NOTE: Place in designated secure area; remove all locks except operation area lock.

6. OAL determines if all locks are removed.

If yes, proceed to Step 7.

If no, proceed to 4.14, Lock Emergency Removal.

7. OAL determines if work is suspended for testing.

   If yes, proceed to 4.11, Testing.

   If no, proceed to 4.12, Modify Boundary.

4.11 Testing

Process Map

Testing defines the process for temporary releasing a portion of a LOTO boundary to perform an operational check, servicing, or repositioning of equipment under an Active LOTO. All workers shall suspend servicing or maintenance activity on any system or equipment when a test is performed. Access to the group master lockbox shall be prevented.

Any LOTO holder may request a test release of the equipment and must be on site during the time of the test. Only one person may request a test release on the same equipment at one time.

NOTE: A test release shall not be required for tests such as meggering, motor evaluation tests, or resistance where LOTO is not released.

1. LOTO holder reviews scope of testing with OAL.
2. OAAE creates the LOTO Test Release Record (SafeTK).

   NOTE: If TPGs are part of the LOTO record, a review should be performed to determine if removal is required prior to issuing Test Release.

3. OAL reviews isolation boundaries.
4. OAL determines if the LOTO Test Release Record can be approved

   If yes, proceed to Step 5.

   If no, proceed to Step 2.

5. OAL assigns employee to release isolation (SafeTK).
6. OAL issues LOTO Test Release Record (SafeTK).
7. OAL removes operating area lock from lockbox and issues key(s) for items to release.
8. OAL determines if internal ground removal is required.

   If yes, proceed to Step 9.

   If no, proceed to Step 11.

9. OAL requests qualified person for ground removal.

10. Qualified person removes internal grounds with OAAE.
11. OAAE removes locks, tags, and LOTO devices; repositions devices.
12. OAAE initials each item repositioned on the LOTO Test Release Record.

    NOTE: Verify all equipment is in the correct position.

13. OAL receives locks, tags, devices, and LOTO Test Release Record.
14. OAL activates LOTO Test Release Record (SafeTK).
15. LOTO holder performs a prejob briefing with OAL and OAAE.
16. LOTO holder performs testing with support from the DOA.
17. LOTO holder determines if work is complete.

    If yes, proceed to 4.8, Work Completed.

    If no, proceed to Step 18.

18. OAL initiates Test Restore Record.

    Proceed to 4.3, Develop LOTO Record (step 15).

4.12 Modify Boundary

Process Map

Modify Boundary defines the process for making changes to the LOTO boundaries including increasing and decreasing isolation devices.

NOTE: If any device of the active boundary is decreased, work must be suspended prior to releasing any isolation device.

When isolation devices are added to increase the boundary, LOTO holders may remain on the active LOTO. New LOTO holders must review and understand the entire boundary prior to performing service or maintenance activity. When a LOTO boundary is increased, all workers shall review the associated LOTO documents and isolation devices per the new boundary modification prior to working beyond the scope original boundary.

1. LOTO holder identifies the isolation needs and requests boundary change.
2. OAL reviews LOTO request and scope of work with the LOTO holder.
3. OAL determines if the unit can support a boundary modification.

    If yes, proceed to Step 5.

    If no, proceed to Step 4.

4. OAL notifies the requestor that the unit cannot support LOTO request.

End of process.

5. OAAE defines the isolation boundaries.
6. OAAE determines if the request is an increased boundary change.

   If yes, proceed to Step 8.

   If no, proceed to Step 7.

7. OAAE determines if work has been suspended.

   If yes, proceed to Step 8.

   If no, proceed to 4.10, Suspend Work.

8. OAAE creates a boundary change record (SafeTK).
9. OAL reviews isolation boundaries.
10. OAL determines if the boundary change record is approved.

    If yes, proceed to 4.4, Isolate Equipment.

    If no, proceed to Step 5.

    NOTE: If boundary decrease, remove Operating Area Lock to access isolation lock key.

4.13 Non-Listed/Visitor Lock

Process Map

Non-Listed/Visitor Lock defines the process for temporarily issuing a visitor lock to workers who are not on the plant authorized list that require protection under LOTO while performing service or maintenance activity. See attachment D, Example Non-Listed/Visitor Lock Index, for an example Non-Listed/Visitor Lock index.

At the discretion of plant management, each DOA can issue non-listed/visitor locks to workers.

1. Non-listed Worker/Visitor requests non-listed/visitor lock.
2. LOTO coordinator determines if LOTO Awareness Training has been completed.

   If yes, proceed to Step 4.

   If no, proceed to Step 3.

3. Worker completes LOTO Awareness Training as coordinated by the LOTO coordinator.

4. LOTO coordinator verifies training is completed and communicates to OAL.

   NOTE: It is the non-listed worker's (visitor or contractor) responsibility to prove to the LOTO coordinator that LOTO Awareness Training has been completed. Training records, sign-in sheets, or verbal confirmation from the worker's employer are examples of acceptable means of verification.

5. OAL issues non-listed/visitor lock and information tag.

   NOTE: The Non-Listed Visitor Lock Index can be used to track issued locks.

6. Worker uses lock as required by LOTO coordinator.
7. Worker returns non-listed/visitor lock to DOA.
8. OAL returns lock to secure location.

4.14 Lock Emergency Removal

Process Map

Lock Emergency Removal defines the process for removing a personal protective lock when the lock owner cannot remove the lock. All reasonable efforts shall be made to contact the lock owner and have the individual return to remove their own personal protective lock. If it is not reasonable for the worker to return or the worker cannot be reached, only the plant manager or designee may remove a lock for the worker.

1. OAL makes all reasonable effort to contact worker.
2. OAL determines if the worker is an authorized worker.

   If yes, proceed to Step 5.

   If no, proceed to Step 3.

3. LOTO coordinator determines if the contractor responsible person is available.

   If yes, proceed to Step 4.

   If no, proceed to Step 5.

4. LOTO coordinator requires implementation of contractor lock removal policy.

   End of Process.

5. OAL determines if employee can be contacted to remove lock.

   If yes, proceed to 4.8, Work Completed.

   If no, proceed to Step 6.

6. Employee's supervisor verifies for LOTO holder or LOTO coordinator verifies for non-listed worker is not at facility and takes steps to control the employee's access to facility.
7. Employee's supervisor or LOTO coordinator verifies all personnel clear of work area.
8. Employee's supervisor or LOTO coordinator verifies all tools and equipment are clear and equipment is configured to return to service.
9. OAL issues Lock Emergency Removal Record (SafeTK).
10. OAL determines if the LOTO holder is an authorized worker.

    If yes, proceed to Step 11.

    If no, proceed to Step 16.

11. Employee's supervisor or LOTO coordinator completes Emergency Lock Removal Record with plant manager or designee and obtains spare key.
12. Employee's supervisor or LOTO coordinator removes lock and provides it to plant manager or designee.
13. Plant manager or designee notifies LOTO holder of actions and returns lock.

    NOTE: Following discussion, plant manager can remove restriction to facility access.

14. LOTO Holder signs and records Date and Time fields of the LOTO Lock Emergency Removal Record.
15. OAL files LOTO Lock Emergency Removal Record with original LOTO documents and retains per Southern Company Records Retention Schedule.
16. LOTO coordinator cuts lock.

    Proceed to Step 14.

    End of Process.

5.0 TRAINING

All Southern Company Generation employees and other personnel working under the requirements of this procedure shall be trained in the use of this procedure.

5.1 LOTO Awareness Training

Each employee whose work operations are or may be in an area where energy control procedures may be used shall be instructed during site orientation or annual compliance training (as applicable) on the LOTO procedure; instruction shall include training about the prohibition related to attempts to restart or re-energize equipment that is locked out or tagged out. Each affected employee shall be instructed in the purpose and use of the energy control procedure. Any worker not on the plant's authorized list shall complete LOTO Awareness Training or Initial LOTO Training prior to working on equipment as a non-listed worker.

5.2 Authorized Worker Training

5.2.1 Initial Training

Initial training shall be classroom training conducted by a qualified instructor as deemed by management.

- At a minimum, employees shall be trained initially to ensure the purpose and function of the energy control program are understood and the knowledge and skills necessary for the safe application, usage, and removal of the energy controls are required.
- Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
- Initial training requires a documented LOTO evaluation.
- When tagout systems are used, employees shall also be trained on the limitations of tags only.
- Initial training shall be documented using the corporate LOTO procedure LearningSOurce code.

Site-specific training shall be conducted at each facility and shall include any local requirements of the plant or designated operating areas and identify employees having specific roles and responsibilities at that facility. Each facility shall have a unique LearningSOurce code for site-specific training.

5.2.2 Refresher Training

Refresher training shall be conducted annually by a qualified instructor as deemed by management.

- Refresher training will include the site-specific procedure, site-specific issues/best practices, as well as fleet issues/best practices.
- Refresher training does not require a LOTO evaluation.
- Refresher training shall be documented using the facility's LOTO site-specific LearningSOurce code.
- The refresher training shall re-establish employee proficiency and introduce new or revised control methods and procedures, as necessary.

5.2.3 Retraining

- Retraining shall be conducted when periodic inspections reveal, or when management has reason to believe there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures. This training may include a review of initial, site-specific, and/or department training. See 5.3, Department Training and Proficiency Requirements.
- The retraining shall re-establish employee proficiency and introduce new or revised control methods and procedures, as necessary.

NOTE: Approved employee training (Initial, Site-Specific, and Refresher) shall be documented in LearningSOurce prior to requesting access on any authorized list in Cool Compliance. Completion of authorized worker training shall be acceptable training for workers that are required to work at other facilities as a non-listed worker.

5.3 Department Training and Proficiency Requirements

In addition to the LOTO training outlined in this procedure, each employee's supervisor shall ensure department training has been completed, and evaluate each employee, specific to their position, on the following:

- Understanding of general plant knowledge, such as plant orientation, system design, and system operation.
- Proficiency to safely perform assigned job responsibilities.
- Understanding of limitations of the LOTO program.

NOTE: Required department training is defined by plant management. Additional training may be required for specific LOTO roles, such as LOTO coordinators.

5.4 Authorized List

COOL Compliance governs permissions for all roles in the LOTO process. Inclusion on any facility authorized list shall be approved or denied in Cool Compliance by the employee's supervisor and the plant authorized list administrator. The supervisor's approval in Cool Compliance certifies the employee has met the requirements of 5.3, Department Training and Proficiency Requirements, and is proficient to hold all selected roles. The plant authorized list administrator's approval in Cool Compliance grants final permission and inclusion on the plant's authorized list.

- Authorized list permission will expire at 1 year + 60 days after the most recent training completion date, or as revoked by management.
- SafeTK automatically integrates with Cool Compliance to govern permissions in the software according to the authorized list.
- For permissions not integrated with SafeTK, the employee's supervisor shall collect lockout devices (locks, keys, and so forth) when permissions have expired in Cool Compliance.

NOTE: With permission of the DOA, employees who have not been approved on the facility authorized list may work under the guidance of a coordinator only after completion of annual LOTO Awareness training and issuance of a non-listed/visitor lock (brown).

6.0 PROCEDURE REVIEW

Southern Company Generation management shall ensure a review of the Southern Company Generation LOTO Procedure is conducted at least annually to ensure the

procedure and the provisions of 29 CFR 1910.269(d) and 29 CFR 1910.147 are being followed.

6.1 LOTO Periodic Inspection

A periodic inspection of LOTO records will be conducted at least annually at each facility to ensure the procedure is being followed. Each facility, having similar equipment by system and the same or similar types of control measures, shall group LOTO records for the purpose of inspection. An authorized employee shall interview a representative number of available employees implementing and/or holding an active LOTO within each system.

NOTE: If an active LOTO is not available, an authorized employee shall conduct at minimum a periodic inspection for each system using completed LOTO records annually.

The LOTO Periodic Inspection Record shall be completed by an authorized employee not utilizing the LOTO record being inspected. The inspection shall identify and require correction of any deviations or inadequacies.

NOTE: If significant deviations or inadequacies are discovered during the periodic inspection, an additional inspection of a LOTO record shall be performed within the same system.

The LOTO Periodic Inspection Record shall certify:

- The equipment on which the energy control was used.
- The date of the inspection.
- The employees included in the inspection.
- The person performing the inspection.

A copy of the LOTO Periodic Inspection Record shall be retained per the record retention schedule. The facility management, LOTO coordinator, and safety and health manager shall develop corrective actions to address any procedure inadequacies. When the inspection reveals any inadequacies in employee knowledge, plant management shall conduct a more detailed review to address responsibilities. Employees found to have significant inadequacies shall be removed from the facility authorized list and retrained.

6.2 Facility Active LOTO Review

Each facility shall inspect all active LOTO records annually from the date they became active.

Active LOTO records shall be inspected annually by an employee from the designated operating area to ensure the following:

- The status of the equipment has not changed.

- The LOTO record is still valid.
- The locks and tags are intact and legible.
- Following each review, the employee from the designated operating area indicates the review on the LOTO record, identifying any actions required, noted, and/or performed.

7.0 KEY CONTACT

For questions regarding the content and implementation of this document, contact your safety and health representative.

8.0 QUALITY RECORDS

The following records are official records and shall be retained in accordance with the Southern Company Records Retention Schedule:

- LOTO Isolation Record.
- LOTO Maintenance Release Record.
- LOTO Release Record.
- LOTO Test Release Record.
- LOTO Test Restore Record.
- LOTO Boundary Increase Record.
- LOTO Boundary Decrease Record.
- LOTO Simple Record.
- LOTO Lock Emergency Removal Record.
- LOTO Annual Procedure Review Record.
- Coordinator Continuity Transfer Record.

9.0 ATTACHMENTS

Attachment A, Example Lockout Devices

Attachment B, Example LOTO Tags

Attachment C, Example Temporary LOTO Records

Attachment D, Example Non-listed/Visitor Lock Index

Attachment E, Revision History

Attachment A, Example Lockout Devices

lockout device – Device that uses a positive means such as a lock and key, to hold an energy isolating device in the safe position and prevent the energizing of equipment. Southern Company Generation-approved lockout devices are as follows:

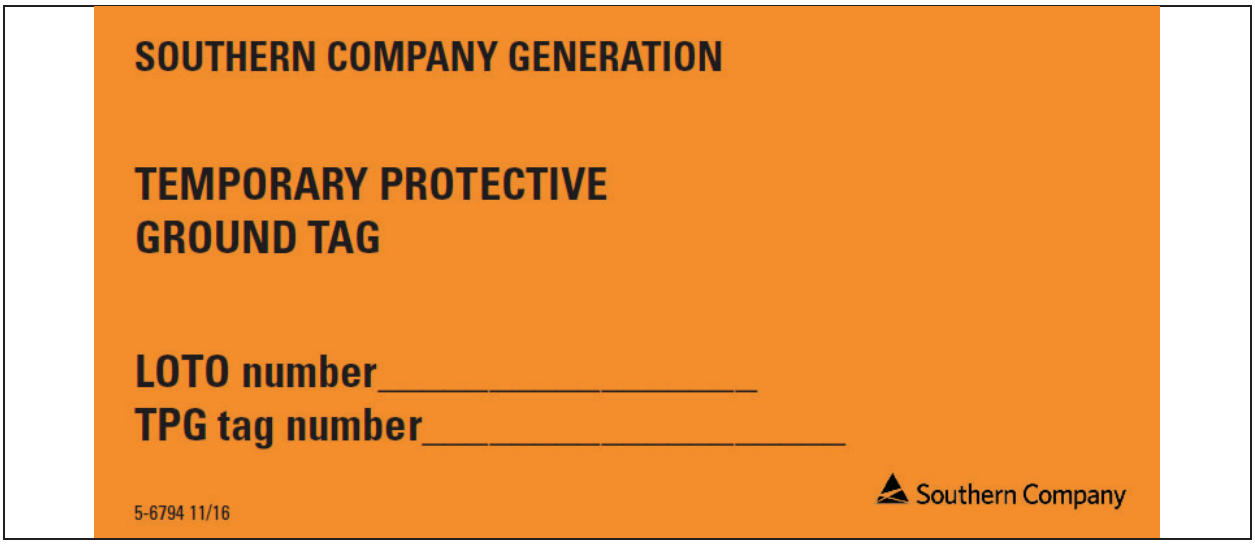
Isolation locks		Red locks are used to secure energy isolation devices. • Keyed in groups (lock sets). • Used to secure/isolate equipment. • Always secured with an attached tagout device.
Operating area locks		Orange locks are used for operating area continuity indicating equipment has been isolated per the LOTO record. Operating area locks are always the first lock on and last lock off to ensure continuity of the active LOTO and the position of isolation devices has not been altered. No other lock shall be placed on the master lockbox without an operating area lock previously installed. • "Operations Lock." • Keyed in groups by Designated Operating Area (DOA). • All Operating Area Leaders are issued keys. • Indicates the position of isolation devices has not been altered or equipment has not changed.
Individual locks		Blue locks are assigned to individuals for their personal protection while performing work under a LOTO. Individuals are assigned five locks tor this purpose. • Keyed in groups (lock sets). • Each worker has five locks and one key. • Emergency key held by plant manager or designee. • Can lock on any LOTO with DOA permission. • Shall display worker name and contact number.
Coordinator locks		Green locks are used by departments to coordinate multiple work crews, ensure continuity and integrity of active LOTO, and protection of other workers. Coordinator locks are issued and controlled as approved by plant management, as required for each department. Requires an attached LOTO information tag. • Keyed in groups by department. • Used to coordinate work crews. • Requires an attached LOTO information tag and: 1. Hasp on master lockboxes (red) or 2. First lock on a Satellite Box (yellow).

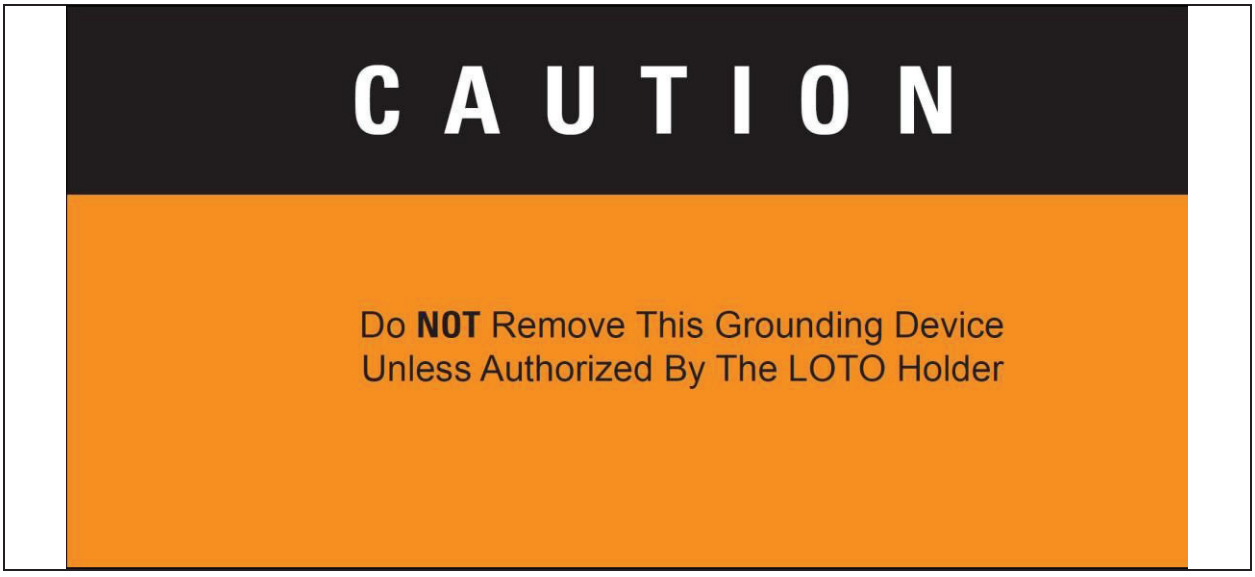
Satellite lock		Yellow locks are used to maintain continuity while a satellite lockbox is in use. Satellite locks are assigned to a corresponding satellite lockbox. • Placed on master lockbox. • Shows satellite lockbox in use. • Keyed individually (one key and one lock) or in sets (one key and multiple locks) (to corresponding yellow box). • Requires an attached LOTO information tag.
Non-listed/visitor lock		Brown locks are used for non-listed workers to enable them to perform service or maintenance under the protection of a LOTO. Non-listed/visitor locks are issued for temporary use at the discretion of plant management. Requires an attached LOTO information tag. • Issued by DOA (one lock and one key) • Requires LOTO Awareness Training annually • Can only lock behind a coordinator lock (Green Lock) • Requires an attached LOTO information tag
Contractor lock		Contractor locks are provided by contractors for adherence to the Southern Company LOTO procedure and protection of their employees. All contractor personal protective locks shall be individually keyed and individually assigned to that worker. When securing to Southern Company lockout devices, contractor locks shall adhere to the following: • Contain worker's name, contact number, and company. • Not be manufactured by American Lock. • Shall be silver, gray, or black in color.

Attachment B, Example LOTO Tags

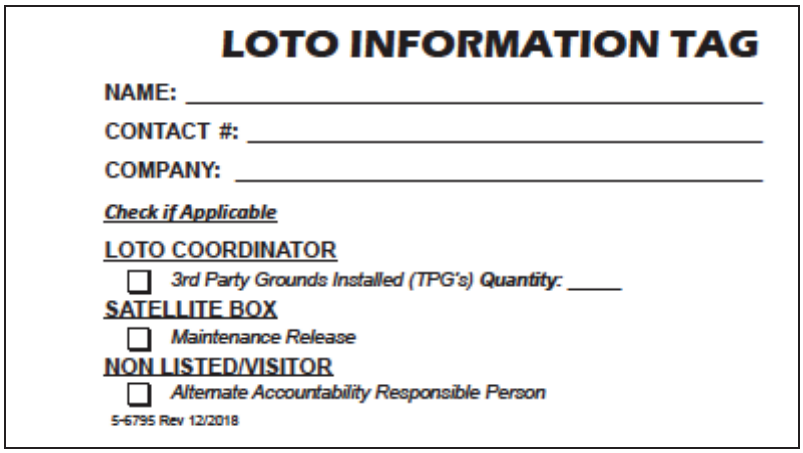
Example of tagout devices

Example of TPG tags





Example of LOTO Information Tag



LOTO INFORMATION TAG

NAME: _____

CONTACT #: _____

COMPANY: _____

Check if Applicable

LOTO COORDINATOR

☐ *3rd Party Grounds Installed (TPG's)* ***Quantity:*** ____

SATELLITE BOX

☐ *Maintenance Release*

NON LISTED/VISITOR

☐ *Alternate Accountability Responsible Person*

5-6795 Rev 12/2018

Example of Operational Control Tag

Attachment C, Example Temporary LOTO Records

Southern Company Generation
LOTO REQUEST Record

Southern Company

Request #:	Equipment:		Equipment #:
LOTO Information			
Plant:	Requested By:	Designated Operating Area:	Date/Time Needed:
Reason for LOTO:			
Special Instructions:			
Comments			
Approved By: (Print)		Signature:	Date: / Time:

Page 1 of 1

Southern Company Generation
LOTO ISOLATION Record

Southern Company

LOTO #:	Equipment:		Equipment #:
LOTO Information			
Plant:	Requested By:		Date/Time Needed:
Reason for LOTO:			
Special Instructions:			
Issued By:	Lock Box #:		Single Locks:
Executed By:	Signature	Verified By:	Signature

Boundary						Operating Area				
Tag #	Device	Device #	Position	Tag Type	Locking Device	Executed By	Test Method	Test Perf By	Verifier	Notes:

Page 1 of 3

Southern Company Generation
LOTO TEST RELEASE Record

Southern Company

LOTO #:	Equipment:	Equipment #:
LOTO Information		
Plant:	Requested By:	Date/Time Needed:
Reason for LOTO:		
Reason for Test:		

Issued By:	Lock Box #	Single Locks:
Executed By:	Signature	

Boundary				Operating Area	
Tag #	Device	Device #	Position	Executed By	Notes:

Page 1 of 2

Southern Company Generation
LOTO LOCK EMERGENCY REMOVAL Record

Southern Company

LOTO #:	Equipment:	Equipment #:
LOTO Information		
Plant:	Requested By:	Date/Time Needed:
Reason for LOTO:		
Special Instructions:		

Lock Holder:	Lock Removal Requested by:
Reason for Lock Removal	

LOTO Coordinator or Lock Holder Supervisor (Print):	Signature	Date		Time	
Plant Manager/Designee (Print):	Signature	Date		Time	
Lock Holder Signature upon return to plant site	Signature	Date		Time	

Page 1 of 1

Southern Company Generation

LOTO Coordinator Continuity Transfer Record

Southern Company

LOTO #:	Equipment:	Equipment #:
LOTO Information		
Plant:	Requested By:	Date/Time Needed:
Reason for LOTO:		
Special Instructions:		
Original LOTO Coordinator:		

Transfer Records			
LOTO Coordinator	**Signature**	**Date**	**Time**

Comments

Page 1 of 1

Attachment D, Example Non-listed/Visitor Lock Index

Southern Company Generation
Non-Listed/Visitor Lock Index

Southern Company

Lock #	Name	Company	Contact #	Supervisor	Supervisor #	Training Date	Lock Issue Date	Lock Return Date

Page 1 of 1

SCGEN-SH-XXXX

Attachment E, Revision History

Rev. 0
06/09/2016

Approved by Ted McCullough
Reviewed by

Remarks:
Issued.

Rev. 1
01/01/2018

Approved by Kim Greene
Reviewed by

Remarks:
No rev bars were applied in this revision. In header, replaced “lock out tag out” with “lockout/tagout”; deleted words “machine or” from phrase “…the machine or equipment is isolated....” (global changes). Replaced word “employee” with word “worker” (1.1, Purpose). Added first bullet “Electrical energy sources less than 50V”; added paragraph beginning “When external maintenance or servicing….”; added paragraph beginning “Details of the LOTO program….” (1.2, Scope). Added definition for “active LOTO file”; added NOTE after definition of “authorized employee”; deleted term “contractor lock” and definition; modified definition of “energy source” by adding qualifier “(50V or greater)” after word “electrical”; added term “isolation test” and definition; deleted term “isolation verification” and definition; added definition for “personal protective lock”; deleted term “simple LOTO” and definition; added term “system break” and definition; deleted NOTE following definition of term “temporary protective ground (TPG) tags” (2.1, Definitions). Deleted NOTE; deleted paragraph beginning “When external maintenance….”; deleted paragraph beginning “Details of the LOTO program….” (4.0, Procedure). Simplified explanation of process and eliminated steps (4.2, Simple LOTO). Edited step “1. Requestor identifies equipment….”; added NOTE after step 2; added NOTE after step 8; added NOTE after step 10; edited step 12 and yes/no statements; modified steps 13 through 20 (4.3, Develop LOTO Record). Edited NOTE after step 3; after step 7, added reference to SCG-SH-0230, Temporary Protective Grounds; rewrote and rearranged steps 11 through 24 (4.4, Isolate Equipment). Added NOTE after step 6; added NOTE after step 7 (4.5, Verify Isolation). Rewrote steps 10 through 18 (4.7, Maintenance Release). Merged and edited steps 2 and 3; added NOTE after step 11; added step 14 (4.8, Work Completed). Deleted step 13 (4.9, Release LOTO). Added step 1 (4.10, Suspend Work). Added NOTE after step 2; added step 18 (4.11, Testing). Added NOTE after step 10 (4.12, Modify Boundary). Added NOTE after step 4; added NOTE after step 5; added step 6 (4.13, Nonlisted/Visitor Lock). Section rewritten (4.14, Lock Emergency Removal). Section heading changed from “LOTO Record Review” to “LOTO Periodic Inspection”; section rewritten (6.1, LOTO Periodic Inspection). Edited attachment A, Example Lockout Devices.

Updated 02/24/2022

Approved by Generation Acceptance Committee

Remarks:
In definition for term “lockbox,” edited phrase to read “one or more satellite lock(s) (yellow)” (2.2, Definitions). In description of satellite lock, edited third bullet to read “Keyed individually (one key and one lock) or in sets (one key and multiple locks) (to corresponding yellow box)” (attachment A). Added link to FAQ (2.2).

Updated 12/05/2022

Approved by Generation Acceptance Committee

Remarks:
Updated 5.0, Training, to reflect changes in training practice and recordkeeping. Updated example of LOTO Information Tag (attachment B).

Updated 07/13/2023

Remarks:
Updated organization names.

Southern Company

Southern Company Operations

Procedure

SCO-SH-0211

SWITCHYARD ACCESS

Revision	*Approval Date*	*Approved by*	*Title*
0	October 1, 2019		Executive Vice President–Operations

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure defines the process for safe access into generating plant switchyards and substations located on a Generation site.

1.2 Scope

This procedure applies to all persons (employees and contractors) accessing switchyards and substations that are under the control and operation of Southern Company Generation facilities.

2.0 DEFINITIONS, REFERENCES, AND RELATED DOCUMENTS

2.1 Definitions

contractor – Any legal entity that contracts with Southern Company to perform work.

energized – Equipment connected to a voltage source.

minimum approach distance (MAD) for qualified workers– from NESC.

Table 1

AC Live Work Minimum Approach Distance		
Voltage **(phase-to-phase)**	**Phase to Ground** **(ft-in.)**	**Phase to Phase** **(ft-in.)**
0 to 0.300 kV	Avoid Contact	Avoid Contact
.301 to .750 kV	1 ft 1 in.	1 ft 1 in.
.751 to 15 kV	2 ft 2 in.	2 ft 3 in.
15.1 to 36 kV	2 ft 7 in.	3 ft 0 in.
36.1 to 46 kV	2 ft 11 in.	3 ft 3 in.
46.1 to 72 kV	3 ft 4 in.	4 ft 0 in.
72.1 to 121 kV	3 ft 8 in.	4 ft 8 in.
121.1 to 145 kV	4 ft 3 in.	5 ft 5 in.
145.1 to 169 kV	4 ft 10 in.	6 ft 5 in.
169.1 to 242 kV	6 ft 8 in.	10 ft 2 in.
242.1 to 362 kV	11 ft 2 in.	18 ft 2 in.
362.1 to 550 kV	16 ft 8 in.	27 ft 1 in.

minimum approach distance (MAD) for unqualified workers– from NESC.

Table 2

AC Live Work Minimum Approach Distance	
Voltage **(phase-to-phase)**	**Distance to employee** **(ft-in.)**
0 to 50 kV	10 ft
51 to 115 kV	13 ft
116 to 230 kV	16 ft
231 to 500 kV	25 ft

qualified electrical worker – One knowledgeable in the construction, maintenance, or operation of electric power generation, transmission, and distribution (including all associated equipment and hazards).

secured perimeters – Barriers on all sides of a switchyard adequate to prevent access without authorization (such as fencing, walls, painted borders with clearly identifiable markings, and doors with signage).

unqualified electrical worker – One who does not possess the knowledge, skills, or techniques of a qualified electrical worker.

2.2 References

- NESC/ANSI C2
- OSHA (1910.269)

2.3 Related Documents

- SCG-SH-0210, Southern Company Generation Arc Flash Protection
- Form 0211.1, Switchyard Permit
- Document 0211.2, Guidance Document - Pre-Approval Switchyard Work
- Document 0211.3, Guidance Document - Low Authorization Switchyard Work
- Document 0211.4, Switchyard Access Process Template

3.0 RESPONSIBILITY

3.1 Contractor Representative

The contractor representative is responsible for all subcontractors under his or her direction.

3.2 Facility Representative

The facility representative is responsible for:

- Issuing and closing switchyard permits.
- Categorizing all persons requesting switchyard access into the appropriate authorization level.
- Determining if accompaniment by a trained employee is necessary for switchyard work.

3.3 Plant Manager

The plant manager is responsible for adherence to this procedure.

3.4 Plant Responsible Person

The plant responsible person is responsible for ensuring the work completion tasks are completed.

4.0 REQUIREMENTS

4.1 Switchyard Permit

Each plant shall have a process to control access and work activities in its switchyards and substations via a switchyard permit procedure. The goal is to create a process to control access to and monitor work in plant switchyards and substations.

Each facility shall use the template provided in the safety permitting software when available. A paper copy of the permit (see attachment A, Switchyard Permit Example) will be used until the safety permitting software is operational. The permit shall include at least the following:

- Facility representative responsible for issuing the permit.
- Contractor representative associated with the work.

NOTE

Contractor representative is responsible for all subcontractors under his or her direction.

- Date permit is issued.
- Date permit is closed.
- Box indicating if lockout tagout (LOTO) is required for work.
- Box indicating if Single Line Drawings were reviewed prior to beginning work (where applicable).
- Box indicating if work was preapproved for Transmission.
- Description of the work to be performed.
- Facility representative responsible for closing the permit.

- Permit location.

All Southern Company employees, contractors, and subcontractors who request a switchyard permit shall be assigned an authorization level prior to entering the facility switchyard.

4.2 Authorization Level

The facility representative shall categorize all persons needing switchyard access into the appropriate authorization level: low, medium, or high. Requests may be written or verbal but must be identified in the facility site-specific process.

4.2.1 Low Authorization Level

Permit Requirement	Training Requirement
No permit required	Switchyard awareness training (minimum)

A low authorization level is for emergency work, preapproved transmission and distribution work, and work activities considered low risk, such as:

- Switching by trained plant employees.
- Visual inspections associated with job scope determinations (escorted by a trained employee).
- Operations rounds and routine work assignments.
- Walking through for inspections including thermography and firehouse inspections.

Low-risk activities do not require climbing, and personnel remain outside the minimum approach distance (MAD) for qualified workers.

4.2.2 Medium Authorization Level

Permit Requirement	Training Requirements
Permit required (pre-approved work allowed with permit)	1. Switchyard awareness training (minimum). 2. Meet requirements for an unqualified electrical worker as defined by OSHA if working in unqualified MAD (minimum).

A medium authorization level is for troubleshooting and maintenance work outside the MAD for qualified workers but within the MAD for unqualified workers. Work activities are at ground level and do not require climbing or handling conductive material that could be extended into the MAD. Examples of medium authorization level work include:

- Fire equipment flow test.
- Transformer oil testing (by contractor).

- Staging equipment or materials.

The facility representative shall determine if those doing medium authorization level work need to be accompanied by a trained employee.

4.2.3 High Authorization Level

Permit Requirement	Training Requirements
Permit required (pre-approved work allowed with permit)	1. Switchyard awareness training (minimum) 2. Meet requirements for a qualified electrical worker as defined by OSHA if working in qualified MAD (minimum)

A high authorization level is for the following types of work:

- Dismantling energized equipment.
- Work inside MAD for qualified worker.
- Work inside MAD for unqualified worker but outside MAD for qualified worker that requires elevated work or materials that have the potential to encroach on the qualified MAD (such as running conduit, piping, and steel erection).
- Work that is independent of MAD distance and requires any kind of telescoping or elevating platforms (such as scaffolding, aerial lifts and cranes, and ladders and portable stairs).

NOTE

Facility may choose to preapprove routine work conducted by facility trained personnel. Approval must be documented.

The facility representative shall determine if those doing high authorization-level work need to be accompanied by a trained employee.

4.3 Work Completion

Upon completion of the work, the plant responsible person shall ensure the following:

- All workers under the purview of the permit have vacated the switchyard.
- All work is complete, and the work area is returned to a safe state.
- Document is stored in its designated location.

Documentation shall be retained for a period of current year plus one previous year.

5.0 TRAINING

All Southern Company Generation employees and other personnel working under the requirements of this procedure shall be trained in the use of this procedure.

All Southern Company employees entering a facility switchyard shall have Switchyard Awareness training at a minimum, except Southern Company employees who are escorted by a trained Southern Company employee.

All non-Southern Company persons entering a switchyard shall have the adequate level of training identified by their authorization level as determined by the facility representative.

6.0 KEY CONTACT

For questions regarding the content and implementation of this document, contact your safety and health representative.

7.0 QUALITY RECORDS

Switchyard permits are official records and shall be retained in accordance with the Southern Company Records Retention Schedule.

8.0 ATTACHMENTS

Attachment A, Switchyard Permit Example

Attachment B, Version History

Attachment A – Switchyard Permit Example

Form 0211.1
Switchyard Permit
Number _____
SCO-SH-0211, Switchyard Access

Form updated mm-dd-2019

Southern Company

DESCRIPTION OF WORK		
Plant:	Work Performed By:	Date Created
Detailed Work Description:		

The following items shall be completed prior to Approving Switchyard Permit

Yes	No	
☐	☐	Is Lock-Out Tag-Out Required?
☐	☐	Have Single Lines been reviewed prior to work being performed?
☐	☐	Has a Job Safety Briefing been performed?

Approval of Switchyard Permit

I have confirmed precautionary measures are in place and authorize the Switchyard Permit.

Southern Company Facility Representative	Signature	Approval Date	Contact#
Contractor Representative	**Signature**	**Approval Date**	**Contact#**
Operations Representative (If Needed)	**Signature**	**Approval Date**	**Contact#**

Authorization for closeout of permit

The work area has been restored to a safe condition.

Southern Company Facility Representative	Signature	Release Date:

SAMPLE

Attachment B – Version History

Rev. 0	Approved by Stan Connally
10-01-2019	Revised by David Myers, Steve McVay

Remarks:
Issued.

SOUTHERN COMPANY GENERATION

SCG-SH-0410

HOT WORK

Revision	*Approval Date*	*Approved by*	*Title*
1	April 21, 2021		Executive Vice President– Operations

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this document is to minimize the potential for a damaging fire, explosion, or smoke migration by ensuring the control of potential ignition sources. This document outlines the minimum hot work requirements applicable to all Southern Company Generation facilities.

1.2 Scope

All Generation employees and contract representatives performing work within a Generation facility that involves any operation involving open flames, welding, burning, grinding, or similar activities capable of generating sparks, heat, or flames that may result in a fire must comply with the requirements in this document and the U.S. Occupational Safety and Health Administration (OSHA) regulations set forth in 29 CFR 1910.252 (a), Fire prevention and protection.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

approved hot work areas – Locations at the Generation facility that have been evaluated and approved for hot work activities. Hot work permits are not required for hot work performed in approved hot work areas.

authorized employee – A Generation employee designated by plant management with the authority to take the necessary actions to eliminate potential fire hazards and grant approval to perform hot work activities.

contract representative – Personnel of contractor.

facility contract coordinator – A qualified employee or worker designated by management who is responsible for monitoring and coordinating a contractor's hot work activities.

fire monitoring – Provisions implemented to provide early warning of smoldering conditions in the hot work area following completion of the established fire watch time period. Only individuals who understand the duties of a fire monitor, have had training in the use of available firefighting equipment, and are familiar with the fire notification system may serve as a fire monitor.

fire watch – Trained individual(s) stationed in the area of the hot work for the purpose of observing the area of the hot work for potential, unwanted fires both during and after the completion of the hot work activities.

Generation employee – An employee of the Southern Company affiliate.

Generation facility – The facility of the Southern Company affiliate where the hot work is being performed.

hot work – Any operation involving open flames, welding, burning, grinding, or similar activities capable of generating sparks, heat, or flames that could result in a fire.

hot work permit – A form used to document work conditions and the availability of fire protection systems, designate a fire watch or additional area fire inspections, and grant approval to perform hot work. All hot work permits must be approved by the authorized employee.

permit-authorizing individual (PAI) – An individual designated with the responsibility to inspect the area of the hot work, prepare the permit to ensure the safe operation of the hot work activity, and coordinate hot work activities with the department responsible for the area of the hot work.

- For hot work performed by a contractor under a labor broker arrangement, the PAI must be either the authorized employee or a qualified contract representative.
- For hot work performed by an independent contractor, the PAI must be a qualified contract representative.

SafeTK – Software used to manage, document, and track activities within the Hot Work program.

qualified contract representative – Contract personnel who have had an appropriate level of training and are knowledgeable about hot work tasks.

2.2 References

- SCG-SH-0500, Process Safety Management Program
- 29 CFR 1910.119, Process safety management of highly hazardous chemicals
- 29 CFR 1910.252, Welding, cutting, and brazing, general requirements
- 29 CFR 1926.352, Fire prevention
- National Fire Protection Association (NFPA) 51B
- Hot Work Permit
- Hot Work Procedure Fire Monitoring Form

3.0 RESPONSIBILITY

Only trained persons shall perform hot work activities; see 4.1, Training.

3.1 Persons Performing Hot Work

These persons shall review the hot work permit prior to beginning work and shall strictly adhere to the requirements of the permit and this document. Persons performing hot work shall bring to the attention of the permit-authorizing individual and/or the authorized employee any changes or problems encountered during the hot work activities.

3.2 Management

Plant management is responsible for ensuring all provisions of this document are strictly adhered to and affected individuals are properly trained. Plant management shall designate authorized employees.

3.3 Permit-Authorizing Individual (PAI)

The permit-authorizing individual (PAI) is responsible for:

- Performing a thorough inspection of the planned area of the hot work.
- Preparing the hot work permit.
- Coordinating all related activities with the department responsible for the area.

3.4 Fire Watch

The fire watch is responsible for observing the area of the hot work while the hot work is underway and for a minimum of 60 minutes after the hot work is completed.

3.5 Fire Monitor

The fire monitor is responsible for checking the area of hot work after the completion of the required fire watch duties.

3.6 Authorized Employee

- The authorized employee shall be familiar with the inherent dangers of the specific area of the hot work and the planned task.
- The authorized employee is responsible for reviewing a hot work permit, verifying all precautions have been addressed, and granting approval to perform hot work activities.

3.7 Facility Contract Coordinator

- The designated facility contract coordinator is responsible for monitoring and coordinating a contractor's hot work activities when contract representatives perform hot work activities at the facility.
- The facility contract coordinator shall also serve as the authorized employee for contractor hot work activities.

3.8 Qualified Contract Representative

When a contractor performs hot work, the qualified contract representative, serving as the PAI, is responsible for:

- Inspecting the area of the hot work.
- Preparing the hot work permit.

- Coordinating with the facility contract coordinator on all activities related to the hot work.

3.9 Other Workers

- All other workers engaged in activities near a hot work operation must refrain from introducing any materials or condition that could adversely affect the hot work, and they must adhere to all instructions provided by an authorized employee and/or fire watch.

4.0 REQUIREMENTS

4.1 Training

Generation employees who serve as a PAI, authorized employee, fire watch, or fire monitor, or who perform activities covered by a hot work permit shall be trained in accordance with the Southern Company Generation Compliance Training Trigger List. These Generation employees must be current in the training topics listed below:

Course Title	Required Frequency	Platform
Portable Fire Extinguishers	annually	Classroom and web-based
Combustible Dust - *where applicable*		Classroom and web-based
GPC only	annually	Web-based
MPC/APC	annually	Classroom and web-based
Facility Emergency Action Plan	annually	Classroom; site-specific training as needed
Hot Work	as needed	Classroom and web-based; site-specific training as needed

Training records will be used to verify training for Generation employees. In addition, Generation employees affected by these shall be familiar with the site-specific instructions at their respective facility.

Generation employees who perform hot work activities must be trained to use the appropriate personal protective equipment, welding screens/shields, and ventilation systems when required.

Generation employees trained as the fire watch and fire monitor shall be knowledgeable and trained in the use of the available fire protection equipment and shall know the location and means of summoning assistance in the event of a fire or other emergency situation.

Contract representatives engaged in hot work tasks must have an equivalent level of training to participate in hot work activities.

4.2 General

The following activities are typically considered hot work:

- Welding.
- Heat treating.
- Brazing.
- Grinding.
- Powder-driven fasteners.
- Hot riveting.
- Any similar operations producing or using a spark, flame, or heat.

Normally a hot work permit is not required for the following activities:

- A hot work task conducted in an approved hot work area (see 4.5.1, Approved Hot Work Areas).
- Cooking activities.
- Analytical tests performed in a controlled setting, such as using a Bunsen burner in a facility laboratory.
- Use of tobacco products in designated smoking areas.
- Any area/activity granted exemption by management.

Hot work should not be performed if the work can be avoided or performed in a safer manner. When practical, objects to be welded, cut, or heated should be moved to a location free from combustibles (such as paper, cardboard, or wood) or to an approved hot work area listed in the facility's site-specific hot work instructions. If the work cannot be moved, personnel shall move any combustibles a safe distance from the work or properly shield the combustibles against ignition. When possible, personnel shall schedule the hot work activity at a time that would limit exposure to other personnel.

Hot work operations covered by the permit shall cease if a fire develops or if the status of a condition listed on the permit changes. The PAI, authorized employee, and/or facility management shall be notified immediately, the area shall be reassessed, and a new hot work permit issued before work can resume.

4.3 Site-Specific Instructions

Generating facilities shall write site-specific instructions that supplement, but do not replace, the requirements in this document. At a minimum, site-specific instructions shall detail:

- Where completed hot work permits are kept.
- A list of the facility's approved hot work areas.

In addition to these items, site-specific instructions may include other information related to hot work. Each facility shall evaluate its operations, fire systems, and the availability of trained personnel before writing site-specific instructions. Site-specific instructions shall be appended to this document as attachment 1, Facility Hot Work Site-Specific Instructions.

4.4 Documentation – Hot Work Permit

A blank hot work permit is available on the hot work webpage.

Hot work shall not begin until an approved hot work permit has been posted in the vicinity of the hot work. An approved hot work permit is valid for 24 hours.

If the hot work continues beyond the 24-hour time limit, a new permit must be obtained. A PAI shall reevaluate the work to verify all necessary precautions have been taken, obtain the signature of an authorized employee, and post the permit. The hot work shall not resume until the new approved permit has been posted.

Completed hot work permits shall be retained at a place designated by plant management and detailed in the facility's site-specific instructions. See 6.0, Record Retention, for the retention schedule.

4.5 Work Process

4.5.1 Approved Hot Work Areas

Plant management may classify areas where hot work can be safely performed as approved hot work areas. Plant management shall evaluate these areas to ensure hot work activities can be performed safely and sufficient fire protection systems are available. Examples of typical approved hot work areas include welding booths and maintenance shops. Areas designated as approved hot work areas shall be listed in the facility's site-specific instructions and shall be appropriately communicated to the affected work force.

4.5.2 Initiating a Hot Work Permit

When hot work is to be performed, the PAI shall:

- Obtain the Hot Work Permit Form from the authorized employee, who will initiate the process through SafeTK (if implemented) and print a permit for the PAI to use.
- Inspect the area of the hot work.
- Complete a hot work permit. The PAI shall obtain a permit and provide the details of the planned work (that is, the location, scope, time, and date of the work) in the spaces at the top of the form. All items on the permit's Hot Work Precaution Checklist must be evaluated by the PAI. If an item on this checklist is answered NO, the potential problems must be controlled in some manner and/or a fire watch assigned to monitor the activities. These controls shall be explained in the space provided on the hot work permit.

- Examine the site of the planned hot work to determine if combustible materials and hazardous conditions are present or likely to be present. The PAI shall take the necessary measures to protect combustibles from ignition.
- Ensure fire protection equipment is available and operational.
- If necessary, solicit assistance from the authorized employee in the completion of the permit's requirements.
- Notify the affected department regarding the intended hot work.
- Obtain the approval for the hot work from an authorized employee.

The authorized employee shall:

- Initiate the permitting process through SafeTK (if implemented).
- Review the completed hot work permit.
- Arrange for air testing in the immediate area of the work to ensure the elimination of explosive atmospheres.
- When needed, provide support to the PAI with preparation of the area of the hot work, completion of the permit, and coordination/communication with other affected work groups.
- Inspect the area of the hot work to verify the completion of the site preparation.
- If satisfied with the hot work preparations, sign the permit.

The PAI shall then post the permit in the vicinity of the intended hot work activity so it is accessible for the workers to review.

Prior to starting the hot work, the workers performing the hot work shall review the hot work permit and ensure compliance with its requirements.

4.5.3 Assigning a Fire Watch

A fire watch shall be assigned to observe the site of the hot work when work is performed in a location where a fire may develop or where any of the conditions listed on the *Hot Work Precaution Checklist* cannot be fully implemented.

NOTE

The PAI, an authorized employee, or the affected department can elect to require a fire watch at any time deemed appropriate.

The PAI shall indicate on the Hot Work Permit Form if a fire watch is required for the job by checking the box in the section entitled *Requirements for Hot Work Fire Watch*. When specified, the PAI must:

- Ensure the fire watch has the necessary training and knowledge about the planned work to effectively perform the duties.
- Assign a fire watch to observe the worksite throughout the duration of the hot work activity and for a minimum of 60 minutes beyond the completion of the hot work.
- Require the fire watch to sign and list the time on the permit verifying the completion of their duties.

NOTE

If the fire monitor must remain at the worksite longer than the required 60-minute fire watch, the PAI shall check the appropriate box in the section entitled *Fire Watch/Fire Monitoring* on the Hot Work Permit Form and indicate if for combustible materials or PRB coal related. If checked, the Hot Work Fire Monitoring Form will be needed.

4.5.4 PAI Approval

Upon the completion of the sections *Hot Work Precaution Checklist* and *Fire Watch/Fire Monitoring* on the hot work permit, the PAI shall sign the permit in the Authorization section.

4.5.5 Final Approval

Following the completion of all the above actions, an authorized employee shall review the hot work permit prepared by the PAI and inspect the site of the planned hot work activity, if necessary, to ensure all precautions have been appropriately addressed. If the authorized employee is satisfied with the arrangements for the hot work, he or she shall sign his or her name and provide the time and date in the Authorization section. This signature verifies the work area has been examined, appropriate precautions have been taken, and final approval is granted to perform the work. The permit shall then be posted at a conspicuous location near the hot work activity.

The hot work activity shall not commence without the final approval by an authorized employee.

The authorized employee may be called upon to assist the PAI in the preparation of the worksite, assignment of the fire watch, or to address additional requirements for combustible materials (see 4.7, Additional Fire Monitoring Activities) or PRB coal areas (see 4.8, Additional Requirements for PRB Coal).

4.5.6 Fire Watch Duties During Hot Work

While hot work is underway:

- The fire watch shall observe the area of the hot work throughout the duration of the work including all breaks and for a minimum of 60 minutes after the hot work is complete. The fire watch shall have no other duties that conflict with or distract him or her from the assignments of a fire watch. Should noncompliance with the permit's precautions occur, the fire watch shall have the authority to stop the hot work operation. Unless properly relieved, the fire watch shall not leave the work area while the hot work is in progress.
- If a fire begins and the fire watch determines the fire cannot be contained, the fire watch shall sound the alarm immediately.

4.6 Completion of Hot Work Activities

When the hot work activities are finished and the duties of the fire watch/fire monitoring are complete, the permit shall be removed from the worksite.

- If a fire watch had not been required for the work, the PAI shall sign the section COMPLETION OF WORK – FINAL CHECK, including the time and date completed, on the Hot Work Permit Form.
- If applicable, the fire watch shall sign the section COMPLETION OF WORK – FINAL CHECK, including the time and date completed, on the Hot Work Permit Form.
- If a fire monitor is required, the monitor will print, initial, and include the date and time in the appropriate section on the Hot Work Fire Monitoring Form, either for the duration of 4 hours for combustible materials or 8 hours for PRB Coal. The fire monitor shall attach the Hot Work Fire Monitoring Form to the Hot Work Permit.

The signed, completed form(s) shall then be forwarded to the individual or office designated in the facility's site-specific instructions to maintain completed hot work permits.

4.7 Additional Fire Monitoring Activities

Additional fire monitoring of the hot work area is required if the hot work was performed in an area that meets any of the following criteria:

- Constructed of combustible materials.
- Contains stored combustible materials, such as paper, trash, or coal (non-PRB).
- Building construction could contain concealed spaces where a fire could smolder for longer periods of time.

If any of the above criteria is met and after the conclusion of the designated fire watch time, a fire monitor shall conduct inspections of the area of hot work every 30 minutes. Periodic inspections shall continue every 30 minutes for 3 hours after the completion of the required fire watch time (total of 4 hours).

Each inspection shall be individually recorded on the table provided on Hot Work Fire Monitoring Form. The person conducting the inspections shall verify the inspection is complete by printing their name and initialing the form and providing the time and date the inspection was performed.

4.8 Additional Requirements for PRB Coal

When hot work must be performed in PRB coal handling, transporting, or processing areas, additional precautions are required beyond those detailed above. These additional precautions include:

- After the completion of the duties by the fire watch, periodic inspections of the area of the hot work shall be conducted by the PAI, an authorized employee, or a designated employee from the affected department every 30 minutes.

- Periodic inspections shall continue every 30 minutes for 7 hours after the completion of the required fire watch time (total of 8 hours).
- Each inspection shall be individually recorded on the table provided on Hot Work Fire Monitoring Form.
- The person(s) conducting the inspections shall verify inspection completion by printing his or her name and initialing the form, and providing the time and date the inspection was performed.

These inspections shall consist of a thorough examination of the affected PRB coal area(s) to detect possible smoldering fires. The fire monitor shall access and inspect all areas where coal may have accumulated and/or are exposed to potential ignition sources.

4.9 Contractor Hot Work Activities

Contractors shall adhere to the hot work requirements and follow all provisions in this document when performing hot work. All contractor hot work activities shall be authorized and monitored by the facility contract coordinator.

The designated facility contract coordinator shall:

- Discuss the planned hot work in detail with the qualified contract representative.
- Review with the contract representatives all known and potential hazards in the area of the hot work.
- Ensure all contract representatives engaged in the hot work activity have had training equivalent to that specified in 4.1, Training.
- Coordinate the hot work activities between the qualified contract representative, the contract representatives, any involved Generation employee(s), and the affected department.
- Ensure contractors comply with all requirements of this document.
- Serve as the authorized employee for the planned contract work.

5.0 KEY CONTACT

For questions regarding the content and implementation of this document, contact your safety and health representative.

6.0 RECORD RETENTION

Hot Work Permits and Hot Work Fire Monitoring Forms are retained. The plant shall retain completed hot work permits for 30 days following the completion of the hot work.

7.0 ATTACHMENTS

- Attachment 1, Plant <Facility Name> Hot Work Site-Specific Instructions.
- Attachment 2, Summary of Changes.

Attachment 1 – Plant _____

Hot Work Site-Specific Instructions

At a minimum, a Generation facility's site-specific instructions shall detail:

- Where completed hot work permits are kept.
- A list of the Generation facility's approved hot work areas.
- Any other hot work requirements unique to the Generation facility.

Attachment 2, Summary of Changes

Rev. 0, 06/21/2013 Approved by Doug Jones

Remarks:
Issued.

Rev. 1, 04/21/2021 Approved by Stan Connally
Reviewed by T&PS SLT, Paula Marino, Generation GAC
Prepared by David Myers

Remarks:
Added definitions of “facility contract coordinator,” “fire monitoring,” and “SafeTK” (2.1). Added responsibility for fire monitor (3.5). Updated training requirements (4.1). Added SafeTK to work process; increased fire monitoring to 60 minutes (4.5). Added additional fire monitoring activities (4.7). Added fire monitoring form to record retention requirements (6.0). Added attachment 2, Summary of Changes.

Southern Company

SOUTHERN COMPANY GENERATION

SCG-SH-0610

Commercial Diving Operations Checklist

Revision	*Approval Date*	*Approved by*	*Title*
0	February 9, 2012		Executive Vice President and Chief Production Officer
1	August 9, 2013		Executive Vice President and Chief Production Officer

PURPOSE This checklist is to assist individuals coordinating contracted commercial diving operations and is to be completed by a team leader, system owner, contract coordinator, or management designee. This checklist must be completed prior to diving operations at each location for each dive team. One checklist is sufficient for diving operations that carry over multiple days provided the dive team members, dive location, and scope of work identified remains unchanged.

Site		Location		Date	

NOTE **The Contractor is solely responsible for the safety of its employees. Southern Company is relying on the Contractor to perform the diving job safely and in compliance with all state and federal safety and health regulations. Southern Company does not have the diving expertise to evaluate the adequacy of the Contractor's safe practices manual or dive plan.**

WARNING **If the scope of work changes:** • **STOP WORK immediately.** • **Notify all appropriate departments and personnel.** • **Conduct a new job briefing based on the change in scope of work.**	**WARNING** **If adverse weather conditions occur, diving operations shall cease immediately.**

Contract Coordinator		***Initial when verified***
Contractor Company		**Contract Coordinator Initials**
1. Contractor safety orientation is complete.		
2. Contract coordinator has notified all appropriate departments and personnel of the dive schedule and scope of work.		
3. Contract coordinator has verified LOTO has been obtained and is adequate for the scope of work. **List associated LOTOs:**		

	Contractor initials
1. Contractor's dive plan is present and complete, containing at a minimum the following elements: • Safety procedures and checklists for diving operations that include: – Any unusual hazards or environmental conditions likely to affect the safety of the diving operation. – Any modifications to operating procedures necessitated by the specific diving operation.	
• Assignments and responsibilities of the dive team members.	
• Equipment procedures and checklists.	
• Emergency procedures for fire, equipment failure, adverse environmental conditions, and medical illness and injury.	
• List of the telephone or call numbers of the following facilities: – Emergency plant contact: _____ – Operational decompression chamber: _____ – Accessible hospitals: _____ – Available physicians: _____ – Available means of transportation: _____ – Nearest U.S. Coast Guard Rescue Coordination Center: _____	
2. Contractor has identified all underwater hazards such as cables, chains, currents, suction, water velocity, tidal influx, entanglement, entrapment, or hypothermia. **List underwater hazards:**	
3. Contractor has developed a means for divers to enter/exit the water.	
4. Contractor has developed a means to assist an injured diver from the water.	
5. Contractor has provided for each diver to be continuously tended while in the water.	
6. Contractor has conducted a job safety briefing with all parties involved the dive.	

Comments:

Signature: Contract Coordinator — Date

Signature: Contractor Company Supervisor — Date

04/16/2020 – References to hazardous energy control procedures updated.

Southern Company

SOUTHERN COMPANY GENERATION

SCG-SH-0700

SCAFFOLD SAFETY PROCEDURE

Revision	*Approval Date*	*Approved by*	*Title*
0	May 27, 2009		Executive Vice President and Chief Production Officer
1	September 27, 2012		Executive Vice President and Chief Production Officer
2	August 15, 2013		Executive Vice President and Chief Production Officer

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure outlines the minimum requirements for the erection, inspection, dismantling, and using of scaffolds at all Southern Company Generation facilities.

1.2 Scope

This procedure applies to all persons working on Southern Company Generation facilities in the operation and maintenance of those facilities.

All scaffold work on Southern Company Generation facilities shall meet the requirements of 29 CFR 1910.28, 29 CFR 1926.450, 29 CFR 1926.451, 29 CFR 1926-452, and 29 CFR 1926-453.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

competent person – One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

NOTE

Scaffold competent persons may be Southern Company employees or employees of companies contracted by Southern Company or its contractors. For the purpose of this procedure, a competent person must have training and experience in scaffold use, inspection, or erection and have authority to take corrective action.

contractor – Any legal entity that contracts with Southern Company to perform or to have performed, the work for the project and that has the overall responsibility for the construction of the project.

engineered scaffold system(s) – A scaffold designed by a registered professional engineer as provided in this procedure.

founding system – Scaffold base built up from the ash pit or coutant bottom to the vertical wall of the boiler. Named for the founding beams that span the gap above the ash pit, it provides support for the scaffold. This system includes all the hardware used to build the base of a boiler scaffold.

PE – A registered professional engineer – An individual licensed and registered under the laws of the state where the scaffolding erection is performed to engage in the practice of engineering.

For the purpose of this procedure, a PE is a registered professional engineer specialized in structural engineering and is not an employee of Southern

Company, or its affiliates, but is retained or employed by the contractor or scaffold erector.

qualified person – One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve or resolve problems related to the subject matter, the work, or the project.

Scaffold contractors shall designate a qualified person to supervise erection of and to inspect scaffolds designed by a PE. For the purpose of this procedure the "subject matter, the work, or the project" mentioned in the above definition shall be system scaffolding.

responsible person – The Southern Company Generation employee with responsibility for projects requiring engineered scaffold. This person is responsible for all tasks outlined in the engineered scaffold systems checklist (attachment 3, Engineered Scaffold Systems Checklist).

At a minimum the responsible person shall have completed scaffold user training LearningSOurce # 010554.

scaffold – Any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage) used for supporting employees or materials or both.

scaffold erector – An individual designated to erect scaffolds. Scaffold erectors shall be trained in the nature of scaffold hazards; correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining scaffolds; design criteria; maximum intended load capacity; and intended use of scaffolds.

scaffold inspector – The PE, qualified person, or competent person responsible for inspecting scaffold.

Scaffold Integrity Checklist – See attachment 4. A checklist completed by the responsible person to identify the scope of work inside and outside of the boiler that may adversely affect the structural integrity of the supporting structure for the engineered scaffold system. This completed Scaffold Integrity Checklist shall be shared with contractor, competent person, qualified person, and PE.

scaffold user – Any person who uses scaffold on Southern Company Generation property. Scaffold users shall be trained in and have knowledge of the basic elements of a safe scaffold platform, fall protection requirements, common electrical hazards, and falling object protection.

tagging system – A process for tagging scaffolds to indicate completion and inspection.

- Red Tag – Indicates the scaffold is under construction and not ready for use.

- Yellow Tag – Indicates a scaffold that is safe to use but has been altered to suit a specific job. This designation usually indicates an incomplete deck, handrail, or ladder.

- Green Tag – Indicates a scaffold is erected per the standard. A green tagged scaffold has a complete deck, proper access, and handrails installed.

All Southern Company Generation facilities shall use this tagging system to verify the required before-use and per-shift inspections are performed on all scaffolds regardless of type. Scaffold tags shall be signed and dated for the day and work shift.

2.2 References

This procedure meets all requirements set forth in:

- 29 CFR 1910.28, Safety Requirements for Scaffolding
- 29 CFR 1926.450, Scope, Application, and Definitions Applicable to Subpart L
- 29 CFR 1926.451, General Requirements
- 29 CFR 1926.452, Additional Requirements Applicable to Specific Types of Scaffolding
- 29 CFR 1926.453, Aerial Lifts
- 29 CFR 1926.454, Training Requirements

NOTE

All scaffolds built and used on Southern Company Generation facilities shall meet the requirements set forth in the applicable standards referenced in section 1.2, Scope, and in this procedure.

3.0 RESPONSIBILITY

3.1 Facility Management

Facility management is responsible for ensuring all management, supervisors, and employees work in compliance with this program.

3.2 Safety and Health/Compliance

Safety and health/compliance are responsible for the following:

- Facilitating employee training on scaffold use.
- Assisting with daily scaffold hazard recognition.
- Providing technical assistance.

3.3 Supervisors

Supervisors are responsible for the following:

- Ensuring employees are trained in scaffold use.
- Monitoring employee performance for compliance with scaffold requirements.

3.4 Competent Persons

- Performing per shift scaffold inspection.
- Ensuring scaffold hazards are identified and properly addressed before use.
- Being capable of identifying hazardous or dangerous conditions on scaffolds.
- Being knowledgeable in the application and use of scaffold systems.

3.5 Generation Employees

Generation employees are responsible for completing appropriate training and working in compliance with this program. Employees are responsible for the following:

- Knowing and understanding the approved scaffold tagging requirements.
- Ensuring scaffold hazards are identified and properly addressed on the job safety briefing.

4.0 REQUIREMENTS

4.1 General Requirements

Plant management shall designate Southern Company Generation employees as scaffold competent person(s) for the types of scaffolds used at the facility. This designation shall be made in writing and plant management shall review the individual's qualifications. At a minimum, a competent person shall have experience working from scaffolds and have completed a recognized Scaffold Competent Person class. Companies contracted by Southern Company Generation to inspect, erect, or modify scaffolding shall designate competent person(s) as required by OSHA and this procedure.

NOTE

Southern Company Generation employees with training recorded in LearningSOurce may be considered *designated in writing*. Details such as the level of training and type scaffold trained on may be filed at the location.

Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person in scaffold erection, moving, dismantling, or alteration. Such activities shall be performed only by experienced and trained employees selected

for such work by the competent person. This training shall be in accordance with the current version of OSHA's scaffolding standards, 29 CFR 1926.454.

All personnel working from scaffolds shall attend scaffold safety training for the type of scaffold being used. This training shall be in accordance with the current version of OSHA's scaffolding standards, 29 CFR 1926.454.

Scaffolding in excess of 125 ft in height shall be designed by a PE. In addition, regardless of height, any scaffold built on a founding system (base) installed to the vertical wall of the boiler must be designed by a PE.

Each scaffold shall be built as complete as physically possible: complete deck, handrail/midrails, toe boards, and access ladder. If the scaffold cannot be built per the standard, it shall be yellow tagged and all deficiencies clearly identified on the tag.

Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained by the scaffold user. Scaffold components manufactured by different manufacturers shall not be modified to intermix them unless a competent person determines the resulting scaffold is structurally sound.

Scaffold planks are to be used for their designated purpose only.

4.2 Training

Southern Company Generation employees designated as scaffold users or scaffold competent persons shall be trained in accordance with the Southern Company Generation training program as outlined in the training trigger list.

LearningSOurce training records will be used to verify training for Southern Company Generation employees.

Reference LearningSOurce Numbers

Scaffold User (every 3 years)	010554
Scaffold User Web/Online (every 3 years)	017343
Scaffold Competent Person (every 3 years)	010552

Contractor scaffold training must meet OSHA Standards as designated in 29 CFR 1926.454.

4.3 Contractor Requirements

Contractors who use, inspect, erect, and modify scaffolding at Southern Company Generation facilities shall designate competent and qualified persons as required by OSHA and this procedure. Documentation supporting these designations shall be provided to plant management on request.

Contractors with responsibility for the erection, modification, or disassembly of scaffolds shall provide trained scaffold erectors and be able to present documentation supporting this designation on request.

Contractors shall inspect all scaffold material prior to installation at a Southern Company Generation facility. All material shall meet the structural requirements set forth by the competent person, qualified person, scaffold erector, or PE of record.

4.4 Engineered Scaffold Systems

Approval from Supply Chain Management is required for any contractor bidding or erecting PE scaffolds.

Scaffolding systems in excess of 125 ft in height shall be designed by a PE. In addition, regardless of height, any scaffold built on a founding system (base) installed to the vertical wall of the boiler shall be designed by a PE.

The responsible person shall complete attachment 4, Scaffold Integrity Checklist, as part of the planning process, prior to the prebid or prework meeting. The responsible person shall discuss in detail the scaffold work scope and the boiler work scope, including any work that may impact the structural integrity of the scaffold support structure. This completed Scaffold Integrity Checklist shall be shared with contractor, competent person, qualified person, and PE.

The plant responsible person shall request PE-designed scaffolds in advance. Design drawings will be reviewed to determine the design meets the requirements of the planned work.

A minimum of 2 weeks prior to installation of PE-designed scaffolding, the contractor shall provide the responsible person a PE-stamped engineering design drawing released for construction and the qualifications for the erection contractor’s qualified and competent persons.

The responsible person shall provide the contractor with a copy of the Engineered Scaffold Inspection Form (attachment 2). The inspection points will be determined at this time.

The contractor shall inspect and certify the installation of the scaffold meets the requirements of the engineering drawing.

NOTE

When necessary to determine that the design allows access to the planned work, the Southern Company responsible person may accompany the inspector.

Each phase of the scaffold will be inspected as outlined below by the PE of record for scaffold design or his or her designee. The inspector shall not be involved with or responsible for the erection of the scaffold:

- Phase I will be at completion of the foundation level of the scaffold.

- Phase II will be at a midlevel point of the installation as agreed between the purchaser and the contractor.

- Phase III will be at the completion of the installation.

The representative of the contractor shall sign the Engineered Scaffold Inspection Form and present the inspection form to the Southern Company responsible person. With the exception of the responsible person who may accompany the inspector to ensure the design allows access to the planned work, no Southern Company Generation employee may use the scaffold before the Engineered Scaffold Inspection Form is completed and signed (see attachment 2).

After the responsible person has received the signed inspection documents from the contractor, the scaffold will be evaluated by competent persons representing Southern Company Generation, the contractor, and the company contracted to erect the scaffold. Any deficiencies shall be identified and corrected by the contractor before work from the scaffold begins. The appropriate scaffold inspection tag shall then be signed, dated, and placed at all points of scaffold access.

It is the responsibility of the responsible person to maintain for 3 years all records of:

- Attachment 2, Engineered Scaffold Inspection Form.

- Attachment 3, Engineered Scaffold Systems Checklist.

- Attachment 4, Scaffold Integrity Checklist.

No changes may be made to any structural members of a PE-designed scaffold without prior approval in writing from the PE of record who designed, approved, and signed the scaffold design drawing. Changes must be inspected by the PE of record or his or her designee.

Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained by the scaffold user. Scaffold components manufactured by different manufacturers shall not be modified to intermix them unless approved by the PE of record who designed, approved, and signed the scaffold design drawing.

4.5 Scaffold Tagging

4.5.1 General Scaffold Tagging Requirements

- A green scaffold tag designates a scaffold erected as per the standard as defined by the manufacturer and/or 29 CFR 1926, Subpart L.

- A yellow scaffold tag designates a scaffold that is safe to use but has been altered to suit a specific job. A yellow scaffold tag shall detail any hazards and the necessary protective measures. Yellow tags shall not be used as a substitute for scaffolds that can be fully completed. Yellow tags will not be used to authorize use of scaffold with inadequate bracing, footing, or support.

- A red tag designates a scaffold is in the process of being erected, changed, dismantled, or has been damaged. A scaffold with a red scaffold tag shall be considered unsafe and shall not be used.

4.5.2 Installation and Removal of Scaffold Tags

- A competent person shall inspect all scaffolds to determine whether a usable scaffold receives a yellow or a green tag. The competent person shall be responsible for signing, dating, and completing all pertinent information on the tag and affixing the tags.

- The scaffold tags shall be affixed to scaffold access points in a manner that makes it obvious the tag applies to the scaffold and will not interfere with normal access.

- Any scaffold user may remove a green or yellow scaffold tag if the scaffold is found to be deficient in any safety aspect (for example, the scaffold has been damaged, improperly modified, or is missing components). The person who removed the tag shall notify plant management the scaffold has been deemed unsafe for use. As soon as possible, the issue must be corrected.

- After a scaffold has been repaired, a competent person shall reinspect it and retag it accordingly.

- Per-shift inspections by competent persons shall be performed to ensure all scaffolds remain in a safe condition and tags are appropriately signed, dated, and legible.

4.6 Inspection – All Hardware

Scaffold erection crews shall inspect all components for defects as the erection proceeds. Any components found to be defective shall be set aside and tagged for repair or disposal.

All planking shall be scaffold grade as defined in the OSHA scaffold standard.

4.7 Storage of Scaffolding

Scaffold materials shall be temporarily stored in a manner that will protect and prevent damage to them. Scaffold materials, in particular wood scaffold planks, shall be stored under a protective roof when possible.

Scaffold materials shall not be left in work areas where they obstruct traffic and/or cause fire hazards. Scaffold material shall not be stored in a manner that blocks access to electrical equipment, fire protection equipment, or any emergency exits or equipment.

5.0 KEY CONTACT

For questions regarding the content and implementation of this procedure, contact the Southern Company Generation Safety and Health.

6.0 ATTACHMENTS

- Attachment 1, Scaffold Tags Examples
- Attachment 2, Engineered Scaffold Inspection Form
- Attachment 3, Engineered Scaffold Systems Checklist
- Attachment 4, Scaffold Integrity Checklist
- Attachment 5, Summary of Changes

Attachment 1, Scaffold Tags Examples

Do-Not-Use Scaffold Tag (Red)

Incomplete but structurally safe scaffold tag (Yellow)

Completed Scaffold Tag (Green)

Attachment 2, Engineered Scaffold Inspection Form

The inspections listed below are to be performed by the PE of record for scaffold design or his/her designee. (4.3.7)

Plant_____ Unit #_____WO No._____

	Erection Phase	Inspection Requirements	Inspected By
1	Founding system (base) Installed to vertical wall of boiler	The scaffolding system, to this point, is installed as required by the PE stamped drawing with no deficiencies and is ready to continue erection	
2	Scaffold erected to mid-point or work platform (dance floor)	The scaffolding system, to this point, is installed as required by the PE stamped drawing with no deficiencies and is ready to continue erection	
3	Scaffold complete	The scaffolding system is completely installed as required by the PE-stamped drawing with no deficiencies and is ready for use (Green Tag)	
4	Scaffolding system modified	PE-approved modifications to the scaffolding system have been completed as required by revised PE-stamped drawing with no deficiencies and is ready for use (Green Tag)	

Inspector's Comments	
Item	Note deficiencies and corrective action required (see chart below)

Level of Urgency

1. Red Tag Scaffold (DO NOT USE) Until Repairs are Completed for Items
2. Yellow Tag (RESTRICTED USE) Fall Protection Required
3. Green Tag (READY FOR USE) No Deficiencies

Reinspect a scaffolding system after <u>any repairs or modification.</u>

By signing below, contractor hereby certifies (1) inspection or reinspection of the scaffolding has been performed, (2) all corrective action required to correct deficiencies in the scaffolding has been taken, and (3) the scaffolding meets the requirements of the engineering drawing and is ready for safe use.

_____ _____

Contractor representative *Date*

Reference 4.3.8

Attachment 3, Engineered Scaffold Systems Checklist

This checklist is to be completed by the Southern Company Generation responsible person.

In the chart below, each area identified by an item number requires the name and initials of the responsible person in the appropriate column.

Plant	Unit #	Work Order No.

Item	Responsible Person[1] (print name)	Task	Initials	Date
1		Develop contracting strategy (include in prime package or contract direct)		
2		Identify qualified contractors/subcontractors		
3		Complete the Scaffolding Integrity Checklist. At the prebid or prework meeting, discuss in detail the boiler work scope including any work that may impact the integrity of the scaffold support structure. The completed Scaffold Integrity Checklist shall be shared with contractor, qualified person, competent person, or PE. (See attachment 4)		
4		At the prebid or prework meeting, discuss in detail the scaffolding work scope and provide Southern Company Generation Scaffold Safety Procedure, including engineered scaffold inspection requirements, with contractor, qualified person, competent persons, and PE. (See attachment 2)		
5		2 weeks prior to mobilization, obtain PE-stamped engineered drawings and qualified and competent persons qualifications from the erection contractor		
6		Identify the project evaluation team[2] and review engineered drawings to familiarize team members with the work scope.		
7		Meet with contractor qualified and competent persons, distribute the scaffold inspection form, and determine 3 points for approval. (See attachment 2)		
8		Conduct preinspection job safety briefing to review drawing and any information relevant to the particular brand or type scaffold used. Require the erector's qualified and competent persons to attend.		
9		Determine who is responsible from contractor for initial tagging and per-shift scaffold inspections for each phase of the project		
10		Review the tagging system requirements with the appointed competent persons		

<u>This document shall be maintained on plant site for 3 years.</u>

[1] The responsible person is the Southern Company Generation employee with responsibility for projects requiring engineered scaffold. At a minimum, the responsible person shall have completed scaffold user training LearningSOurce # 010554.
[2] The evaluation team shall consist of competent persons representing Southern Company, the contractor, and the company contracted to erect the scaffold.

Attachment 4, Scaffold Integrity Checklist

This checklist shall be completed by the responsible person to identify the scope of work inside and outside of the boiler that may impact the load bearing capability of the scaffold support structure. This checklist shall be shared with the contractor, competent person, qualified person, and PE.

Plant:	Unit:	MWO:
Responsible Person (*Print*):	Responsible Person: (*Sign*)	Date:

	Question		Responsible Person's Initials
1.	Are there any plans to stage equipment (panels, burners, etc.) on the scaffolding that will add weight to the scaffold?	☐ YES (*provide explanation*) ☐ NO	
	Explanation:		
2.	Are there any structural members (buckstays, trusses, tension bars, etc.) or structural tubes (rear waterwall hanger tubes) being cut or removed?	☐ YES *(provide explanation)* ☐ NO	
	Explanation:		
3.	Will any work be completed on the coutant slopes? Any waterwall panel replacements in this area or a large quantity of panels replaced in the vertical walls? Are any structural modifications required on the boiler proper to complete a major section (Superheat, Reheat, etc) that may add weight or affect the integrity of the boiler? Will burner corners be replaced?	☐ YES *(provide explanation)* ☐ NO	
	Explanation:		
4.	Will any work be in the lower dead-air space on any structural members or hangers?	☐ YES *(provide explanation)* ☐ NO	
	Explanation:		
5.	Will any headers be unpinned or disconnected from structural steel in the lower furnace area?	☐ YES *(provide explanation)* ☐ NO	
	Explanation:		
6.	Will any large water wall section be removed while the unit has installed scaffolding?	☐ YES *(provide explanation)* ☐ NO	
	Explanation:		

Attachment 5, Summary of Changes

Rev. 0, 05/27/2009 — Approved by Jerry Stewart
Issued.

Rev. 1, 09/27/2012 — Approved by Doug Jones
Globally corrected capitalization and punctuation; removed paragraph numbers. Edited purpose statement (1.1, Purpose). Added two CFR references (2.2, References). Added attachment 4, Scaffold Integrity Checklist.

Rev. 2, 08/15/2013 — Approved by Doug Jones
Added 3.0, Responsibility. Moved training to 4.2 (was 3.0).

12/19/2023
Updated to reflect changes in recordkeeping for training.

Southern Company

SOUTHERN COMPANY OPERATIONS PROCEDURE

SCO-SH-0812

RIGGING AND LIFTING

Revision	*Approval Date*	*Approved by*	*Title*
0**	02/22/2021		Executive Vice President–Operations

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides the requirements for rigging and lifting.

1.2 Scope

This procedure applies to Southern Company Operations employees. For contractors whose contract references this procedure, contractor-specific requirements are identified in section 4.5, Contractor Requirements.

2.0 DEFINITIONS, REFERENCES, AND FORMS

2.1 Definitions

competent person – One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate these conditions. The individual must be knowledgeable in the requirements in the OSHA standards. Both training and/or experience are factors of consideration for competent person designation.

critical lift – A lift of 75 percent or more of the crane's rated capacity at its current configuration, or a lift involving two or more lifting devices, at least one of which is a crane. Additional site-specific criteria may apply such as, but not limited to, the value of the load or lifting over process equipment where a loss of the load could cause a plant shutdown.

engineered lift – Any lift that requires or has been planned by a registered professional engineer (P.E.) and stamped accordingly.

qualified rigger – A rigger who:

- Possesses a recognized degree, certificate, or professional standing, or
- Has extensive knowledge, training, and experience, and
- Can successfully demonstrate the ability to solve problems related to rigging loads.

Employers must determine whether a person is qualified to perform specific rigging tasks. Each qualified rigger may have different credentials or experience.

responsible person – A qualified rigger who has overall responsibility for directing the lifting and rigging activity. A responsible person may be a supervisor, superintendent, team leader, journeyman, and so forth, as assigned by local management.

2.2 References

Frequently Asked Questions (FAQ), SCO-SH-0812, Rigging and Lifting

Code of Federal Regulations:

- 29 CFR 1910, Subpart N
- 29 CFR 1926.251, Rigging equipment for material handling
- 29 CFR 1926.554 (a)(2), Overhead hoists; General requirements
- 29 CFR 1926, Subpart R, Steel erection
- 29 CFR 1926, Subpart CC, Cranes and derricks in construction
- 29 CFR 1926.1432, Multiple-crane/derrick lifts – supplemental requirements

Generation:

- SCG-SH-4000, Overhead and Gantry Crane Operator Qualification and Inspection
- SCG-SH-4010, Qualified Mobile Crane Operator
- Southern Safety Tri-Lateral Stop Work Authority
- Southern Company Records Retention Schedule

Technical and Project Solutions:

- TSS Contractor Environmental, Health, and Safety Specifications
  - Section 16, Deviation Requests
  - Section 30, Chains, Slings, and Miscellaneous Rigging Accessories
  - Section 52, Qualifying Equipment Operators
  - Section 53, Cranes, Derricks, and Powered Hoists

2.3 Forms

- Form 0812.1, Rigging and Lifting Plan – Critical Lift
- Form 0812.2, Intermediate Lift – Prelift Worksheet/Rigger's Reference Sheet

3.0 RESPONSIBILITY

3.1 Management

Local management is responsible for:

- Implementing and ensuring compliance with this procedure.
- Ensuring affected employees are trained on the requirements of this procedure.
- Ensuring rigging and lifting activity is supervised by a responsible person.
- Contract administration of contractors whose contract includes this procedure.

3.2 Responsible Person(s)

The responsible person(s) is responsible for:

- Ensuring lifting equipment meets all requirements prior to initial site usage.
- Ensuring qualified rigger(s) are assigned.
- Planning or assisting in planning of lifts as specified in this procedure.
- Ensuring lifting operations are coordinated with other jobsite activities that will be affected by or will affect lift operations.
- When using a mobile crane, ensuring the area is adequately prepared. The preparation includes, but is not limited to, the following:
  - Access roads for the crane and associated equipment.
  - Sufficient room to assemble or disassemble the crane.
  - An operating area that is suitable for the crane with respect to levelness, surface conditions, ground-bearing ability, proximity to power lines, excavations, slopes, underground utilities, subsurface construction, and obstructions to crane operations.
  - Traffic control as necessary to restrict unauthorized access to the crane's working area.
- Ensuring crane operators meet the requirements outlined in SCG-SH-4000, Overhead and Gantry Crane Operator Qualification and Inspection, and SCG-SH-4010, Qualified Mobile Crane Operator.
- Ensuring conditions that could adversely affect crane operations are addressed. Such conditions include, but are not limited to:
  - Poor soil conditions.
  - Wind velocity or gusting winds.
  - Heavy rain.
  - Fog.
  - Extreme cold.
  - Artificial lighting.
- Ensuring precautions are implemented when hazards associated with special lifting operations are present. Such operations include, but are not limited to, the following:
  - Critical Lifts.
  - Pick-and-carry operations.
  - Multiple load line use.

NOTE

The responsible person fulfills the requirements of a lift director as defined by 29 CFR 1926, Subpart CC.

3.3 Qualified Rigger

The qualified rigger(s) responsibilities include but are not limited to:

- Know and verify weight(s) of all loads.
- Attach and detach loads properly.
- Select proper rigging equipment for the task.
- Maintain control of suspended loads at all times.
- Plan or assist in planning of lifts as required.
- Follow lift plans.
- Communicate with all team members effectively.
- Ensure compliance with all safety rules and regulations.
- Perform pre-use inspection and maintain all rigging equipment to ensure safety.
- Use Stop Work Authority when unsafe conditions exist.

4.0 PROCEDURE

4.1 Southern Company-Specific Requirements

- A qualified rigger shall be present at all times.
- If radios are used for communication during a lift, a dedicated frequency for each crane with no other radio traffic shall be used.
- An engineering design or P.E.-stamped reference drawing shall be used for all new installations of pad eyes and lifting lugs to include application requirements such as weld amount, base metal requirements, and so forth.
- All pin holes for lifting hardware shall be drilled or punched or otherwise created per design specifications. No other method of creating pin holes is acceptable.
- All structural components or objects used to attach or to support rigging or hoisting equipment must be verified by a responsible person as having sufficient strength to support the safe working load equal to that of the hoist(s).

NOTE

If necessary due to size, complexity, or location of the lift, this calculation may require engineering support.

- **Beam clamps as a below-the-hook rigging point shall be restricted by Southern Company Operations.**

NOTE

The use of beam clamps as a below-the-hook rigging point on a load is prohibited unless specifically designed by the manufacturer and approved by Southern Company management prior to the lifting operations.

- After the completion of a lift (critical or noncritical), the responsible person and/or qualified rigger supervising the lift shall conduct a postlift debriefing.

NOTE

This debriefing is intended to be an informal review of the lift and may be conducted verbally. However, any noteworthy items should be communicated to local management.

4.2 Lift Categories and Criteria

For lift categories and criteria, see table below.

Lift Category	Lift Criteria
Standard (noncritical)	Any one or more of the following characteristics: • Load weights up to 2,000 lb. • Single or multiple hoisting (noncrane) equipment is used for a common load.
Intermediate (noncritical)	• Load weight of 2,001 lb or more up to 75 percent of the lifting device's capacity in the current configuration.
Critical	• A lift of 75 percent or more of the crane's rated capacity in its current configuration for mobile cranes. • A lift that involves two or more lifting devices of which at least one is a mobile crane. • Additional site-specific criteria may apply such as, but not limited to: – Value of the load. – Lifting over process equipment where a loss of load could result in a plant shutdown.

4.3 Standard and Intermediate Lift Requirements

4.3.1 Planning (Standard and Intermediate Lift Requirements)

- Lift plan documentation:
  - Standard lifts – Planning is to be performed by a responsible person and hazards to be documented through the job safety analysis (JSA) or job safety briefing (JSB) process.
  - Intermediate lifts – Planning is to be performed by a responsible person and documented on form 0812.2, Intermediate Lift – Prelift Worksheet.

NOTE

For repetitive lifts or lifts from a common position, a single intermediate lift checklist may be used based on the heaviest weight and the largest radius.

NOTE

Completing form 0812.2, Intermediate Lift – Prelift Worksheet, does not replace any local requirement to perform a pretask JSA or JSB.

- Verify load weight by vendor drawings, bill of lading documents, experience or training, or other reliable resource recognized as trustworthy by the site management team.
- Identify all required equipment to safely execute the plan.
- Fully inspect all rigging and hoisting equipment involved in the lift.

4.3.2 Prelift Meeting (Standard and Intermediate Lifts)

- Immediately prior to the lift, the responsible person and/or qualified rigger shall conduct a prelift meeting.
- All personnel involved with the lift shall attend and have a full understanding of all aspects of the lift. Collective discussions should be used to verify the personnel involved understand the plan and their responsibilities.

4.3.3 Execution (Standard and Intermediate Lifts)

- The qualified rigger shall verify all rigging and arrangements are as specified in the plan.
- If for any reason the lift plan must change, all work must stop. Notify the responsible person for his or her review of the revision to the plan and document the change(s) on form 0812.2, Intermediate Lift – Prelift Worksheet, or the appropriate prejob safety document (JSA, JSB, or equivalent) prior to continuing.
- Any person involved in the lift has the obligation to use Stop Work Authority to stop the lift at any point if he or she believes an unsafe condition exists or potentially may occur.

4.4 Critical Lifts

4.4.1 Exemptions to Critical Lift Requirements

Permanently installed cranes in generating facilities designed for maintenance functions are exempted from critical lift requirements under the following circumstances:

- The crane is used for its designed function. For example, an overhead crane installed for boiler feed pump maintenance is used for removal and replacement of the boiler feed pump.

- The weight of the load does not exceed the working load limit (WLL) of the crane and its support devices.
- A P.E.-stamped or Southern Company Operations rigging and lifting subject matter expert (SME)-reviewed lift plan is on file and is used for the lift.

  – The lift plan shall be reviewed by the responsible person and, if requested, by the Southern Company Operations rigging and lifting SME to ensure it is current for the task.
  – A single lift plan may be used for repetitive lifts.

4.4.2 Planning (Critical Lift)

- Each critical lift plan shall include, at a minimum, the elements identified in form 0812.1, Rigging and Lifting Plan – Critical Lift, including the following:

  – Manufacture, model, and capacity of the crane(s).
  – Manufacturer-provided capacity charts of the crane(s).
  – Working radius of the crane(s).
  – Boom length(s), counterweight amounts, and specific boom angle(s).
  – Weight of the load, including rigging, load block, headache ball, and cable.
  – The method used to determine the weight of the load.
  – Size and capacity of all rigging hardware. (All rigging and rigging accessories shall undergo a thorough, documented inspection prior to use in a critical lift. The manufacturer's specification sheets and certificates of inspection and testing, shall be made available for review upon request.)
  – A rigging arrangement illustration indicating rigging arrangement and attachment points to hoisting equipment and loads.
  – A plot plan showing crane(s) location with pick, swing, and set points.
  – Documentation that ground-bearing pressure is sufficient to support the weight of the load and equipment. The documentation shall include calculations, if any, for matting design to achieve sufficient support.
  – Questions regarding the ground bearing pressure are to be directed to the Southern Company Operations rigging and lifting SME.
  – In multicrane and/or hoist lift planning, "load share" amounts must be calculated and documented in the plan, based on, but not limited to, load geometry and rigging attachment locations on the load.
  – Plan approval signatures.

- Critical lift plans shall be:

  – Approved and stamped by a professional engineer (P.E.).
  – Reviewed by the responsible person and if requested, by the Southern Company Operations rigging and lifting SME.

4.4.3 Prelift Meeting (Critical Lift)

Immediately prior to a critical lift, the responsible person shall conduct a prelift meeting with all personnel involved with the lift to ensure all personnel have a full understanding of all aspects of the lift. All personnel involved in the lift shall attend. The lift crew shall

engage in collective discussions to verify that all personnel involved understand the lift process.

At the prelift meeting, the responsible person shall:

- Discuss in detail all hazards associated with the plan and address accordingly.
- Assign the roles and responsibilities to all lift personnel as detailed in the lift plan.
- Review and discuss the critical lift plan with all personnel involved in the lift.
- Ensure all rigging components are verified with the requirements found on the P.E. stamped lift plan.

4.4.4 Execution (Critical Lift)

The execution of a critical lift shall meet the following requirements:

- A copy of form 0812.1, Rigging and Lifting Plan – Critical Lift, and, if applicable the engineered lift plan, shall be kept in the operator's possession until the lift is completed.
- Critical lifts shall be executed following the requirements of the plan(s).
- After the lift begins, the responsible person shall observe the lifting activities at all times. If for any reason the responsible person must leave, the lift shall be stopped and made safe by returning the load to the ground, securing the load, or landing the load in place, whichever is safer.
- During the lift, the responsible person shall have no other duties that distract his or her focus from the lift's activities/progress or involved personnel.
- Ensure the qualified rigger has performed an inspection on all rigging hardware.
- After the lift begins, the crane operators shall communicate with the responsible person supervising the lift regarding the load cell weight readings on both the primary lifting crane(s) and the tailing crane (if present). If the load is greater than anticipated in the lift plan, the responsible person must stop the lift and consult the P.E.
- The crane operator shall not override load cell readings, alarms, or any other safety systems unless authorized by the responsible person and then only if it is within the manufacturers specifications.
- If for any reason the plan must change, all must stop, and notify the responsible person supervising the lift. If the lift cannot proceed per the requirements of the engineered lift plan, the lift must be returned to the ground until it can be performed per the requirements of the plan or a revised engineered lift plan can be obtained and approved.

4.5 Contractor Requirements

- Contractors shall comply with all federal, state, and local regulatory requirements.
- Contractors shall meet or exceed the requirement identified in section 4.1, Southern Company-Specific Requirements.
- Contractor shall meet or exceed the requirements identified in section 4.4, Critical Lifts, and the identified items below:

- The contractor shall develop an engineered rigging and lifting plan and complete form 0812.1, Rigging and Lifting Plan – Critical Lift, or equivalent for all critical lifts. The following criteria shall be used to determine when a lift is deemed critical:
  - A lift of 75 percent or more of the crane's rated capacity at its current configuration, or a lift involving two or more lifting devices, at least one of which is a crane. All multiple crane lifts shall meet the requirements of 29 CFR 1926.1432, Multiple-crane derrick lifts – Supplemental requirements.
  - Site-specific requirements may also apply, for example, specialty equipment with high value, nonroutine complex lifts, or at Purchaser's request.
- The contractor's critical lift plan shall be stamped by a professional engineer (P.E.). The contractor's site manager shall approve the written critical lift plan and submit the plan for review by the Purchaser, 15 calendar days, or as otherwise approved by the Purchaser prior to the lift. This review should include the Purchaser's responsible person, as appropriate. The Purchaser or its agent reserves the right to review all rigging and lifting plans and may reject for cause.
- A qualified responsible person shall complete the form 0812.2, Intermediate Lift – Prelift Worksheet, or equivalent for all noncritical lifts greater than 2,000 lb when using any crane, drum hoist, chain hoist, lever hoist, or grip hoist.
- For lifts less than 2,000 lb, prelift planning shall be documented on the pretask planning document (JSA, JSB, PJB, or similar).

NOTE

For the forms referenced above, contractors may use their own forms, provided they address the minimum requirements of the procedure and have been reviewed and approved by the Purchaser.

4.5.1 Subcontractor Management

Contractors are responsible for ensuring subcontractors under their management meet the minimum requirements established by this procedure as part of the contractor's approved safety plans.

5.0 KEY CONTACT

For questions about the content and implementation of this procedure, contact the manager–Operations Safety and Health – Corporate.

6.0 QUALITY RECORDS

Completed forms 0812.1 and 0812.2 shall be retained as required by the Southern Company Record Retention Schedule.

7.0 ATTACHMENTS

Attachment A, Version History

Attachment A – Version History

Rev. 0, 02/22/2021
Approved by Stan Connally
Reviewed by T&PS SLT, Paula Marino, Generation GAC
Prepared by David Myers

Remarks:
Issued. This Operations procedure supersedes T&PS Environmental, Health, and Safety (EH&S) procedure SH-2A-10, Rigging and Lift Plans.

05/17/2021
Approved by Alan Kilgore

Updated references and links from T&PS procedures to T&PS Contractor Environmental, Health, and Safety Specifications (2.2).

01/21/2022
Approved by Alan Kilgore

Added reference and link to FAQ (2.2).

**07/13/2023
Approved by Alan Kilgore

Organization names updated.

SOUTHERN COMPANY OPERATIONS PROCEDURE

SCO-SH-0900

BARRICADES

Revision	***Approval Date***	***Approved by***	***Title***	***Effective Date***
0	07/19/2017	*Ted McCullough*	Executive Vice President and Chief Production Officer, Southern Company Generation	01/01/2018
	07/19/2017	*Paula Marino*	Executive Vice President, Technical and Project Solutions	

CONTENTS

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure provides instructions for the use of rigid and non-rigid barricades to minimize exposure to hazards such as, but not limited to, slips, trips, falls, overhead work, leaks, chemicals, radiation, and high temperatures.

1.2 Scope

This procedure applies to all Southern Company Operations employees and contractors at generating facilities and Technical and Project Solutions (T&PS) project locations.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

contractor responsible person – The contractor employee responsible for the work; may include job titles such as foreman, general foreman, and craft supervisor. Note: The contractor responsible person may change over the course of a project.

guardrail system – A barrier erected to prevent workers from falling to lower levels that consists of top rail at 42 in., ± 3 inches, a mid-rail centered between top rail and working surface, and a toe board. (Note: “Guardrail system” is equivalent to the OSHA definition of “standard railing” plus “standard toe board” for General Industry from 29 CFR 1910.21, Walking-Working Surfaces.)

non-rigid barricade – Barrier that serves only as a warning and is not designed to prevent workers from falling to a lower level. For the purposes of this procedure, barricade tape is used to erect non-rigid barricades.

responsible person – The Southern Company employee or designated third-party agent responsible for overseeing the work; may include job titles such as contract coordinator, T&PS coordinator, discipline lead, or team leader. The responsible person may change over the course of a project.

rigid barricade – Barrier typically constructed of wood, steel, scaffold components, or other structurally substantial materials capable of withstanding without failure, a force of at least 200 lb. applied in a downward or outward direction within 2 in. of the top edge, at any point along the top rail. Toe boards are required on a rigid barricade where there is a risk of debris falling on workers at a lower level.

traffic barricade – A barrier used to control traffic by closing, restricting, or delineating all or a portion of the right-of-way of a public roadway to protect employees from vehicular traffic.

2.2 References

- 29 CFR 1910.21, Walking-Working Surfaces, Definitions
- 29 CFR 1910.23, Guarding Floor and Wall Openings and Holes
- 29 CFR 1926.502(b), Fall Protection Systems Criteria and Practices, Guardrail Systems
- Part VI of the Manual on Uniform Traffic Control Devices (1988 Edition, Revision 3, or the Millennium Edition)
- SCO-SH-0910, Floor Opening, Wall Opening, and Guardrail Removal

3.0 RESPONSIBILITY

3.1 Management

Plant management and project management are responsible for implementing and ensuring compliance with this procedure, which includes ensuring affected employees are trained on the requirements of this procedure.

3.2 Contractors

Contractors working on Southern Company Operations sites are responsible for complying with the requirements established within this procedure to include communicating the requirements to their employees and subcontractors.

3.3 Safety and Health Compliance Personnel

Facility/Project Safety and Health Compliance personnel are responsible for the following:

- Facilitate employee training.
- Assist with walking and working surface hazard recognition.
- Provide technical assistance for barricade selection and use.

4.0 PROCEDURE

4.1 Non-Rigid Barricades

4.1.1 General Requirements

A barricade tag shall be affixed to all non-rigid barricades in a prominent location. Multiple barricade tags should be used when necessary (for example, large barricades or multiple approach paths). Barricade tags shall be predominately orange in color and, at a minimum, include the following:

- Name of the Company/Contractor
- Name of the person responsible for the barricade for each shift where work is being performed and means of contact (for example, radio or phone number).

- Date barricade was erected.
- Reason for barricade – include actual and/or potential hazard(s).

Attachment points for barricade tape should be approximately the same height as a standard upper handrail

Person(s) erecting non-rigid barricades shall ensure the required area is completely barricaded to prevent workers from accidentally entering the hazardous area. For example, in addition to barricading same-level access to the hazardous area, stairway and ladder access also must be barricaded.

When placing barricade tape, ensure exits and emergency vehicle routes are not blocked, unless necessary for employee safety. The barricaded area shall be of the appropriate size to delineate the hazard, but not so large as to create an unnecessary problem for normal pedestrian flow of traffic. The practice of securing barricade tape to buildings and other permanent structures often results in an excessively large barricaded area. Suitable anchor points for the barricade tape shall be selected. Barricade tape shall not be attached to equipment (pumps, fans, motors, etc.) without approval of the operating department or system owner. Stanchions, traffic cones, saw horses, and other portable anchor points are preferred because they can be better positioned.

Barricades shall be maintained in good condition while in use; when no longer required, barricades shall be completely removed, including loops of tape tied around supports. Tape shall be properly disposed of if not properly stored for reuse.

When non-rigid barricades are erected around excavations, they shall be placed at least 6 ft from the edge of the excavation.

NOTE

Each employee on walking/working surfaces shall be protected from falling through or stepping into holes or openings, regardless of the fall potential, by personal fall arrest systems, covers, or guardrail systems erected around such hazards.

WARNING
Non-rigid barricades shall not be used as a substitute for rigid barricades when protecting workers from fall hazards.

When necessary, auxiliary lighting or other means shall be used to ensure barricades remain visible even at nighttime.

4.1.2 Danger Barricades (Red)

Predominantly red (black striping is permissible) barricade tape printed with the word "DANGER" shall be used to erect barricades for areas that contain or may present an immediately dangerous to life and health (IDLH) situation. Activities or conditions warranting a red danger barricade may include areas:

- Where overhead lifts are being performed.
- Within the counterweight swing radius of cranes.
- Near steam or chemical leaks.
- Beneath ice accumulations.

Only persons who have participated in the Job Safety Briefing for the work and are directly involved with the activities/conditions associated with a red danger barricade shall cross the red danger barricade, unless permission is granted by the owner of the barricade or a crew member involved with the work.

4.1.3 Caution Barricades (Yellow)

Predominantly yellow (black striping is permissible) barricade tape printed with the word "CAUTION" shall be used to erect barricades for areas that present a possible safety hazard. Activities or conditions warranting a yellow caution barricade may include:

- A minor oil leak that creates a slippery floor.
- A tripping hazard.
- Washing down.

Workers should avoid crossing yellow caution barricades when possible. Persons not directly involved with the activities/conditions associated with the erection of a yellow caution barricade may cross a yellow caution barricade as long they understand the nature of the hazard and they can avoid the hazard.

4.1.4 Radiation Barricades (Magenta/Yellow)

Yellow barricade tape printed with the words "RADIATION HAZARD" in magenta text shall be used to erect barricades for areas impacted by radiography activities. The person responsible for the radiography activities shall ensure radiation barricades are properly positioned. Radiation barricades shall not be crossed by persons not involved with the radiography work.

4.1.5 Staging Barricades (Green)

Green barricade tape can be used to delineate staged material areas where no safety hazard exists.

All efforts should be made to keep the material and/or equipment out of walkways. Care shall also be taken not to create a hazard when staging material.

4.2 Barricades – Protective (Rigid)

Rigid barricades are required for, but not limited to, the following situations:

- Floor openings and wall openings (See SCO-SH-0910, Floor Openings, Wall Openings, and Guardrail Removal Procedure.)
- Unprotected floor edges or platforms, to include leading edge work.
- Excavations adjacent to passageways and those where a fall hazard exists.

4.3 Traffic Barricades and Signs

When barricades and associated signs are erected on or adjacent to public roadways, they shall conform to Part VI of the Manual on Uniform Traffic Control Devices

Note: Part VI of the Manual on Uniform Traffic Control Devices provides guidance on signs and warning devices required when working on or adjacent to public roads.

4.4 Barricade Removal

In the absence of the responsible person the plant/project manager or his or her designee may remove a barricade after all attempts to contact the individual who placed the barricade have been exhausted and a thorough assessment of the hazards has been conducted.

4.5 T&PS Site-Specific Procedures

A site-specific barricade procedure addressing warning and protective barricades shall be developed and implemented on T&PS projects. The site-specific procedure shall meet the requirements contained herein, at a minimum. These site-specific procedures shall be made available to appropriate plant personnel.

5.0 TRAINING

Training shall be provided to ensure the purpose and function of the Southern Company Operations Barricade procedure are understood and the knowledge and skills required for its safe application and usage have been acquired.

Employees whose work involves activities at generating facilities and/or project sites outside of office settings shall train to this procedure. Training is available through LearningSOurce code 022874, Barricade and Open Hole Training.

All affected employees shall be retrained every 3 years or if the following conditions occur:

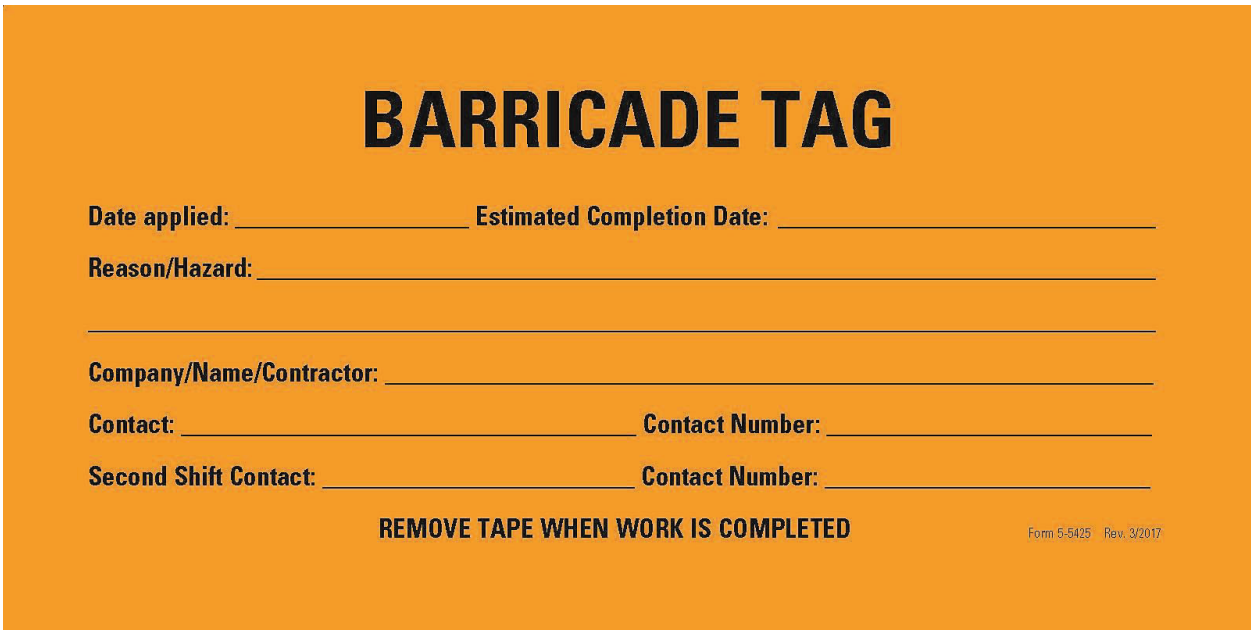
Retraining shall be provided when there is a change in this procedure or when an employee’s knowledge or use of this procedure is deficient.

6.0 ATTACHMENTS

Attachment 1 – Barricade Tag, Form #S-5425

Attachment 1 – Barricade Tag

Form 5-5425, available through the APCO print shop.



BARRICADE TAG

Date applied: _____ Estimated Completion Date: _____

Reason/Hazard: _____

_____

Company/Name/Contractor: _____

Contact: _____ Contact Number: _____

Second Shift Contact: _____ Contact Number: _____

REMOVE TAPE WHEN WORK IS COMPLETED

Form 5-5425 Rev. 3/2017

SOUTHERN COMPANY OPERATIONS PROCEDURE

SCO-SH-0910

FLOOR OPENING, WALL OPENING, AND GUARDRAIL REMOVAL

Revision	***Approval Date***	***Approved by***	***Title***	***Effective Date***
0	07/19/2017	*Ted McCullough*	Executive Vice President and Chief Production Officer, Southern Company Generation	01/01/2018
		Paula Marino	Executive Vice President, Technical and Project Solutions	

CONTENTS

1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure describes the steps required to minimize the potential for an incident or injury when workers perform tasks that could create a fall hazard. Examples of such tasks include, but are not limited to, creating a floor opening, removing one or more sections of floor grating, creating a wall opening, or removing a guardrail.

1.2 Scope

This procedure applies to Southern Company Operations employees and contractors at generating facilities and T&PS project locations.

Exemption

The Southern Company Generation Emergency Response Teams will follow the requirements set forth in the Technical Rescue Training Manual, Module 9, Tripod and Winch Devices for Retrieval, when training and performing actual rescues around open holes.

See Module 9, Tripod and Winch Devices for Retrieval Rescues/Training Operations Near Open Holes.

2.0 DEFINITIONS AND REFERENCES

2.1 Definitions

contractor responsible person – The contractor employee responsible for the work; may include job titles such as foreman, general foreman, and craft supervisor. Note: The contractor responsible person may change over the course of a project.

floor opening – An opening measuring 12 in. or more in its least dimension, in any floor, platform, pavement, or yard through which persons may fall. Examples of a floor opening include a hatchway, stair or ladder opening, pit, or large manhole. Floor openings occupied by elevators, dumb waiters, conveyors, machinery, or containers are excluded from this subpart. (From 29 CFR 1910.21, Walking-Working Surfaces.)

An opening in a roof is considered to be a floor opening when the roof is normally considered to be a walking-working surface.

non-rigid barricade – Barrier that serves only as a warning and is not designed to prevent workers from falling to a lower level. For the purposes of this procedure, barricade tape is used to erect non-rigid barricades.

qualified person – A person who, by possession of a recognized degree, certificate, or professional standing, or with extensive knowledge, training, and experience, has

demonstrated the ability to solve or resolve problems relating to the subject matter, work, or project.

responsible person – The Southern Company employee or designated third-party agent responsible for overseeing the work; may include job titles such as contract coordinator, T&PS coordinator, discipline lead, or team leader. The responsible person may change over the course of a project.

rigid barricade – Barrier typically constructed of wood, steel, scaffold components, or other structurally substantial materials capable of withstanding without failure, a force of at least 200 lb applied in a downward or outward direction within 2 in. of the top edge, at any point along the top rail. Toe boards are required on a rigid barricade where there is a risk of debris falling on workers at a lower level.

wall opening – An opening that measures 18 in. or more in its least dimension located in any wall or similar structure through which persons may fall and the bottom of the opening is less than 39 in. above the walking/working surface. (From 29 CFR 1910.21, Walking-Working Surfaces.)

unsupported weld – A weld on the walking surface that is not supported by structural steel.

2.2 References

- 29 CFR 1910.21, Walking-Working Surfaces, definitions
- 29 CFR 1910.23, Guarding Floor and Wall Openings and Holes
- 29 CFR 1926.502(b), Fall Protection Systems Criteria and Practices
- 29CFR 1926.501(b)(4)(ii), Duty to Have Fall Protection, Holes
- 29 CFR 1926.750, Subpart R, Steel Erection
- SCO-SH-0900, Barricades
- Southern Company Generation Technical Rescue Training Plan

3.0 RESPONSIBILITY

3.1 Management

Plant management and project management are responsible for implementing and ensuring compliance with this procedure, which includes ensuring affected employees are trained on the requirements of this procedure.

3.2 Contractors

Contractors working on Southern Company Operations sites are responsible for complying with the requirements established within this procedure to include communicating the requirements to their employees and subcontractors.

The Southern company or designated 3rd party management contractor responsible person is responsible for the following:

- Inspect the work area for rigid barricades to ensure safety precautions have been taken as indicated on the Open Hole Permit.
- Review and sign the completed Open Hole Permit prior to the removal of floor grating, guardrails, or creation of an unprotected floor or wall opening.
- Periodically monitor the area during the course of work to ensure compliance with this procedure.
- Ensure rigid barricades and signage is maintained in good condition.
- Inspect area at completion of work to ensure working surfaces, walls, and guardrails are returned to a safe condition.
- When Southern Company employees comprise the work crew, review the job safety briefing (JSB) and participate in the JSB meeting.

NOTE

The responsible person may change during the course of the work or project. It is permissible for the person responsible for the work at any time during the work or project to authorize modification and removal of a rigid or nonrigid barricade after the area is deemed to be safe.

The Southern Company responsible person's inspection of a contractors work is solely to ensure the contractor is meeting the requirements of this procedure and their contractual requirements.

3.3 Contractor Responsible Person

The contractor responsible person is responsible for the following:

- Immediately notify their Southern Company coordinator on determination that a floor opening or wall opening must be created or that a guardrail must be removed.
- Ensure the work area is safe. Take steps to eliminate or mitigate hazards.
- Ensure the work crew understands the applicable requirements of this procedure.
- Review the job safety analysis (JSA) or JSB and participate in the JSA or JSB meeting.
- Review and sign the completed Open Hole Permit prior to the removal of floor grating, guardrails, or creation of an unprotected floor or wall opening.
- Monitor the area during the course of work to ensure compliance with this procedure.
- Ensure rigid barricades and signage is maintained in good condition.
- Inspect area at completion of work to ensure working surfaces, walls, and guardrails are returned to a safe condition.
- On completion of the work, review and sign the Open Hole Permit to indicate close out of the permit and release the area to general access.
- If the responsible person changes during the course of the work, the new responsible person shall sign and date the *transferred to* field on the Open Hole Permit.

NOTE

The contractor responsible person may change during the course of the work or project. It is permissible for the person responsible for the work at any time during the work or project to authorize modification and removal of a rigid or non-rigid barricade after the area is deemed to be safe.

3.4 Safety and Health Compliance Personnel

Facility/project Safety and Health Compliance personnel are responsible for the following:

- Facilitate employee training on this procedure and risk mitigation requirements.
- Assist with walking and working surface hazard recognition.
- Provide technical assistance for barricade selection and use.

4.0 PROCEDURE

4.1 Rigid Barricades

Rigid barricades shall be constructed in accordance with OSHA requirements (see 29 CFR 1910.23 and 1926.502(b)). Barricade examples include those built from scaffolding components, lumber and wooden post, and railing/cables.

The work area shall be fully encompassed by the rigid barricade or a combination of the rigid barricade, existing guardrails, walls, or other structural components. Access points shall be equipped with swing gates, offset guardrails, or other approved devices. If the barricade has removable handrails for access, they shall be pinned or otherwise secured to prevent unintentional removal.

The barricaded area shall be of the appropriate size to contain the hazard, but not so large as to create an unnecessary problem for normal pedestrian traffic or emergency access and egress routes.

4.2 Open Hole Permit

The Open Hole Permit (attachment 1) is used for all applicable floor openings, holes, wall openings, grating removal, and guardrail removal.

NOTE

Each employee on walking/working surfaces shall be protected from falling through or stepping into holes or openings, regardless of the fall potential, by personal fall arrest systems, covers, or guardrail systems erected around such hazards.

The responsible person or contractor responsible person shall complete the Open Hole Permit through the section authorizing the creation of the opening or removal of guardrails before such work is performed. The signature(s) of the responsible person(s) authorizes the work to begin.

NOTE

If contractors are not involved with the work, the responsible person shall write “N/A” in the permit sections provided for approval by the contractor responsible person.

After being authorized by the responsible person(s), the Open Hole Permit shall be attached to the rigid barricade at the barricade entrance.

The responsible person shall ensure rigid barricades and signage are maintained in good condition.

If the fall hazard is mitigated by installation of a proper hole cover during the course of work, fall protection is not mandatory while the hole cover is in place.

Hole covers shall be constructed of substantial materials able to support two times the intended load. The construction of hole covers with a short dimension greater than 4 ft and hole covers subject to loads beyond personnel and hand-portable equipment shall be determined by qualified personnel. Hole covers shall be secured against movement and shall be prominently labeled “HOLE COVER – DO NOT REMOVE” (attachment 2).

When constructing hole covers from wood, the following minimum requirements shall be observed:

OPENING SIZE	REQUIREMENT
Less than 18 in. in largest dimension	Single layer of ¾ in. plywood secured to the working surface
Greater than 18 in. in least dimension	Two layers of ¾ in. plywood secured to each other and the working surface
Greater than 48 in. in any dimension	Consult qualified person
Oriented strand board (OSB) is not to be used for hole cover material. Use plywood with a rating sufficient for the environment it will be used, such as exterior or interior grade.	

For hole covers constructed of materials other than wood, consult the qualified person for the requirements’ minimum dimensions based on the size of the opening, proposed materials, and bracing.

If the area below the intended opening could be affected by overhead hazards, the responsible person shall erect a red danger barricade. See SCO-SH-0900, Barricades.

The responsible person shall inspect the work area at the completion of work, but prior to the rigid barricade being removed. After the work area has been restored to a safe condition, rigid barricades should be promptly removed.

When the work area has been restored to a safe condition, the responsible person(s) shall sign the Open Hole Permit to close-out and dispose of the permit.

Plants or projects may use the Open Hole Permit Index (attachment 3) to track the location and responsible person of open hole permits.

4.3 Grating Removal

Contractors who remove/install grating and its supporting structure comprising a walking-working surface shall be trained in steel erection (29 CFR 1926.750, Subpart R).

Exception

The steel erection training requirement does not apply for removal of sections of grating that are designed to be periodically removed for maintenance activities.

When grating is removed, it shall be:

- Secured to prevent an accidental drop to a lower level.
- Where appropriate, handled with grating hooks to avoid pinch-point injuries.
- Stored and secured so it does not pose additional hazards from accidental movement or trip hazards.
- Reinstalled to meet the original specifications, after completion of work.

NOTE

Unsupported welds are not permitted on reinstalled grating. Any repairs to grating must meet the manufactures original grating specifications for load rating.

See attachment 4, Best Practices, for additional instructions.

4.4 General Requirements

When the work or project requires one of the following:

- Creating a floor opening (includes removing grating).
- Creating a wall opening where the bottom of the opening is 39 in. or less from the walking/working surface.
- Removing guardrails.
- Excavations where a fall hazard of 4 ft or greater exists.

Southern Company Operating personnel and contractors shall use the following requirements:

- Complete a job safety analysis or briefing (JSA or JSB) specific to the task; communicate safe work practices and requirements to all workers involved.
  - Communicate hazards to other workers in the area that may be affected and note the hazards on their JSA or JSB.

  - Annotate a task-specific fall-protection plan on the JSA or JSB and the Open Hole Permit.

- Prior to performing any task covered by this procedure, the responsible person completes the Open Hole Permit.

- Wear appropriate fall protection, in the form of an approved personal fall-arrest system, when working within the barricaded area, or be sure an approved fall-prevention system is in place to prevent worker exposure when a fall potential exists.

- To prevent unimpeded access, erect a rigid barricade with appropriate signage at all approaches to the area where the grating will be removed or where an unprotected floor or wall opening presents a fall hazard. Ensure the area is fully encompassed by the rigid barricade or a combination of the rigid barricade, existing guardrails, walls, or other structural components.

- If fall arrest or fall prevention is required inside a rigid barricade when a floor or wall opening is not properly covered, post the “DANGER – FALL HAZARD – 100% TIE-OFF REQUIRED INSIDE THIS BARRICADE” sign (see attachment 5), at a minimum, on each side of the rigid barricade. Large barricades may require additional signs. Handwritten signs are NOT permitted.

- Barricade the area below the intended opening that may be affected by overhead hazards to prevent access, and post signage to identify the hazard. See SCO-SH-0900, Barricades.

- After work has been completed and prior to the barricade being removed, check grating or floor plates to confirm all clamps and clips have been attached and secured. Install guardrails to the original specifications.

- Close out the permit only after the area has been inspected and found to be safe in accordance with the restoration requirements listed on the Open Hole Permit.

4.5 Barricade Removal

In the absence of the responsible person, the plant/project manager or his or her designee may remove a barricade after all attempts to contact the individual who placed the barricade have been exhausted and a thorough assessment of the hazards has been conducted.

4.6 Site-Specific Safety Plan for Contractors

If a contractor has additional requirements not covered by this procedure, they may use their procedure on approval by Southern Company site or project management. Contractors requesting to use their procedure shall submit, as part of their site-specific safety plan, measures to be used when creating floor openings or wall openings, removing grating, or removing guardrails. The contractor’s procedure shall meet or exceed the requirements of SCO-SH-0910 to be approved.

All open holes shall have the Southern Company Open Hole Permit completed by the contractor's responsible person and posted appropriately (see 4.2, Open Hole Permit).

5.0 TRAINING

Training shall be provided to ensure the purpose and function of this procedure are understood and the knowledge required for its safe application and usage have been acquired.

Employees whose work involves activities at generating facilities and/or project sites outside of office settings shall be trained in this procedure. Instructor-lead training is available through LearningSOurce code 022874, Barricade and Open Hole Training. Online training is available through LearningSOurce code 023428, SG/Web Barricade and Open Hole training.

All affected Generation employees shall be retrained every 3 years, or if the following conditions occur:

- Change in this procedure.
- Employee knowledge or use of this procedure is deficient.

All affected T&PS employees will receive annual update training as part of the annual T&PS Procedures – Environmental Health and Safety Training or if the following conditions occur:

- Change in this procedure.
- Employee knowledge or use of this procedure is deficient.

NOTE
The LearningSOurce Code for T&PS will be assigned annually, and training will be automatically scheduled in LearningSOurce.

6.0 ATTACHMENTS

Attachment 1, Open Hole Permit; Maximo item number 1319324

Attachment 2, Best Practice – Step-by-Step Guides

Attachment 3, Open Hole Permit Index

Attachment 4, "Hole Cover - Do Not Remove" sticker; Maximo item number 9-2534

Attachment 5, Fall Hazard Sign; Maximo item number 1319323

Attachment 6, Revision History

Attachment 1, Open Hole Permit

OPEN HOLE PERMIT

For Floor Openings, Wall Openings, Grating Removal and Guardrail removal.

THIS PERMIT SHALL BE POSTED AT THE BARRICADE ENTRANCE

Responsible Person (print): Contact Number:

Company Performing Work:

Check all that apply: ☐ Floor Opening ☐ Wall Opening ☐ Guardrail Removal
☐ Grating Removal
☐ Other Floor Opening specify: _____

Location:

Scope of Work:

The following items shall be completed prior to creating the opening/guardrail removal:
- ☐ JSA/JSB completed and hazards communicated to all members of the new crew
- ☐ Area inspected and any unsafe conditions corrected/mitigated
- ☐ Rigid barricades erected
- ☐ Hazard warning signs posted on rigid barricade
- ☐ Fall arrest/restraint measure in place

Specific fall protection plan:

Authorization for creating the opening/guardrail removal
Precautionary measures are in place and authorize the creation of a floor/wall opening and/or guardrail removal.

	NAME	SIGNATURE	DATE
Approval Contractor Responsible Person:			
Contractor Responsible Person Transferred to:			
Approval Responsible Person:			
Approval Responsible Person Transferred to:			

Restoration of Safe Work Area

Floor grating is in place and secured	☐ Yes ☐ N/A
Floor grating does not have unsupported welds	☐ Yes ☐ N/A
Hole covers, if needed, are in place, marked and secured	☐ Yes ☐ N/A
Floor openings restored to safe condition	☐ Yes ☐ N/A
Wall openings restored to safe condition	☐ Yes ☐ N/A
Guardrails, including toeboards, are in place and secured	☐ Yes ☐ N/A
The work area was inspected and no hazards related to the work scope remain	☐ Yes

Authorization for close out of permit
When the work area has been restored to a safe condition and barricades may be removed.

	NAME	SIGNATURE	DATE
Approval Contractor Responsible Person:			
Approval Responsible Person:			

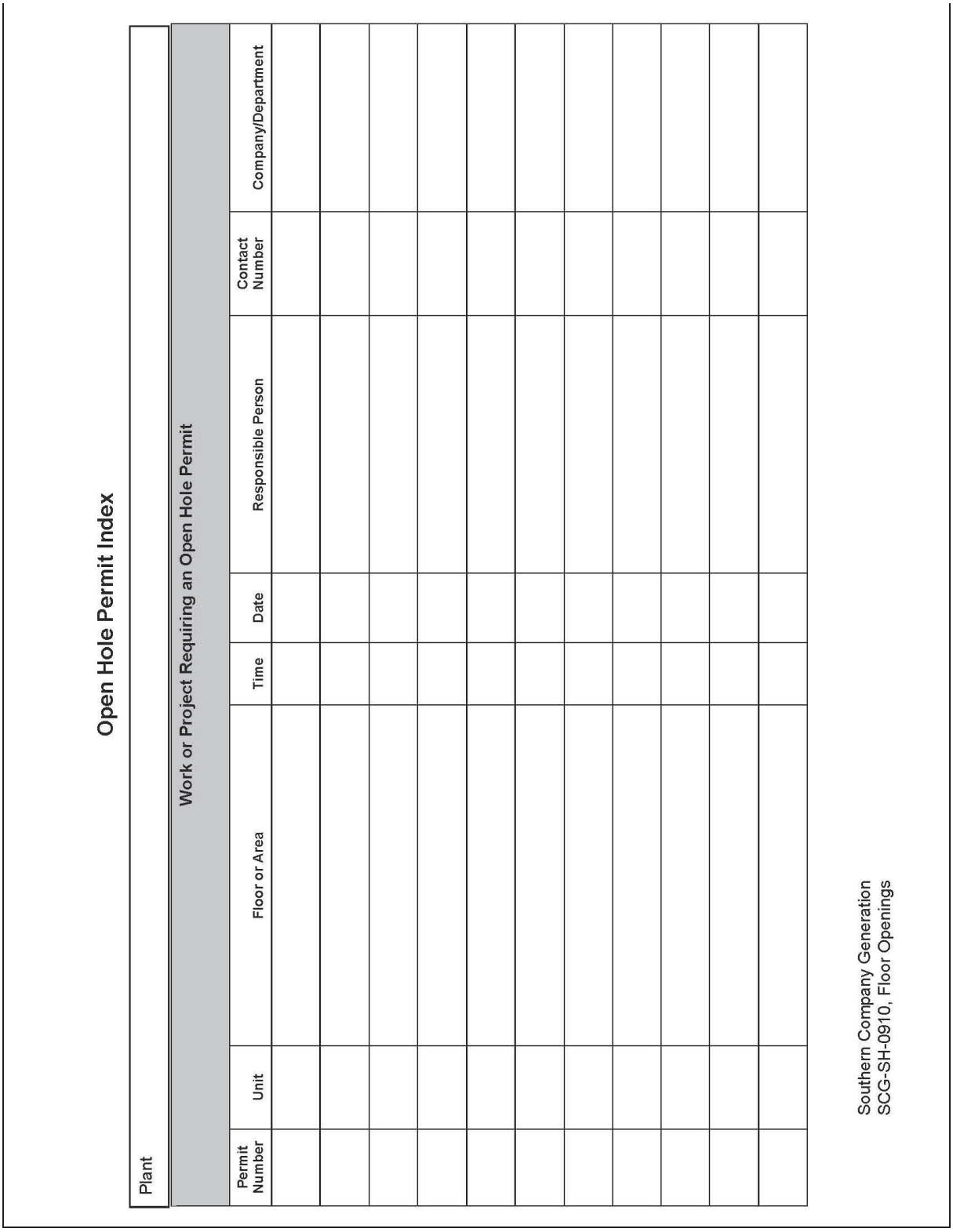
Form 5-6775

Maximo item number 1319324

Attachment 2, "Hole Cover Do Not Remove" Sticker

Maximo item number 9-2534

Attachment 3, Open Hole Permit Index



Open Hole Permit Index

Plant

Work or Project Requiring an Open Hole Permit								
Permit Number	Unit	Floor or Area	Time	Date	Responsible Person	Contact Number	Company/Department

Southern Company Generation
SCG-SH-0910, Floor Openings

Attachment 4, Best Practices Step-by-Step Guides

Grating Removal

The following is a best practice, step-by-step guide for grating removal.

1. Notify the responsible person as soon as it is determined a section of grating must be removed.
2. Install protective systems (rigid barricades) at all access points and approaches to the work area. The barricade shall fully encompass the hazard and allow no unimpeded access.
3. Post signage identifying the hazard.
4. Install gates or offset openings for personnel access to the work area. Use only the approved access points to enter the work area.
5. Install barricades and signage on lower levels when work creates an overhead hazard. Notify other work crews in the area of the activities.
6. Install fall protection equipment (such as self-retracting lanyards or horizontal lifelines) or install fall-prevention equipment that limits employee exposure to a fall hazard. Identify fall-prevention measures on the JSA or JSB.
7. Initiate Open Hole Permit and obtain appropriate signatures.
8. Conduct a JSA or JSB with all workers involved, identifying task steps, hazards, and safe work practices.

   Ensure only individuals trained in steel erection (29CFR 1926.750 subpart R) and this procedure are allowed to remove grating. Exception: The steel-erection training requirement does not apply for removal of small sections of grating that are designed to be periodically removed for maintenance activities. Check with responsible person if questions arise.

9. When removing grating, ensure the piece is secured to prevent accidental drop to a lower level and handle it with grating hooks.
10. Ensure removed grating is stored and secured in such a manner that it does not pose additional hazards from accidental displacement or trip hazards.
11. On completion of the work, ensure the grating is reinstalled to meet the original specifications.
12. The work area will be inspected by the responsible person. If found to be safe, obtain the appropriate signatures on the permit, closing it out.
13. Remove signage and barricades.
14. Return the work area to normal operations.

Floor Openings

Floor openings are generally created by removing existing equipment (for example, removal of piping from a penetration) or created when installing or modifying equipment. The following is a best practice, step-by-step guide for floor openings.

1. Immediately notify the responsible person when it is determined that a floor opening must be created by removal of existing equipment or created to install equipment.
2. Install protective systems (that is, a rigid barricade) at all access points and approaches. The rigid barricade shall fully encompass the hazard and allow no unimpeded access.
3. Post signage identifying the hazard (see attachment 1).
4. Install gates or offset openings in barricades for personnel access to the work area. Use only the approved access points to enter the work area.
5. Install barricades and signage on lower levels when work creates an overhead hazard. Notify other work crews in the area of the activities.
6. Install fall protection equipment (such as self-retracting lanyards or horizontal lifelines) or install fall-prevention equipment that limits employee exposure to a fall hazard. Identify fall-prevention measures on the JSA or JSB.

NOTE

> Each employee on walking/working surfaces shall be protected from falling through or stepping into holes or openings, regardless of the fall potential, by personal fall-arrest systems, covers, or guardrail systems erected around such hazards.

7. Initiate Open Hole Permit and obtain appropriate signatures.
8. Conduct a JSA or JSB with all workers involved, identifying task steps, hazards, and safe work practices.
9. Perform the task, taking steps to prevent falling objects as equipment is removed or holes are cut in the floor.
10. Install or reinstall the equipment to eliminate the hazard or take steps to protect the floor opening. If an opening is still present, a proper hole cover is the preferred method.
11. On completion, the responsible person inspects the work area. If found to be safe, obtain the appropriate signatures on the permit, closing it out.
12. Remove signs and barricades. Return work area to normal operations.

Wall Openings

Wall openings are typically created during construction or maintenance activities. A wall opening is where the bottom edge is less than 39 in. from the walking and working surface (lower than a guardrail) and the potential to fall to a lower level is present. Protective measures for wall openings usually include plywood to close the opening or rigid barricades to prevent exposure to a fall. The following is a best practice, step-by-step guide for wall openings.

1. When it is determined that work must take place in an exposed wall opening where the bottom edge is less than 39 in. from the walking and working surface and a fall hazard will be present, immediately notify the responsible person.

2. Erect a rigid barricade set back from the opening with a gate or an offset opening for access.

3. Install fall protection equipment (such as self-retracting lanyards or horizontal lifelines) or install fall-prevention equipment that limits employee exposure to a fall hazard. Identify fall-prevention measures on the JSA or JSB.
4. Erect warning or protective barricade as appropriate on lower levels with signage indicating the overhead work hazard.

5. Notify other work crews of the work and the hazards. The hazards shall be noted on the JSA or JSB for other crews working in the immediate area.

6. Initiate the Open Hole Permit and obtain appropriate signatures.
7. Conduct JSA or JSB, identifying task steps, hazards, and safe work practices.

8. Perform the task, taking steps to prevent objects falling to lower levels.

9. On completion of the task, eliminate the fall hazard by installing equipment, windows, wall panels, and such or by leaving the rigid barricade in place as an engineering control until such time the wall opening can be permanently closed.

10. When the fall hazard has been eliminated, ensure the work area is inspected by supervision and the T&PS coordinator. If found to be safe, obtain the appropriate signatures on the permit, closing it out.

11. Remove barricades, except any needed to eliminate the fall hazard, remove signage, and return the work area to normal operations.

Guardrail Removal

If a guardrail must be removed to facilitate work, it often creates a fall hazard. The following is a best practice, step-by-step guide for guardrail removal.

1. When it is determined a guardrail must be removed, immediately notify the responsible person.

2. Erect a rigid barricade with proper signage, set back from the section to be removed, or establish a rigid barricade at all approach points to prevent unimpeded access to the work area.

3. Erect barricades and signage on lower levels if work presents an overhead work hazard, and post signage to identify the hazard.

4. Notify other crews in the area of the work and hazards associated. Other crews will note the hazards on their JSA or JSB.

5. Install fall protection equipment (such as self-retracting lanyards or horizontal lifelines) or install fall-prevention equipment that limits employee exposure to a fall hazard. Identify fall-prevention measures on the JSA or JSB.
6. Initiate an Open Hole Permit and obtain appropriate signatures.
7. Conduct a JSA or JSB, identifying task steps, hazards, and safe work practices.
8. Perform the task.

9. On completion of the task, reinstall the guardrails to meet original specifications. If guardrail must be left out, a rigid barricade must be in place as an engineering control.

10. The responsible person will inspect the area. If found to be safe, obtain the appropriate signatures on the permit, closing it out.

11. Remove barricades, except any needed to eliminate fall hazards, remove signage, and return the work area to normal operations. NOTE – any barricade left in place must be tagged properly.

Attachment 5, Fall Hazard Sign

Maximo item number 1319323

Attachment 6, Revision History

Rev. 0 07/19/2017	Approved by Ted McCullough and Paula Marino Reviewed by
Issued. Effective 01/01/2018.	
04/30/2022 Organization names updated.	

SOUTHERN COMPANY GENERATION

SCG-SH-2101

Hazard Communication

Revision	*Approval Date*	*Approved by*	*Title*
0	August 9, 2013		Executive Vice President and Chief Production Officer
1	September 2, 2021		Executive Vice President–Operations

Contents

1.0 PURPOSE AND SCOPE

1.1 Purpose

The purpose of this Hazard Communication document is to ensure that Southern Company Generation employees are effectively informed of the potential and existing chemical hazards in the work environment and to comply with the federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

1.2 Scope

This document applies to all hazardous chemicals that employees could be exposed under normal working conditions or in the case of an emergency. A hazardous chemical is any chemical that is classified as a physical hazard (flammable, explosive, corrosive), health hazard (irritant, toxin, carcinogen), simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

This document does not apply to:

- Hazardous waste.
- Consumer products brought on site by personnel for personal use (for example, shaving cream, hair spray, hand lotion).
- Any consumer product or hazardous substance when used for the purpose intended by the manufacturer where the use results in a duration and frequency of exposure not greater than the range of exposures that could reasonably be experienced by consumers when used for the purpose intended.

2.0 GENERAL INFORMATION

This document contains provisions for:

- Labeling of containers of chemicals in the workplace.
- Distribution of Safety Data Sheets (SDSs) to employees.
- Development and implementation of employee training programs regarding hazards of chemicals and protective measures.
- Providing a list of the hazardous chemicals known to be present on site.
- Methods used to inform employees of the hazards of nonroutine tasks.
- Hazards associated with chemicals contained in unlabeled pipes.
- Provisions for informing contractors of hazard communication requirements.

3.0 SITE-SPECIFIC PROGRAM

The Company shall develop, implement, and maintain a written hazard communication program containing site-specific information at each workplace that is readily available to employees, their representatives, and regulatory inspectors upon their request.

NOTE

This document along with a completed form 2101.1, Required Site-Specific Information Form, may serve as each site's written hazard communication program.

If a site chooses to provide its own written program, the program shall contain the provisions presented above in the General Program Information section to be considered complete and in compliance with 29 CFR 1910.1200. In addition, the written program shall clearly state who is responsible for the overall site coordination as well as who is responsible for any of the specific elements.

The written program shall be an accurate representation of what hazardous chemicals exist or are used by employees working for or assigned to the facility. Therefore, it shall be updated whenever changes are made. The site-specific information shall be kept current, and as a matter of good practice, the overall program shall be reviewed periodically.

4.0 LABELING AND OTHER FORMS OF WARNING

4.1 Labels and Containers

Chemical manufacturers, importers, and distributors shall provide labels, tags, or other markings for containers of hazardous chemicals. Containers of hazardous chemicals shall be inspected upon receipt, and if an appropriate label is not present, the chemical shall not be accepted. The information shall include at least the following:

- Product identifier.
- Signal word.
- Hazard statement(s).
- Pictogram(s).
- Precautionary statement(s).
- Name, address, and telephone number of the chemical manufacturer, importer, or responsible party.

4.2 Workplace Labeling

Although there is no specific format for labeling containers of hazardous chemicals in the workplace, they shall be properly labeled, tagged, or marked with one of the following:

- The information specified on the manufacturer, importer, or distributor container label as described in the section above.

- Product identifier and words, pictures, symbols, or a combination thereof, that provide at least general information regarding the hazards of the chemicals.

Workplace labels using National Fire Protection Association (NFPA) or Hazardous Material Information System (HMIS) hazard classification systems meet this requirement.

This general information in conjunction with the other information immediately available to employees (for example, SDSs), shall provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

In certain situations involving individual stationary process containers, the label may be replaced by a sign, placard, process sheet, batch ticket, operating procedures, or other means to convey the identity of the hazardous chemical and the appropriate physical and health hazards. If these other forms of warning are used, they shall be readily accessible to employees in their work area during each work shift.

Labels shall not be required for portable containers into which a small amount of a chemical is transferred for immediate use by the person performing the transfer. An example of this exception is the transfer of a few milliliters of a chemical into a container for use in another location when transferred, transported, and fully used by one individual during the work shift.

When needed, chemical product labels shall be manually created or generated electronically. Labeling software packages are readily available as well as some customized labels for a specific chemical. The label on a container shall contain the same chemical or product name as is indicated on the product's SDS contained in the Verisk3E Chemical Inventory System. Site-specific labeling systems shall be described in the Required Site-Specific Information Form.

- No labels on original containers shall be altered or defaced in any manner. If labels are removed, defaced, or become illegible, the container shall be immediately marked with the required information.

- There shall be no requirement to re-label chemicals that are properly labeled by the manufacturer or distributor when they are received. However, if chemicals are received that are not labeled appropriately, Southern Company shall assume the responsibility to label the container. The only chemicals generally excluded from the hazard communication labeling requirement are the following:

  – Pesticides regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (shall be labeled in accordance with FIFRA).
  – Any chemical substance or mixture defined in the Toxic Substances Control Act that are subject to labeling requirements of that Act.
  – Foods, drugs, or cosmetics regulated by the Food and Drug Administration (shall be labeled in accordance with FDA regulations).

– Consumer products regulated by the Consumer Products Safety Commission.
– Agricultural or vegetable seed covered under the labeling regulations of the U.S. Department of Agriculture.

4.3 Pictograms and Associated Hazards

Chemical manufacturers, importers, or distributors shall include pictograms on shipped containers. Additionally, Southern Company has the option to include pictograms on workplace containers along with other information as a means of communicating chemical hazards to company employees.

Pictograms shall be in the shape of a square set at a point and shall include a black hazard symbol on a white background with a red frame sufficiently wide to be clearly visible. One of eight standard hazard symbols shall be used in each pictogram. The eight hazard symbols are depicted below along with the associated hazards they are intended to communicate:

Flame	Flame Over Circle	Exclamation Mark	Exploding Bomb
 Flammables Self Reactives Pyrophorics Self-heating Emits Flammable Gas Organic Peroxides	 Oxidizers	 Irritant Dermal Sensitizer Acute Toxicity (harmful) Narcotic Effects Respiratory Tract Irritation	 Explosives Self Reactives Organic Peroxides
Corrosion	**Gas Cylinder**	**Health Hazard**	**Skull and Crossbones**
 Corrosives	 Gases Under Pressure	 Carcinogen Respiratory Sensitizer Reproductive Toxicity Target Organ Toxicity Mutagenicity Aspiration Toxicity	 Acute Toxicity (severe)

5.0 ACCESS TO CHEMICAL HAZARD INFORMATION (SDSs)

The chemical product information found in SDSs can be viewed or downloaded from the Verisk3E System, the company's official depository of SDS, available through any Southern Company computer with intranet access. If employees are working remotely and cannot access Verisk3E, they can acquire chemical product information via SDS paper copies or by contacting someone to obtain the information from the SDS (other Southern Company personnel or Verisk3E at (800) 451-8346). SDSs shall also be

provided to employees, their representatives, and/or regulatory inspectors upon their request.

OSHA mandates that hazardous chemical manufacturers, distributors, and/or importers shall include at least the following section numbers and headings in the SDS and shall be presented in the order listed:

- Section 1 – Identification.
- Section 2 – Hazard(s) identification.
- Section 3 – Composition/information on ingredients.
- Section 4 – First-aid measures.
- Section 5 – Fire-fighting measures.
- Section 6 – Accidental release measures.
- Section 7 – Handling and storage.
- Section 8 – Exposure controls/personal protection.
- Section 9 – Physical and chemical properties.
- Section 10 – Stability and reactivity.
- Section 11 – Toxicological information.
- Section 12 – Ecological information (nonmandatory).
- Section 13 – Disposal considerations (nonmandatory).
- Section 14 – Transport information (nonmandatory).
- Section 15 – Regulatory information (nonmandatory).
- Section 16 – Other information, including date of preparation or last revision.

6.0 WORKPLACE CHEMICAL INVENTORY

A list of hazardous chemicals known to be present on site shall be available at all company locations. The hazardous chemicals shall be registered by their product identifier as it appears on the SDS. Inventory verification shall be performed periodically to ensure it remains current.

Chemical inventories are available on the Verisk3E System. The Verisk3E Chemical Inventory System can be accessed by clicking this link or by selecting the Safety link on the Southern Today webpage and then clicking SDS. Employees have unrestricted

ability to view SDSs, facilities' chemical inventories, ingredients in products, manufacturer information, and print labels.

7.0 EMPLOYEE INFORMATION AND TRAINING

7.1 Who to Train

Employees to be trained shall be those who could be exposed to hazardous chemicals under normal working conditions or in the case of emergency.

NOTE

Office workers who encounter hazardous chemicals only in isolated instances shall not be covered by the hazard communication standard. However, if an office worker is routinely required to perform jobs that may expose them to hazardous products, training shall be required.

7.2 Frequency

Employees shall be provided with effective information and training on hazardous chemicals in their work area. Employees shall receive initial training prior to potential exposure to hazardous chemicals. If a new hazard is introduced into the workplace OR nonroutine tasks are to be performed, workers shall receive training on the new hazards or job tasks. The completion of training shall be documented in SHIPS.

NOTE

Hazard communication training shall be performed initially and on an annual basis to ensure that employees understand the hazard communication program.

7.3 Content

Information and training may be designed to cover categories of hazards (for example: flammability, carcinogenicity) or specific chemicals. Chemical-specific information shall always be available through labels and SDSs.

Employees shall be informed of the following:

- Any operations in their work area where hazardous chemicals are present.
- The location and availability of the written hazard communication program, including the required list of hazardous chemicals, and the required SDSs.

Training shall include at least the following:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.

- The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area.

- The measures employees can take to protect themselves from the hazards, such as appropriate work practices, emergency procedures, and PPE to be used.

- The details of the hazard communication program including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer; the SDS, including the order of information and how employees can obtain and use the appropriate hazard information.

The following categories shall be covered for Southern Company employees working at power generation facilities or at locations where workers have potential exposures to these types of products:

- Acid and caustic agents.

- Compressed gases.

- Flammable liquids.

- Halogenated solvents.

If a facility uses paints, cleaning agents, or any materials from a category not otherwise listed in this program, training shall be conducted on any chemical product categories to which employees can be exposed.

8.0 NONROUTINE TASKS

Employees shall be properly informed of the potential hazards that may be associated with performing nonroutine tasks. Nonroutine tasks are those that employees may perform so infrequently that they are unaware of or may have forgotten the hazards involved with using the hazardous chemicals required for the task.

Nonroutine tasks shall be identified in the facility's site-specific information. In addition, the means by which employees will be informed of the potential hazards from the hazardous chemicals shall also be explained. The training may be conducted in a job safety briefing, toolbox session, or other information sharing methods.

9.0 UNLABELED PIPES

If the site has piping containing hazardous chemicals, labeling or color-coding for content identification is recommended. If color-coding is used, a description of the color-coding scheme shall be presented in the site-specific information. Regardless of the labeling or color-coding, the hazards associated with chemicals contained in the pipes shall be communicated to employees.

10.0 CONTRACTOR/VENDOR COORDINATION

10.1 Site Hazards

Company representatives shall respond to contractor inquiries concerning site hazards. Known hazards are generally identified and communicated during the Contract Preparation stage. However, during the course of the work, Southern Company's contract administrator shall communicate additional hazards as appropriate.

10.2 Hazardous Chemicals

The contractor shall comply with contract provisions and applicable laws and regulations concerning potentially hazardous chemicals. Examples include:

- All materials used by the contractor shall be approved by Southern Company prior to these substances being brought on-site.
- All approved materials shall be supported by an SDS.
- All materials shall be stored in containers approved for storage of that product, and all containers shall be in good condition.
- All containers shall be clearly labeled in compliance with all regulations.
- All containers shall be stored in a manner to provide adequate security of the chemicals.

10.3 Prior to Work

Prior to beginning work on Southern Company property, the contractors shall be notified of hazardous chemicals to which the contractor's employees may be exposed and the appropriate control measures needed to limit such exposure (for example, alarms and evacuation routes). Copies of SDSs for these materials shall be provided to the contractor upon request. Southern Company shall inform the contractor of the location and content of the facility's written Hazard Communication Program.

10.4 Obligations

The full extent of Southern Company's and the contractor's obligations are spelled out in the standard form contract (refer to the facility's contractor handbook if available or to the Southern Company Contract Manual).

11.0 STATE AND OTHER JURISDICTIONAL REQUIREMENTS

Business units shall determine if there are any state or other jurisdictional hazard communication requirements that affect their locations. If requirements do exist, and if they are more restrictive than the requirements in this program, they shall be incorporated into the site-specific hazard communication program.

12.0 REFERENCES

29 CFR 1910.1200, Hazard Communication

Form 2101.1, Required Site-Specific Information Form

Verisk3E database

13.0 ATTACHMENTS

Attachment 1, Summary of Changes

Attachment 1, Summary of Changes

03/26/2004
Section 2101.300.F. – Deleted misleading language that implied chemicals used in laboratories may not require labeling. Section 2101.500 – Deleted vague language concerning chemical inventory of products not currently on site.

02/18/2005
Updated guideline and site-specific procedures (appendix I) to reference the new 3E Chemical Inventory System and deleted all reference to the retired Chem-RTK system. Simplified statement in 2101.300.A (second bullet) to remove reference to have labels include applicable target organ affects (for example, eye irritant, corrosive lungs, and mucous membranes). According to OSHA Directive CPL 02-02-038 - CPL 2-2.38D paragraph (f)(5), employers may provide general information regarding the hazards of chemicals on labels if other information is immediately available. MSDSs and summary information is provided on the web-based chemical inventory database available to all Southern Company employees. In addition, all employees are informed of this access in compliance training. The Directive also states that NFPA and HMIS labels are sufficient for in-plant labeling even though target organs are not provided on these container labels.

01/17/2007
Section 2101.500 and Appendix I – Updated access and user instructions for updated 3E System.

08/30/ 2012
Various sections – Updated entire document in accordance with OSHA's revised Hazard Communication standard, effective date May 25, 2012.

Rev. 0 Approved by Doug Jones
08/09/2013
Reformatted to current standard. Various sections – Updated entire document: revised the table of contents, added purpose and scope, deleted the word "program" and added an attachment for a site-specific program.

Rev. 1 Approved by Stan Connally
09/02/2021
Required Site-Specific Information Form – Revised section A to include identification of Supply Chain Management responsible person. Added section B, Chemical Approval Process, and section C, Supply Chain Management (Playbook 1, Chapter 13 Requirements). Detached form from procedure and made it freestanding.

01/25/2022
Corrected link at 3.0, Site-Specific Program, and 12.0, References, to fillable PDF.

Aerial Lifts and Bucket Trucks Daily Inspection Form	**Company: _____**

Equipment identification number: _____

Items	S	U	N/A	Remarks
Brakes	☐	☐	☐	
Controls labeled	☐	☐	☐	
Emergency controls	☐	☐	☐	
Fuel system	☐	☐	☐	
Guards	☐	☐	☐	
Handrails	☐	☐	☐	
Hydraulic system (no leaks)	☐	☐	☐	
Load charts or labels	☐	☐	☐	
Muffler and exhaust	☐	☐	☐	
Operating controls	☐	☐	☐	
Outriggers	☐	☐	☐	
Tires and wheels	☐	☐	☐	
Travel alarms	☐	☐	☐	

Comments and corrective actions taken on above noted deficiencies:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

_____ _____
Inspected by (print) Date

_____
Signature

AERIAL LIFT/BUCKET TRUCK OPERATOR AUTHORIZATION	
Name	
Social Security No.	**Company**
Project No.	**Location**
Craft	

The bearer is authorized to operate this equipment				
Manufacturer	**Model**	**Type**	**Capacity**	**Examiner's Signature**
Restrictions: ☐ Yes ☐ No				

Authorization for the Use of a Suspended Personnel Hoisting Platform	**Company:** _____

The managers and supervisors indicated on the attached lift plan have determined that it is necessary to use a suspended personnel hoisting platform. A prelift meeting was held on _____ (date) to discuss the safe execution of a personnel lift at _____ (location) for _____ (task requiring the lift).

This meeting was attended by the undersigned.

Site manager: _____

Rigging superintendent: _____

Operator: _____

Signal person: _____

Person(s) to be lifted: _____

_____

Others: _____

_____

Lift Weight Summary

Test lift weight	Actual lift weight	Crane capacity at further most point of lift

Date: _____ Time: _____ Project #: _____

Based upon the evaluation of alternate methods, _____(company name) has determined that it is necessary to us a personnel hoisting platform for the task described above. The evaluation, a formal lift plan, and the record of a prelift meeting have been provided.

Authorization for the use of the suspended personnel hoisting platform is hereby granted provided that the site manager ensures that the lift plan and all Federal, State, local, and client requirements are met.

EH&S review: _____

Site manager: _____

Chain Fall and Come-a-Long Inspection Form	Company: _____

DATE: _____ **Competent Person Inspection By:** _____

Equipment number	Description	Forward Reverse	Safety Latches	Hooks	Front Wheel	Chain	Rated Capacity	Load Test	Condition	Remarks

Chemical Inventory List	Company: ____________________

Date: ____________________

SDS No.	Product name	Quantity	Hazardous		SDS date
			Yes	No	

Contractor Incident Notification and Investigation Report	

Red highlighted fields require data entry. For interactive features, open this document with Adobe Acrobat Reader or Professional version.

Project					
Prime Contractor		Subcontractor			
Classify Incident		Project Type	-		
Incident Date		Time Occurred		a.m. ☐ p.m. ☐	
Date Reported		Time Reported		a.m. ☐ p.m. ☐	
Day of Week		Temperature		Conditions	

Employee Name - Last		First		Hardhat No.	
Gender		Age		Date of Hire	
Days on Site					
Job Classification		Craft		If Other, Specify	
Years experience in skilled craft		Years experience in construction			
Home address					
Contractor foreman		General foreman			
Southern Company coordinator					

Type of Injury		Body Part(s)		Left ☐	Right ☐
Mechanism of Injury					
Treatment given (ice, heat, adhesive bandage, etc.) Enter N/A if not applicable					
Location/Where did the incident occur?					
Was the hazard identified prior to this incident?					
If Yes, who discovered and reported it (name and company)?					
Describe what happened					

List any equipment and/or property that was damaged, if any. Enter N/A if this does not apply	
Description of damage. Enter N/A if this does not apply.	

Contractor Incident Notification and Investigation Report	

Red highlighted fields require data entry.

Is the incident's primary cause due to a behavior or a condition?	
Causal factors (Choose up to four)	
Causal Factor #1 (Choose an item)	
Causal Factor #2 (Choose an item)	
Causal Factor #3 (Choose an item)	
Causal Factor #4 (Choose an item)	

Notifications made by:	
Incident investigation by	
Notified of incident	1.
Notified of incident	2.
Notified of incident	3.
Notified of incident	4.
Others, if needed	

Did the employee need additional medical attention offsite? Yes ☐ No ☐ N/A ☐

If Yes, explain. Attach additional pages if needed.	
Immediate actions taken to prevent recurrence.	
Additional information Attach additional pages if needed.	

Signature required if this form is used as a final report for minor incidents (with prior TSS site management review and approval).

Contractor senior site representative _____ Date _____

NOTE: This is an initial report of injury, illness, near miss or damage. Findings, root cause, and <u>final</u> corrective action taken <u>are not required</u> until the full investigation report is complete, unless this report deemed as final with consent of site management.

1. **Initial Communication Reports are due within 24 hours of an incident. Include JSA(s) and photographs, if available.**
2. **Investigation reports, root cause, and <u>final</u> corrective action taken are due within 7 days of an incident.**
3. **Supporting documentation (statements, training records, certifications, and so forth) are due with the investigation report.**

List attachments	

Use the following naming convention for electronic versions: Contractor-notification_MMDDYYYY_Contractor abreviation_employee lastname

Crane-Suspended Personnel Hoisting Platform, Evaluation of Alternate Lifting Methods	**Company: _____**

Prior to using a suspended personnel hoisting platform, TSS and OSHA regulations require that all other methods be evaluated. If an alternate method is available and feasible, without regard to time and/or costs, that method shall be used. If no other method is available and feasible, a lifting plan must be developed and submitted (along with this evaluation) to the contractor's site manager and EH&S resource for authorization of the use of the suspended personnel hoisting platform.

Evaluate each of the methods listed below. If the method cannot be used, explain why:

Ladders:

_____

_____

Scaffolds:

_____

_____

_____

Boom Lift(s):

_____

_____

_____

Vertical (Scissor) Lift(s):

_____

_____

_____

Other (s):

_____

_____

_____

Rigging and Lifting Plan

For Critical Lifts and Crane-Suspended Personnel Platform Lifts (Critical Lift)

Location: _____ Date of lift: _____

Load description: _____

Does this lift involve lifting personnel? ☐ yes ☐ no

Lift description:

A. WEIGHT

1. Weight empty (load or basket) _____ lb
2. Weight of headache ball or block _____ lb
3. Weight of spreader bar _____ lb
4. Weight of slings & shackles _____ lb
5. Weight of jib _____ lb
6. Weight of headache ball on jib _____ lb
7. Weight of cable (load fall) _____ lb
8. Allowance for unaccounted material in equipment (10% of weight) _____ lb
9. No. of people lifted x 250 (for personnel platform lift only) _____ lb
10. Other _____ _____ lb

Total weight _____ lb

Source of load weight:

_____

(Name Plate, Drawings, Calculated)

Weights verified By:

_____

B. JIB

Erected ☐ Stored ☐ N/A or Not installed ☐

1. Is jib to be used? ☐ Yes ☐ No
2. Length of jib _____
3. Angle of jib _____
4. Rated capacity of jib (from chart)

C. CRANE PLACEMENT

1. Any deviation from smooth solid foundation in the area?

_____

_____

_____

2. Electrical hazards in area?

_____

_____

_____

3. Obstacles or obstructions to lift or swing?

_____

_____

_____

4. Swing direction and degree (boom swing)?

_____

_____

D. CABLE

1. Number of parts of cable _____
2. Size of cable: _____

DI. SIZING OF SLINGS

1. Sling Selection
   a. Type of arrangement _____
   b. Number of slings in hook-up _____
   c. Sling length _____
   d. Rated capacity of sling _____

2. Shackle selection
   a. Capacity (tons) _____
   b. Shackle attached to load by: _____
   c. Number of shackles _____

F. CRANE

1. Type of crane _____
2. Crane capacity _____ Tons
3. Lift arrangement
   a. Max distance-center of load to center pin of crane _____ ft
   b. Length of boom _____ ft
   c. Angle of boom at pick-up _____ degrees
   d. Angle of boom at set _____ degrees
   e. Rated capacity of crane under most severe lifting conditions (from chart)
      1. Over rear _____ lb
      2. Over front _____ lb
      3. Over side _____ lb
4. From chart – rated capacity of the crane for the lift
5. Max. load on crane _____ lbs.
6. Lift is of crane's rated capacity % _____

G. PRE-LIFT CHECKLIST

	YES	NO
1. Matting acceptable	☐	☐
2. Outriggers fully extended	☐	☐
3. Crane in good condition	☐	☐
4. Swing room	☐	☐
5. Head room checked	☐	☐
6. Max. counterweights used	☐	☐
7. Tag line used	☐	☐
8. Qualified and experienced operator	☐	☐
9. Qualified Signal Person (Designated)	☐	☐
10. Qualified and experienced rigger	☐	☐
11. Load chart in crane	☐	☐
12. Wind conditions within limits of PE stamped plan	☐	☐

13. Crane visually inspected by: _____
14. Functional test of crane by: _____

_____ _____ _____ _____
Responsible Person (signature) DATE Crane Operator (Signature) DATE

_____ _____
Responsible Person (Printed) Crane Operator (Printed)

Attach copy of P.E. Stamped Lift Plan - (not required for personnel platform lifts)

Demolition Daily Checklist **To be completed by the competent person for demolition**	**Company: _____**

Project:		**Date:**	
Location (be specific):			
Type of demolition: ☐ Manual ☐ Mechanical ☐ Controlled Detonation ☐ Other:_____			
Competent person:			

		YES	**NO**	**N/A**	**Comments**
1.	Engineering survey complete and on file that determines the condition of the framing, floors, walls, and possibility of unplanned collapse of any portion of the structure or adjacent structure where employees may be exposed. 29 CFR 1926.850 (b)	☐	☐	☐	
2.	Work plan in place that identifies sequence of job steps, assesses known hazards and control measures to address these hazards.	☐	☐	☐	
3.	Building or structure cleared of ACM or other hazardous materials as required.	☐	☐	☐	
4.	All utilities (electrical, gas, water, etc.) identified and deenergized, relocated, or otherwise made safe.	☐	☐	☐	
5.	Are fire services provided?	☐	☐	☐	
6.	Are suspended floors safe for the loads?	☐	☐	☐	
7.	Are workers protected from falls by use of PFAs or engineering controls such as hole covers and rigid barricades for floor openings and wall openings?	☐	☐	☐	
8.	Any lifts associated with the work have been planned? Critical lifts have PE stamped drawing?	☐	☐	☐	
9.	Rigging equipment inspected before each use, serviceable, and proper rigging practices followed?	☐	☐	☐	
10.	Demolition tools and equipment being used safely?	☐	☐	☐	
11.	Is continuous inspection made by a competent person as work progresses to detect hazards from weakened or deteriorated floors, wall, or loosened material?	☐	☐	☐	
12.	Are planned drop areas barricaded and access controlled?	☐	☐	☐	
13.	Are emergency plans in place and workers trained?	☐	☐	☐	

Drilling Equipment Inspection	Company: _____

Equipment Identification:

ITEMS	CONDITION			REMARKS or REPAIRS
	Sat	Unsat	N/A	
Access and egress	☐	☐	☐	
Backup alarms	☐	☐	☐	
Body	☐	☐	☐	
Brakes	☐	☐	☐	
Clutch	☐	☐	☐	
Control and levers labeled	☐	☐	☐	
Cotter pins/hardened pins	☐	☐	☐	
Cover	☐	☐	☐	
Data nameplate	☐	☐	☐	
Frame	☐	☐	☐	
Fuel and gas systems	☐	☐	☐	
Glass	☐	☐	☐	
Guards	☐	☐	☐	
Horn*	☐	☐	☐	
Hydraulic system (no leaks)	☐	☐	☐	
Lights	☐	☐	☐	
Lugs	☐	☐	☐	
Muffler and exhaust pipe	☐	☐	☐	
Muffler guards	☐	☐	☐	
Outriggers	☐	☐	☐	
Parking brakes	☐	☐	☐	
Platform decking	☐	☐	☐	
Rearview mirror	☐	☐	☐	
Seatbelts	☐	☐	☐	
Side mirrors (both)	☐	☐	☐	
Steering mechanism	☐	☐	☐	
Tracks, tires, and wheels	☐	☐	☐	
Turn signals	☐	☐	☐	
Windshield wipers	☐	☐	☐	

Comments:_____

Inspected By: _____ Date: _____

Electrical Hazard Form for Work Performed Under a Lockout/Tagout (LOTO) (Supplemental to Job Safety Analysis)	**Company: _____**

1. Identify the equipment and frame/bus feeder ID/voltage rating/circuit ID/job location:
   _____
   _____
2. Provide a description of work to be performed: _____
   _____
   _____
3. Indicate the voltage level of the equipment to be worked on (CIRCLE THE APPROPRIATE VOLTAGE LEVEL).
   120 VAC 208 VAC 480 VAC 600 VAC 2300 VAC 4160 VAC 6900 VAC 13,800 VAC Other (specify) _____
4. Have proper lockout/tagout (LOTO) actions been performed so this work can proceed safely? (CIRCLE ONE)
   YES or NO
5. Have the work boundaries of the LOTO and possible electrical hazards such as adjacent energized cubicles, bus-work, incoming feeds, back feeds, control, and heater circuits been clearly identified and discussed? (CIRCLE ONE)
   YES or NO
6. What shock protection/arc flash boundaries (such as sheet metal, covers, guards, or insulating blankets) are in place to isolate these energized parts from the area the work will be performed?_____
   _____
7. Identify the appropriate personal protective equipment/tools that will be used along with their associated safety ratings (for example, handtools, gloves, voltage meters, high voltage detectors, insulating blankets, or arc flash suits).
   _____
   _____
8. Has this Electrical Hazard form been completed, signed by all employees who will perform the work, attached to the JSB, and posted at the jobsite? (CIRCLE ONE) YES or NO

Sign below to indicate that you possess the adequate training and understanding to perform this work safely.
(To be answered and signed by ALL electrically qualified persons performing the work.)

Signature	Date	Signature	Date
Signature	Date	Signature	Date
Signature	Date	Signature	Date
Signature	Date	Signature	Date
Signature	Date	Signature	Date
Signature	Date	Signature	Date
Contractor Electrical Supervisor (Foreman)	Date	Contractor Safety Representative	Date

Energized Electrical Work Permit	Company: _____

Part 1: To be completed by the requestor

1. Description of circuit/equipment/job location: _____

2. Description of work to be done: _____

3. Justification of why circuit/equipment cannot be deenergized or the work deferred until the next scheduled outage:

_____

_____

Requestor/Title:_____ Date:_____

Part 2: To be completed by the requestor **Check when complete**

1. Detailed job description procedure to be used in performing the above detailed work: ☐

_____

2. Description of the safe work practices to be employed: ☐

_____

3. Results of the shock hazard analysis: ☐

_____

4. Determination of shock protection boundaries: ☐

_____

5. Results of the flash hazard analysis: ☐

_____

6. Determination of the flash protection boundary: ☐

_____

7. Necessary personal protective equipment to safely perform the assigned task: ☐

_____

8. Means employed to restrict the access of unqualified persons from the work area: ☐

_____

9. Evidence of completion of a job planning safety analysis: ☐

_____

10. Do you agree the above work can be done safely? To be answered by electrically qualified persons performing work

_____ ☐ Yes ☐No _____ ☐ Yes ☐No

_____ ☐ Yes ☐No _____ ☐ Yes ☐No

Contractor Electrical Representative	Date	TSS Electrical Representative	Date
Contractor Safety Representative	Date	TSS Safety Representative	Date
Contractor Corporate Safety	Date	Plant Electrical Representative	Date

Equipment Operator Authorization	Company: _____

EQUIPMENT OPERATOR AUTHORIZATION	
Name	
Employee ID No.	Company
Project No.	Location
Issue Date	

The bearer is authorized to operate the following equipment:				
Manufacturer	Model	Type	Capacity	Examiner's Signature
Restrictions: Must wear corrective lenses. ☐ No ☐ Yes. List other restrictions below.				

Forklift Inspection Record	**Company: _____**

Make: _____ **Model:** _____

Serial No: _____ **Week Ending:** _____

Check satisfactory or unsatisfactory for each item.

	Sun.		Mon.		Tues.		Wed.		Thurs.		Fri.		Sat.	
Item inspected:	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**
Forks	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hoist chains and cylinder	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Brakes - drum	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Brakes - carrier	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Brakes - emergency	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tires	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hydraulic system	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mirrors (rearview)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Exhaust system	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Operator's controls	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Fire extinguisher	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Headlights (if used inside or at night)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Backup alarm	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Horn	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Seat belt	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other(specify):	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Initials of Inspector														

These items shall be checked prior to each shift's use. Report ALL items in need of repair to the equipment superintendent at the time of inspection. Return the completed sheet to the equipment superintendent at the end of the week.

To be completed by the mechanic:

Date reported	**Repairs Made:**	**Date Repaired**

Signature of the equipment superintendent: _____

Geotechnical and Environmental Drilling Overhead and Underground Conflict Resolution Permit	Company: _____ Date Issued: _____

Project	MWO(s)	Drawing Number(s)

The responsible party(ies) shall review the site for all potential overhead and underground conflicts within his or her purview, initial and date in the appropriate space below indicating that a review of drawings, surveys, etc. has been performed, and any conflicts have been identified and resolved†.

Boring Number*	Survey/Date	Plant Representative/ Date	Client Project Lead/ Date	Construction Civil Lead/ Date	Drilling Contractor/ Date

* Soil boring may be offset from original location. However, radial distance from original location must be noted, and approved by all individuals.
† If utilities are unable to be cleared by signature, other clearing methods such as vacuum excavation, ground penetrating radar, hand auguring or 811 tickets may be used. (Note – 811 call required by state law).

What group or individual is responsible for coordination with the generating facility, owner, construction project or controlling entity?

_____

Has the generating facility, owner, construction project, or controlling entity been communicated with regarding any soil boring and consulted regarding any potential underground utilities?

____ Yes ____ No _____N/A Verification Date: _____

Has the boring location been cleared by hydro excavation or hand auger to minimum depth of 10 ft?

____ Yes ____ No _____ N/A Verification Date: _____

(Note – If the answer is NO to either of the above questions, contact the appropriate supervisor before continuing work. For locations within the bounds of an active TSS construction project, construction site management and the facility shall be consulted.)

COMMENTS:

_____
_____
_____
_____
_____

Southern Company

HOT WORK PERMIT

(Permit Number_____)

DESCRIPTION OF WORK

Plant	Work Performed By: ☐ Generation Employee ☐ Non-Generation Employee ☐ Contractor	Date Issued	Time Issued
Type of Work ☐ Welding ☐ Cutting ☐ Grinding ☐ Electrical Tools, Lighting, and Heating ☐ Other _____			
Location ID	Location Description	Specific Location	
Work Order #	Company Performing Work	Details of Work	

HOT WORK PRECAUTIONS CHECKLIST

Yes	No*	N/A	MINIMUM REQUIREMENTS WITHIN 35 FT OF HOT WORK AREA
☐	☐	☐	Hot work equipment is in good working condition and appropriate fire extinguishing equipment is available and operable.
☐	☐	☐	The affected department (and unit operator, if applicable) has been notified about planned work and has given their approval.
☐	☐	☐	Any potential for an explosive atmosphere in the work area has been tested and eliminated (<10% LEL).
☐	☐	☐	Necessary precautions have been taken to conduct hot work in vessels, piping, etc., that are lined with rubber, plastic, or other combustibles.
☐	☐	☐	Combustible or flammable hazards removed or protected with welding pads, blankets, curtains, or fire-resistant tarpaulins.
☐	☐	☐	Floors swept clean and trash removed. Combustible floors wet down or covered. All wall and floor openings covered.
☐	☐	☐	Measures have been taken to contain falling hot slag, embers, and sparks from adjacent areas. Ducts and conveyors that might carry sparks to distant combustible materials have been covered, shut down, or protected appropriately.
☐	☐	☐	Walls, ceilings, and roofs - construction is noncombustible and without combustibles coverings or insulation.
☐	☐	☐	Combustible materials on the opposite side of the hot work walls, ceilings, or roof have been moved away.
☐	☐	☐	Enclosed equipment has been cleaned of all combustible materials, and containers purged of flammable liquid or vapors.
☐	☐	☐	Pressure vessels, piping, and other equipment have been removed from service, isolated, and vented.
☐	☐	☐	Flammables/combustibles are prevented from entering the area and a fire extinguisher is easily accessible.

FIRE WATCH / FIRE MONITORING

Yes	No	N/A	*Fire watch - If any of the above items are marked "No," a fire watch must be provided during work, plus an additional 60 minutes after completion or suspension of work, to detect and extinguish possible smoldering fires.
☐	☐		Is a fire watch required? (If yes, at completion of work, fire watch signs below to indicate final check has been performed.)
☐	☐		Is a fire watch required above or below the adjoining areas?
☐	☐	☐	Has the designated fire watch been provided with suitable firefighting equipment and trained to sound alarm?

Does the work location meet either of the following criteria? (Fire monitor must document work on Form 2 after fire watch signs final check below).

☐	☐	Constructed of combustible material, contains stored combustible material such as (paper, trash, or coal) or building construction could contain concealed spaces where a fire could smolder for longer periods of time? If yes, additional fire monitoring of 3 hr is required after fire watch duties are complete.
☐	☐	PRB related? If yes, additional fire monitoring of 7 hr is required after fire watch duties are complete.

AUTHORIZATIONS

Signature below indicates agreement with the following statement:

The location where this work is to be done has been examined, the necessary fire protection precautions have been taken, and safe conditions exist.

Permit Authorizing Individual	Date	Time
Authorized Employee	Date	Time

COMPLETION OF WORK – FINAL CHECK

Fire Watch/ PAI	Fire watch remained in the area for at least 60 minutes - ***OR*** - PAI made final check after the completion and/or suspension of the hot work operations to detect and extinguish possible smoldering fires.		
Signature		Date	Time

Route completed permit to Coordinator. Coordinator shall keep for a period of 30 days.

Form updated 09/02/2021

Technical Shared Services **Hydro Modernization EH&S Deviation Request Form**	Southern Company

Date	Project Name
Duration of Request	Requestor/Company
Hydro Modernization Contractor EH&S Specifications section and title to be deviated from (Example, Hydro Modernization Contractor EH&S Specifications, section 33.0, Excavation and Trenching)	
Reason for Request	
Justification	
Measures to be implemented to ensure safety (Attach additional pages if needed.)	

Approvals

Contractor-originated request

Requestor	Name (printed)	Signature
Site Manager	Name (printed)	Signature
Corporate Manager	Name (printed)	Signature

Southern Company approval

Project Manager	Name (printed)	Signature
Construction or Startup Manager	Name (printed)	Signature
Site EH&S Coordinator	Name (printed)	Signature
Regional Safety and Health Manager	Name (printed)	Signature

Intermediate Lift – Prelift Worksheet | OPCO / Business Unit / Company:_____

This form is intended as a pre-lift job planning aid. This form is to be completed and present at the lift location for all intermediate lifts greater than 2000 lb.

Section A: General Information (Complete this section for all lifts)

Facility: _____ Date _____ Load Description _____

Location of lift: _____

Form Completed by (printed name) _____ Responsible Person (printed name) _____

Qualified Rigger (printed name) _____

- All personnel involved in rigging are qualified and trained in the use and limitations of rigging to be used? □ Yes □ No
- All personnel involved in lift are aware of hazards and their specific duties related to this lift? □ Yes □ No
- Method of load weight verification _____ Verified by (Name): _____
- Load center of gravity (COG) identified? □ Yes □ No
- All rigging and lifting equipment, including mounting points, have been visually inspected? □ Yes □ No
- Signal person meets qualification requirements? □ Yes □ No
- Lifting device: ___ Crane (mobile) ___Crane (overhead) ___ Crane (Tower) ___ Crane (truck mounted) ___ Hoist (chain, lever, grip, drum)
  ___ Other (e.g. telehandler & excavators used to suspend loads with a hook attachment): _____

B. Use This Section for Crane Lifts (Numbered lines are used to determine percentage of crane capacity and are required. Non-numbered lines can be used to aid in determining values for the numbered lines)

1. Crane capacity: _____
   Boom length: _____
   Radius: _____
2. Weight of Jib (□ Erected □ Stored □ N/A): _____
3. Weight of load to be lifted: _____
4. Weight of Lifting Equipment (may be weighed together or calculated separately) _____
   - Weight of main block: _____
   - Weight of aux block: _____
   - Weight of lifting beam / spreader bar: _____
   - Weight of slings and shackles: _____
   - Weight of hoist rope: _____
   - Misc. weights: _____
5. Total Weight (add lines 2 thru 4) _____
6. Percentage of crane capacity (divide line 5 by line 1) _____

   Note – a total of 75% or greater in line 6 will constitute a critical lift.

C. Use This Section for Base Mounted Drum Hoist, Chain Hoist, Lever Hoist, Grip Hoist

1. Weight of all rigging on and below attachment point. _____ lb
2. Weight of load _____ lb
3. Lowest single capacity of all rigging used. (shackle, sling, swivel hoist, etc.) _____ lb (include imparted loads from angles on sheaves)
4. Drum hoist rope size. _____ Capacity for single part. _____ lb
5. Number of parts of line used on drum hoist. _____
6. Capacity with parts used. _____ lb
7. Drum hoist rope clear of all interferences? □ Yes □ No □ N/A Rope lubricated? □ Yes □ No

   Note: Rope must not contact obstruction during use. Adjust snatch block rigging for required clearances.
8. Calculated distance from center line of drum hoist to fairlead sheave. _____ ft _____ in. □ N/A

   Note: Distance across drum hoist from inside of flange, to inside of flange multiplied by 19 in. will give the proper distance needed for line **8**.
   Example – (20 in. drum) 20 in. x 19 in. = 380 in. / 12 in. = 31 ft

D. Rigging Component WLL: (List rigging appliances used for all lifts)

1. Sling sizes / capacities: _____
   1a. Tension in slings at applied angles: _____
2. Shackle sizes / WLL: _____
3. Spreader Bar WLL: _____
4. Miscellaneous Rigging WLL (list each): _____
   _____
5. D/d ratio for slings are acceptable □ Yes □ No

Softeners shall be used at all areas applicable. Tag lines are required to control and maneuver loads.

Compliance with 1926 Subpart N and Subpart CC criteria is required for all lifting and hoisting activities during construction / demolition functions.

Any person involved in the lift has the right and obligation to stop the lift at any time if an unsafe condition is present or should an unsafe condition become

Rigger's Reference Sheet

Journeyman Rigger's Reference Card

Sling Capacities — MECHANICAL SPLICE IN POUNDS — DESIGN FACTOR 5:1

Wire Rope EIPS IWRC	Size in inches	100 Vertical	.75 Chocker	2 Logs or Basket 90° 2.00	60° 1.73	45° 1.41	130° 1.41	3 -logs only if 1/3 each log 60° 2.60	Size in mm	Wire Rope EIPS IWRC
	1/4	1,300	960	2,600	2,200	1,820	1,300	3,300	6.4	
	5/16	2,000	1,480	4,000	3,400	2,800	2,000	5,100	8.0	
	3/8	2,800	2,200	5,600	5,000	4,000	2,800	7,400	9.6	
	7/16	3,800	2,800	7,600	6,800	5,400	3,800	10,00	11.0	
	1/2	5,000	3,800	10,000	8,800	7,200	5,000	13,200	13.0	
	9/16	6,400	4,800	12,800	11,000	9,000	6,400	16,500	14.0	
	5/8	7,800	5,800	15,600	13,600	11,000	7,800	20,000	16.0	
	3/4	11,200	8,200	22,400	19,400	15,800	11,200	29,100	19.0	
	7/8	15,200	11,200	30,400	26,000	22,000	15,200	39,000	22.0	
	1	19,600	14,400	39,200	34,000	28,000	19,600	51,000	25.4	
	1-1/8	24,000	18,000	48,000	42,000	34,000	24,000	62,000	28.5	
	1-1/4	30,000	22,500	60,000	52,000	42,000	30,000	76,000	32.0	
			MULTIPLIER ->		1.00	.75	.60	<- MULTIPLIER		

Formula to find sling length Total distance between pick points x Multiplier = Sling Length

Load Weights - Calculating

Materials and Liquids - Pounds / cu. ft.			
Aluminum	165	Iron Casting	450
Asbestos	153	Lead	708
Asphalt	81	Lumber - Fir	32
Brass	524	Lumber - Oak	62
Brick	120	Lumber - RR Ties	50
Bronze	534	Oil, Motor	58
Coal	56	Paper	58
Concrete, Reinf.	150	Portland Cement	94
Crushed Rock	95	River Sand	120
Diesel	52	Rubber	94
Dry Earth, Loose	75	Steel	480
Gasoline	45	Water	63
Glass	162	Zinc	437

Pounds / sq. ft.	
Steel plate	
· 1/8"	5
· 1/4"	10
· 1/2"	20
· 1"	40
Aluminum plate	
· 1/8"	1.75
· 1/4"	3.50
Lumber	
· 3/4" Fir	2
· 3/4" Oak	4

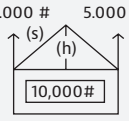
Pounds / gal.	
Gas	6.0
Diesel	7.0
Water	8.3

- 7.5 gallons of liquid to a cubic foot
- 27 cubic feet to a cubic yard
- 2,000 lb = 1 U.S. ton

Formulas and Information

· H = Height · W = Width · L = Length · d = diameter · 1/2 diameter · π = 3.2 (approx)
· Area of square or rectangle = LW · Vol of cube = HWL · Area of circle = π r² · Circumference = π d
· The area of a circle is approx. 80% of its diameter squared (diameter x diameter)
· Load Weight (to estimate) Volume in cu. ft. x 500 lb x density factor .02. .05. .10. .20. .30. etc.

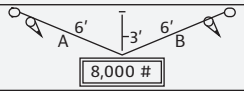
Load Factors and Weight Distribution

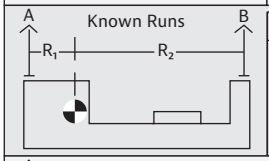


Tension in s = $\frac{\text{Length s}}{\text{Length h}}$ x share of load wt. $\frac{s}{h}$ = Load Factor

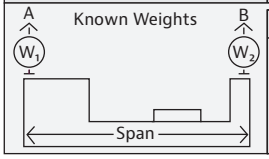
Tension in A = $\frac{6}{3}$ x 4,000

Tension in A = 8,000 #





Share of Load Wt. A	Share of Load Wt. B	Legend
$R_1 + R_2 = TS$	$R_1 + R_2 = TS$	R_1 = Run, Side 1
$\frac{R_1}{TS} = P$	$\frac{R_1}{TS} = P$	R_2 = Run Side 2
P x W = Share of Load Wt A	P x W = Share of Load Wt B	TS = Total Span P = Percentage W = Weight of Load

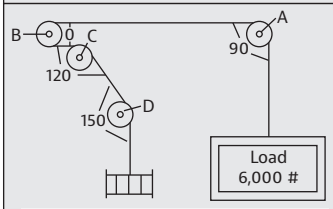


CG in Feet From A	CG in Feet From B	Legend
$W_1 + W_2 = TS$	$W_1 + W_2 = TW$	W_1 = Weight at A
$\frac{W_2}{TW} = P$	$\frac{W_1}{TW} = P$	W_2 = Weight at B TW = Total Weight
P x S = CG in ft. from A	P x S = CG in ft. from B	P = Percentage S = Span

Block and Fairlead Loading

Angle full included	Block Factor	Line Pull in lb	Block Load in lb
180	0.00	6,000	0
150	0.52	6,000	3,120
120	1.00	6,000	6,000
90	1.41	6,000	8,460
60	1.73	6,000	10,380
0	2.00	6,000	12,000

Formula | Block factor x Line Pull = Block Load

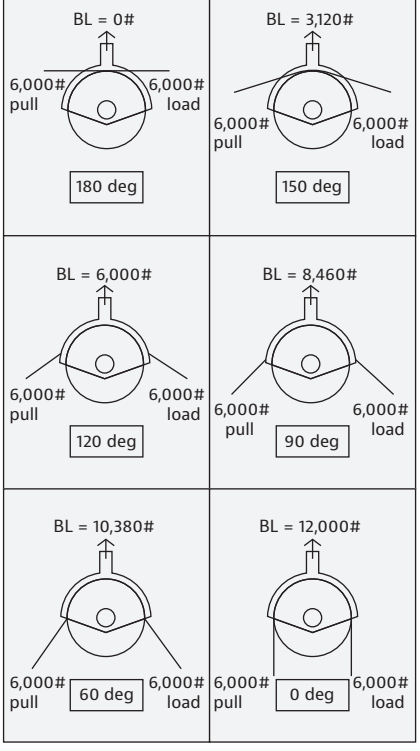


Assume frictionless system:
A = 8,460 B = 12,000
C = 6,000 D = 3,120

D/d Ratios

30:1 = .94	8:1 = .83
20:1 = .92	5:1 = .77
15:1 = .89	2:1 = .65
10:1 = .86	1:1 = .50

Example



Rigger's Checklist

- Wind, temperature and visibility
- Crane and load foundations
- Load weight, height, width and length
- Load's CG, pick points above or below
- Attach. point: positive or freely rigged
- Crane capacity at maximum radius
- Head height, hoist ht., horizontal travel
- Power lines, obstructions, load flexing
- Hitch: Single vertical, choker, basket
- Bridle: 2, 3 or 4-leg, rated spreader bar
- Slings: wire rope, web, chain, mtl. mesh
- All equipment inspected, slings protected
- Tailboard meeting, communications
- Signaller, tag lines, spotters
- Sketch and outline procedure

WARNING: Refer to hoist and rigging equipment manufacturers' specifications for proper applications and limitations

General Information:

1. Circle the hazards associated with this task.

Strains/Sprains - Pinch Points - Slips/Trips - Fall - Burns
Drowning - Asbestos - Lead - Organic Matter
Impaired Vision - Communication - Sharp Edges - Noise
Atmosphere - Electric Shock - Rigging - Stored Energy

List any additional hazards.

_____

Has the work area been walked down and have all crewmembers been informed of the hazards associated with the task? ☐ Yes ☐ No

2. Is there proper access and egress provided to the work area? ☐ Yes ☐ No

3. What are the body positioning and ergonomic concerns?

_____

4. Has it been verified that the correct equipment will be worked on? ☐ Yes ☐ No ☐ N/A

Tools and Equipment:

5. User inspection is required on all tools, ladders, electrical cords, rigging, scaffolds and safety equipment. Have all employees been informed that this is required? ☐ Yes ☐ No ☐ N/A

Crane / Hoists:

6. Is crane/hoist inspection current? ☐ Yes ☐ No ☐ N/A
7. Is the area below properly barricaded? ☐ Yes ☐ No ☐ N/A

Housekeeping Requirements:

8. Has a material storage/fab area been identified? ☐ Yes ☐ No ☐ N/A
9. Is the work area clean and ready to start work? ☐ Yes ☐ No ☐ N/A
10. Are adequate trash receptacles available? ☐ Yes ☐ No ☐ N/A

Scaffolds/Ladders:

11. Ensure scaffolds have been inspected prior to access. Are there any concerns with the scaffold? ☐ Yes ☐ No ☐ N/A

What is the proper type ladder for this task? _____

_____

Asbestos / Lead / Silica Concerns:

12. Are there asbestos, lead, or silica concerns associated with the task? ☐ Yes ☐ No

If Yes, what are the concerns?_____

_____

Fall Protection:

13. Are fall protection systems needed for this task? ☐ Yes ☐ No ☐ N/A

Explain (for example, static lines, barricades, hole covers, 100% tie off)

_____

_____

Fire Protection:

14. Has work area been inspected for flammable or combustible hazards such as PRB Coal? ☐ Yes ☐ No ☐N/A
15. Have flammable or combustibles been removed from the hot work area and stored properly? ☐ Yes ☐ No ☐N/A
16. Has a hot work permit been issued for this task? ☐ Yes ☐ No ☐N/A
17. What are surrounding hazards/unsafe conditions?

_____

18. Are fire extinguishers required? ☐ Yes ☐ No ☐N/A

If Yes, are they properly placed? ☐ Yes ☐ No ☐N/A

Critical Risk Management:

Check the box above the icon if your work includes these types of risk

☐ ☐ ☐ ☐ ☐

Arc flash within an established boundary or electrical contact greater than or equal to 50 V

Vehicle loss-of-control, rollover, or collision at speeds greater than 25 mph

Confined or Enclosed Space (tanks, vessels, silos, storage bins, hoppers, vaults, pits, tunnels, wells, manholes, and culverts)

Risk of fall from heights of 4 ft or greater, or fall into water deeper than 5 ft

Fire or explosion:
- Hot Work
- Open Flame
- Combustible dust
- Flammable gasses

☐ ☐ ☐ ☐ ☐

Activities that involve a crane or manual, electric, hydraulic or pneumatic hoist to lift or lower loads.

Caught, struck, or trapped by power tools, machinery or vehicles/mobile equipment due to mechanical or gravitational forces

Loss of control, rolling or collision involving mobile equipment

Unexpected release of stored energy, release of high heat, or hazardous chemicals

Trench cave-ins or unplanned excavation events

- What controls are in place to reduce or eliminate risks for the areas checked above_____

_____

_____

_____

- Is a LOTO required for this task? ☐ Yes ☐ No
  If Yes, what is the LOTO Number:

  _____
- Do all crewmembers understand their right and responsibilities under the SST Stop Work Authority?

  ☐ Yes ☐ No

JSA

Job Safety Analysis

Pre-Work and Pre-Task Planning Tool

Contractor Co. Name _____

Project Name: _____

Client Name: Southern Company
Technical Shared Services

Location: _____

Emergency Rescue Contact #_____

Foreman: _____

Date:_____ **Time:** _____

Task Location: _____

_____

Task Description: _____

_____

Specialty or High-Risk work? ☐ Yes ☐ No

If Yes, attach JSA Supplement

Emergency evacuation area / Assembly area:

_____

_____

Return to the Safety Department upon completion of this task.

Management Participation

Name: _____

Participation to occur as personnel are available.

STOP WORK AUTHORITY
STOP
DO IT SAFELY OR NOT AT ALL

STEP — SAFETY THROUGH EVERYONE'S PARTICIPATION

www.southernsafetytrilateral.com

The JSA is an integral part to proper task planning. It will be used by management and supervision to reduce safety incidents.

- JSAs will be completed daily for each task by the responsible foreman or supervisor of the work.
- All sections related to work pre-planning must be completed.
- Each crew member involved in this task must sign the JSA.
- The JSA must be posted in an obvious place at the work area throughout the duration of the task.
- A post-job debrief will be conducted as part of the JSA process
- The JSA will be given to site management at completion of the task.

PPE Required

	Yes	No	Type (Specify Specific PPE)
Fall Protection			
Eyes			
Face			
Head			
Foot			
Hand			
Hearing			
Coveralls			
Respirator			
Fire Retardant Clothing			
Other			
Other			

Certifications/Competent Persons Required

Crane Operator	
Forklift Operator	
JLG / Scissor lift / etc.	
Mobile Equipment Operator	
Powder-Actuated Tool User	
Excavations	
Qualified Rigger / Lift Dir	
Demolition	

Procedures/Permits Required

	Yes	No		Yes	No
Energized Work			Confined Space		
LOTO			Crane Lift		
Excavation			Line Break/Hot Tap		
Scaffold - OAR			Switchyard		
Hot Work			Open Hole / Grating Removal		
Hot Work-PRB Area			Other _____		

Sign On	Post Lunch Review (initials)	Sign Off

Post-Job JSA Debrief

1. What went well today?

_____

_____

2. What did not go well today? Did an injury or unplanned incident occur? ☐ Yes ☐ No

If Yes, describe: _____

_____

3. Was it reported to the safety department? ☐ Yes ☐ No
4. What almost went bad today?

_____

5. What did we do to control it? _____

_____

6. Is the work area clean and free from debris from the day's work? ☐ Yes ☐ No
7. Have barricades been removed or if still needed, are they properly erected and tagged? ☐ Yes ☐ No
8. What safety ideas do you have?

_____

9. Was Stop Work Authority used today? ☐ Yes ☐ No

If Yes, describe: _____

_____

Reviewed By:

General Foreman:_____

Reviews to be performed as personnel are available and are recommended daily

Hazard Elimination / Safe Work Methods										
Hazards Associated with Task										
Task Steps										

Información General

1. Haga un círculo alrededor de la palabra que representa un riesgo relacionado con el trabajo.

Estiramiento muscular / Esguince - Resbalón / Tropezón Puntos de Pellizco (trauma producido por máquinas) - Quemaduras - Ahogamiento - Asbestos - Plomo - Sustancias orgánicas - Transtorno de la Visión - Comunicación - Bordes Afilados - Ruidos - Intemperie - Choque eléctrico - Utensilios y aparejos - energía peligrosa

2. Agregue otros riesgos adicionales _____

_____

3. ¿Se le ha informado a todo el personal acerca de los riesgos asociados con el trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**

4. ¿Hay áreas de acceso y salida en la zona de trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**

5. ¿Cuál es la atención que se le dá durante horas de trabajo a la postura del cuerpo y ergonomía?

_____

6. ¿Se ha verificado que el trabajo es en el correcto equipo? ☐ **Sí** ☐ **No** ☐ **N/A**

Herramientas y Conjunto Instrumental

7. ¿Se requiere la inspección por el usuario de todas las herramientas, escaleras, extensiones eléctricas, utensilios, andamios y equipos de seguridad. Se le ha informado a todos los empleados de este requerimiento? ☐ **Sí** ☐ **No** ☐ **N/A**

Malacate

8. ¿Está la inspección de malacate actual? ☐ **Sí** ☐ **No** ☐ **N/A**

9. ¿Está la area baja resguardada correctamente? ☐ **Sí** ☐ **No** ☐ **N/A**

Requerimientos Domiciliarios

10. ¿Se han identificado espacios para almacenamiento de material y para trabajos de fabricación con metales (corte y ensamble de metales)? ☐ **Sí** ☐ **No** ☐ **N/A**

11. ¿Está el área laboral limpia y lista para el trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**

12. ¿Hay canecas de basuras disponibles para su uso? ☐ **Sí** ☐ **No** ☐ **N/A**

Andamiajes / Escaleras

10. Asegúrese que el andamiaje se haya inspeccionado antes de su uso. ☐ **Sí** ☐ **No** ☐ **N/A**

11. ¿Hay alguna preocupación con los andamios? ☐ **Sí** ☐ **No** ☐ **N/A**

12. ¿Cuál es la escalera apropiada para la labor?

_____

Asbestos / Plomo

13. ¿Hay algún preocupación de exposición a plomo o asbestos en el trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**
¿Sí en caso, cuál es la preocupación? _____

_____

Protección para Evitar Caidas

14. ¿Se necesitan medidas preventivas para las caidas en este trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**

15. Explique (por ejemplo, líneas eléctricas, barricadas, cubre-hoyos, sistemas de prevención de caidas (100% conectase)

_____

_____

Protección contra Incendio

16. ¿Ha sido inspeccionada el área de trabajo por con sustancias inflamables (como ejemplo, el carbon PRB)? ☐ **Sí** ☐ **No** ☐ **N/A**

17. ¿Se ha conseguido un permiso para este tipo de trabajo candente? ☐ **Sí** ☐ **No** ☐ **N/A**

18. ¿Son necesarios los extinguidores de fuego? ☐ **Sí** ☐ **No** ☐ **N/A**
¿Sí en caso, estan apropiadamente localizados y accesibles? ☐ **Sí** ☐ **No** ☐ **N/A**

Análisis de Riesgos

- ¿Es necesaria una autorización para llevar a cabo un Analysis de Seguridad de Trabajo? ☐ **Sí** ☐ **No** ☐ **N/A**
  - * Cuál es el Número de la Autorización _____
- ¿Cuál ha sido el mas reciente incidente/ o estar en un tris?

  _____
- ¿Que incidente podria pasar hoy? _____

  _____
- ¿Que controles de detection de riesgos tenemos? _____

  _____
- ¿Qué es lo peor que le puede pasar hoy? _____

  _____
- ¿Que ideas de seguridad tiene usted que puedan hacer el trabajo mas seguro? _____

JSA / AST

Análisis de Seguridad del Trabajo

Preparaciones y planeamientos. Seleccionar el trabajo a estudiar

Nombre de empresa _____

Nombre del Proyecto _____

Nombre del Cliente **Southern Company Technical Shared Services**

Ubicación _____

Número a marcar en caso de necesidad de un rescate de emergencia: _____

Agente Delegado _____

Fecha _____ **Hora** _____

Lugar del Trabajo _____

_____

Descripción del Trabajo _____

_____

¿Riesgos que entrañan sus labores o trabajo de alto riesgo? ☐ **Sí** ☐ **No**

En caso afirmativo, adhiera un Suplemento de AST

Zona de evacuación de Emergencia / Lugar de Reunión

_____

_____

Después de la ejecución de este trabajo, regrese al

Administración Participante

Nombre _____

Participar como personal disponible

STEP 2.0 — THE NEXT STEP IN SAFETY

SEGURIDAD A TRAVÉS DE LA PARTICIPACIÓN DE TODOS

Analisis de la seguridad en el trabajo Actualizado el 08/30/2023

El Análisis de Seguridad de Trabajo (AST) es parte integral en el planeamiento laboral. Se usará en el manejo y supervisión para reducir los riesgos en el trabajo.

- **El AST se completará diariamente para cada trabajo**
- **Todas las secciones relacionadas con la planificacion previa del trabajo deben estar completas.**
- **Cada trabajador que participe en la labor debe firmar el AST**
- **El AST debe ser fijado en un lugar visible durante la duración del trabajo.**
- **Una revision de cuentas al final del trabajo se llevará a cabo como parte del proceso del AST**
- **El AST se le entregará al jefe de sección al final de la**

PPE Requiere	Sí	No	Clase	#
Protección contra caidas				
Ojos				
Cara				
Cabeza				
Pies				
Manos				
Audición				
Overol				
Respirador				
Ropa retardante de fuego				
Otros				
Otros				

Certificaciones/Personas Competentes	NOMBRE
Operador de Grúa	
Operador de Elevador de Carga	
JLG / Elevador de Tijera / etc.	
Operador de Equipo Móbil	
Pistola de Ramset	
Excavación Persona Competentes	
Calificado aparejador	
Otros	
Otros	
Otros	

Procedimientos/Permisos Requeridos

	Sí	No		Sí	No
Trabajo Eléctrica			Espacio Limitado		
Interrupción de energía / LOTO			Grúa Monta Carga		
Excavación			Salto de linea / Hot Tap		
Andamio - OAR			Yarda de interruptor electrico		
De soldadura / corte			Remover Alambreras y Rejillas		
De soldadura / corte PRB			Otros		

Inscribirse (Registro de Entrada)	Comprobar después de la comida de medio día (Iniciales)	Cerrar la Sesión

Rendir Cuentas después del AST

1. ¿Lo que salió bien hoy? _____
2. ¿Lo que salió mal hoy? ¿Ocurrió algún incidente traumático inesperado? **Sí** ☐ **No**
   Sí en caso, descríbalo _____
3. ¿Se informó al Departamento de Seguridad? ☐ **Sí** ☐ **No**
4. ¿Lo que casi salió mal hoy? _____
5. ¿Que hicimos para evitarlo? _____
6. ¿Está el área de trabajo limpia y libre de residuos del dia de labor? _____
7. ¿Se han removido las barricadas; o si es que todavía se necesitan están correctamente construidas y etiquetadas? ☐ **Sí** ☐ **No**
8. ¿Que ideas de seguridad tiene usted? _____

REVISADO POR

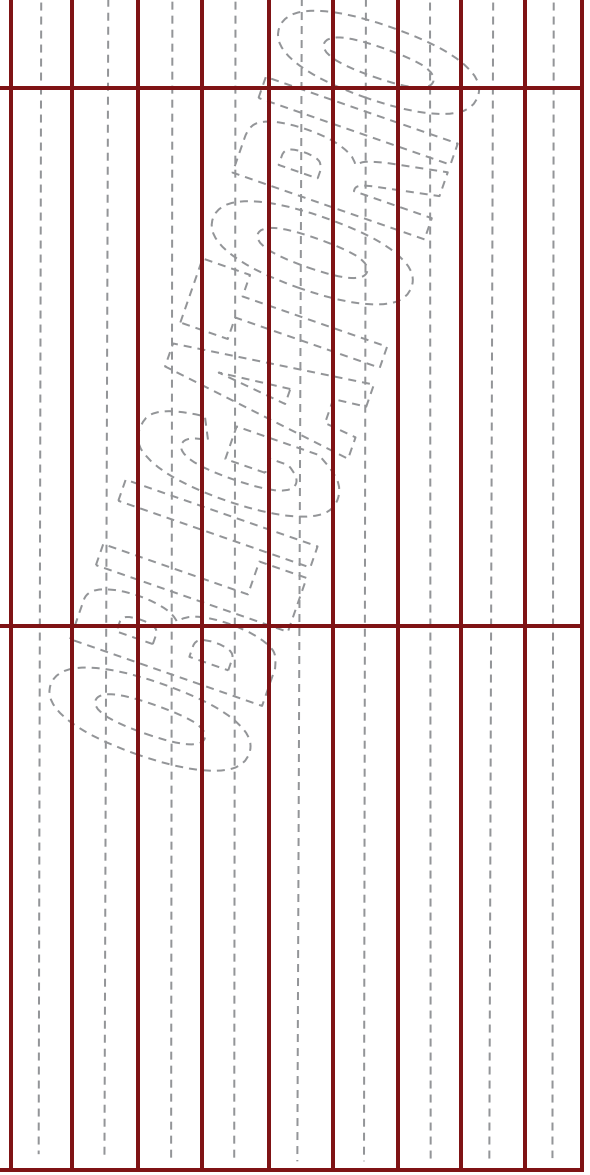
Capataz General _____

SCS Coordinador _____

Métodos de Seguridad Utilizados en el Trabajo para la Eliminación de riesgos

Riesgos Asociados a la Tarea

Pasos de la Tarea



Ladder Inspection Form	Company: ____________________

Date

Inspector

Project

Please mark the check box for **S** for satisfactory or **U** for unsatisfactory

	Ladder Info										Step Ladders				Extension Ladders				Inspection Results		Comments
	Loose steps or rungs		Loose nails, bolts		Damage / worn side rails		Broken, split rungs		No slip-resistant rungs		Wobbly		Damaged braces		Nonskid feet missing		Extension hooks damaged		In good condition	Removed from service	
Ladder ID No.	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**S**	**U**	**P**	**F**	**Note corrective actions and initial.**
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
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	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Line Breaking Permit	**Company: _____**

LINE BREAKING PERMIT

Foreman:_____ Craft:_____

Date Required:_____ Time:_____

Location:_____

_____

Specify Line:_____

Contents:_____

*Chemical SDS reviewed Yes ( ) No ( )

NOTE: ALL OPEN ENDED PIPES LEFT ON LOCATION MUST IMMEDIATELY BE BLANKED OR CAPPED.

Line Preparation:

Line flushed Yes ( ) No ( )

Flushing agent: Water ( )

Air ( )

Nitrogen ( )

Other (Specify) _____ ( )

Special Protective Equipment Required

SCBA	( )	Valves locked out	( )
Respirator	( )	Pneumatics locked out	( )
Rubber boots	( )	Electrical locked out	( )
Faceshield	( )	Materials decontamination	( )
Monogoggles	( )	Special waste handling	( )
Rubber gloves	( )		
Chem. suit	( )	Hot work permit	( )
Other_____	( )	Red barricade area	( )

EMPLOYEES INVOLVED WITH LINE BREAK

I understand the job requirements and potential hazard of work described on this permit.

1._____ Badge No._____

2._____ Badge No._____

3._____ Badge No._____

Instructions to employees:

_____

_____

ATMOSPHERIC TEST

	Maximum Allowed	**Test Results**	**Instrument Used**	**Cal. Date**
1. Flammability	0%			
2. Hydrogen sulfide	10 ppm			
3. Chlorine	0.5 ppm			
4. Oxygen	<19.5% >23.0%			
5. Chlorine dioxide	0.1 ppm			
6. Sulfur dioxide	2 ppm			
7. Mercaptan	0.5 ppm			
8. Carbon monoxide	35 ppm			
9. Other				
10. Ultrasonic test results ***Required for Hot Tap***				

PERMIT TO BE POSTED AT WORK LOCATION.
RETURN TO SAFETY OFFICE UPON COMPLETION OF JOB.

APPROVED BY

*SDS attached Yes ( ) No ( )

	Contractor Foreman	_____	Date_____
	Contractor Safety Rep.	_____	Date_____
	Contractor Craft Supt.	_____	Date_____
	TSS Mechanical Rep.	_____	Date_____
Required for Hot Tap	TSS Safety Rep.	_____	Date_____
Required for Hot Tap	TSS QA/QC Rep.	_____	Date_____
Final Approval	Contractor Site Manager	_____	Date_____

OPEN HOLE PERMIT

For Floor Openings, Wall Openings, Grating Removal and Guardrail removal.

THIS PERMIT SHALL BE POSTED AT THE BARRICADE ENTRANCE

Responsible Person (print): Contact Number:

Company Performing Work:

Check all that apply: ☐ Floor Opening ☐ Wall Opening ☐ Guardrail Removal
☐ Grating Removal
☐ Other Floor Opening specify: _____

Location:

Scope of Work:

The following items shall be completed prior to creating the opening/guardrail removal:

- ☐ JSA/JSB completed and hazards communicated to all members of the new crew
- ☐ Area inspected and any unsafe conditions corrected/mitigated
- ☐ Rigid barricades erected
- ☐ Hazard warning signs posted on rigid barricade
- ☐ Fall arrest/restraint measure in place

Specific fall protection plan:

Authorization for creating the opening/guardrail removel
Precautionary measures are in place and authorize the creation of a floor/wall opening and/or guardrail removal.

	NAME	SIGNATURE	DATE
Approval Contractor Responsible Person:			
Contractor Resposible Person Transferred to:			
Approval Responsible Person:			
Approval Responsible Person Transferred to:			

Restoration of Safe Work Area

Floor grating is in place and secured	☐ Yes ☐ N/A
Floor grating does not have unsupported welds	☐ Yes ☐ N/A
Hole covers, if needed, are in place, marked and secured	☐ Yes ☐ N/A
Floor openings restored to safe condition	☐ Yes ☐ N/A
Wall openings restored to safe condition	☐ Yes ☐ N/A
Guardrails, including toeboards, are in place and secured	☐ Yes ☐ N/A
The work area was inspected and no hazards related to the work scope remain	☐ Yes

Authorization for close out of permit
When the work area has been restored to a safe condition and barricades may be removed.

	NAME	SIGNATURE	DATE
Approval Contractor Responsible Person:			
Approval Responsible Person:			

Form 5-6775

Overhead Line Permit	Company: _____

Today's Date_____ Job Number_____

Contractor Name			
Job Address			
Telephone Number		**Fax Number**	

Emergency Contact Number	

Survey

Before beginning any task, you must first survey your work area to find power lines in the area of work or travel.

Number of Lines_____ Voltage_____
Distance (ft) from work area _____

Identify

After finding all of the power lines involved in the task, identify the activities you will be doing that may put you or your workers at risk. Mark one or more of the following:

[ ]	Cranes (mobile or truck-mounted)	[ ]	Aerial lifts
[ ]	Drilling rigs	[ ]	Dump trucks
[ ]	Backhoes/excavators	[ ]	Ladders
[ ]	Long-handled tools	[ ]	Material handling and storage
[ ]	Other tools/high reaching equipment	[ ]	Scaffolding
[ ]	Concrete pumper	[ ]	Other_____
[ ]	Line voltage	[ ]	Other_____

Eliminate or Control

After identifying the power lines involved and high-risk activities for the task, determine how to eliminate or control the risk of electrocution. A successful determination is often reached only after consultation with the utility. Mark one or more of the following:

[ ]	Move the activity	[ ]	Use barrier protection
[ ]	Change the activity	[ ]	Use an observer
[ ]	Have the utility deenergize line	[ ]	Use warning lines with flags
[ ]	Have the utility move the line	[ ]	Use nonconductive tools
[ ]	Use a protective technology (list):_____		

Completed by _____ Date _____

Approved by _____ Date _____

Overhead Line Checklist

Location of work to be performed: _____

Line designation: _____

Voltage of line? _____

	YES	NO
Number of lines in service.	☐	☐
Is line(s) deenergized?	☐	☐
Is line LO/TO-T?	☐	☐
Are safety grounds attached?	☐	☐
Is barricade erected?	☐	☐
Will there be an electrical standby?	☐	☐

Name of electrical standby. _____

PPE required:

Authorizing engineer	Site/facility EH&S
Electrical superintendent	Site/facility manager

Planning Outline for Deenergizing Electrical Equipment	Company: _____

Scope of work: _____

_____

Date to be performed: _____

Duration of the work: _____

Contingency plan if the job runs past normal hours: _____

_____

What will not be deenergized? _____

_____

Method of isolation: _____

(List isolation points on the reverse side of this checklist.)

What lockout/tagout (LOTO) is required at the completion of the defined scope of work?
_____

_____

Reverification requirements (LOTO, grounds, test for voltage): _____

_____

Will deenergizing the equipment change the LOTO requirements for other personnel? Yes No N/A

Who will perform the following activities?

- Throwing switches: _____
- Voltage testing:_____

(List points for voltage testing on the reverse side of this checklist.)

- Installing grounds: _____

(List points for ground installation on the reverse side of this checklist.)

What personal protective equipment will be required? _____

What conditions would stop this work? _____

	Yes	No	N/A
Have the single-line drawings been reviewed, and are they accessible at the point of work?			
Has the need for standby personnel or barricading of equipment to be deenergized been discussed?			
Are there any back feeds, alternate feeds, or temporary feeds present?			

Please note any special considerations on the reverse side of this checklist.

ISOLATION POINTS	VOLTAGE TEST POINTS	GROUND INSTALLATION POINTS

SPECIAL CONSIDERATIONS

NOTE

Verbal authorizations are to be noted on the appropriate signature line below by printing the name of the appropriate responder and printing the name and signature of the person who received the verbal authorization. Only one verbal authorization is allowed in the planning process. Either the plant electrical representative or the TSS electrical representative must sign if the other is a verbal authorization.

Contractor Electrical Representative — Date

TSS or Third-Party Electrical Representative — Date

Plant Electrical Representative — Date

Planning Outline for Energized Electrical Equipment	**Company: _____**

Scope of work: _____

Date to be performed: _____

Contingency plan if the job runs past normal hours: _____

Specify the equipment that is currently energized. _____

What equipment will be energized after the work takes place? _____

What lockout-tagout (LOTO) is required at the completion of the defined scope of work?

Will energizing the equipment change the LOTO requirements for other personnel?

☐ YES ☐ NO ☐ N/A

Who will perform the following activities?

- Throwing switches: _____
- High potential/Megger® testing: _____
- Voltage testing: _____

What personal protective equipment will be required?

Shock protection: _____

Flash protection: _____

What conditions would stop this work? _____

	Yes	No	N/A
Has all testing been completed and have test sheets been reviewed?	☐	☐	☐
Have the single-line drawings been reviewed, and are they accessible at the point of work?	☐	☐	☐
Has the need for standby personnel or barricading of equipment to be energized been discussed?	☐	☐	☐
Has the downstream LOTO been verified?	☐	☐	☐
Have all personnel in the area been notified?	☐	☐	☐
Has a visual inspection been made?	☐	☐	☐
Is the proper labeling in place?	☐	☐	☐
Have all ground clusters been removed and accounted for?	☐	☐	☐
Are all doors closed and properly latched?	☐	☐	☐
Are all covers installed and all holes properly covered?	☐	☐	☐
Has the removal or isolation of temporary feeds/connections been verified?	☐	☐	☐

SPECIAL CONSIDERATIONS

_____

_____

_____

_____

_____

_____ _____

Contractor Electrical Representative Date

_____ _____

TSS or Third-Party Electrical Representative Date

_____ _____

Plant Electrical Representative Date

PPE Assessment Form	Company: _____

Instructions: Use this form as a guide to help you identify the hazards in work areas. When you have completed the form, you are ready to select the appropriate PPE.

Area: _____ Job classification: _____
Assessor: _____ Date: _____

HEAD HAZARDS: Tasks that can create potential head hazards include working below other workers who are using tools and materials that could fall, working on energized electrical equipment, working with chemicals, and working under machinery or processes that might cause materials or objects to fall.

Check the appropriate box for each hazard:

	Yes	No	Description of hazards:
Burn	☐	☐	
Chemical splash	☐	☐	
Electrical shock	☐	☐	
Impact	☐	☐	

EYE HAZARDS: Tasks that can create potential eye hazards include working with acids and chemicals, chipping, grinding, furnace operations sanding, welding, and woodworking.

Check the appropriate box for each hazard:

	Yes	No	Description of hazards:
Chemicals	☐	☐	
Dust	☐	☐	
Heat	☐	☐	
Impact	☐	☐	
Light/radiation	☐	☐	

HAND HAZARDS: Tasks that can create potential hand hazards include cutting material, working with chemicals, working with hot objects, and manual material handling.

Check the appropriate box for each hazard:

	Yes	No	Description of hazards:
Burns	☐	☐	
Chemical exposure	☐	☐	
Cuts/abrasion	☐	☐	
Puncture	☐	☐	

FOOT HAZARDS: Tasks that can create potential foot hazards include carrying or handling materials that could be dropped, performing manual material handling, and working with chemicals.

Check the appropriate box for each hazard:

	Yes	No	Description of hazards:
Chemical exposure	☐	☐	
Compression	☐	☐	
Impact	☐	☐	
Puncture	☐	☐	

Guidelines for Selecting Personal Protective Equipment (PPE)

Note: Workers should not rely on PPE alone to provide protection against hazards; rather, they should use PPE in conjunction with guards, engineering controls, and sound manufacturing practices.

1. Familiarize yourself with the potential hazards in the area and the types of PPE that are available.
2. Consider the hazards associated with the environment (impact velocities, masses, projectable shape, radiation intensities).
3. Select PPE that ensures a greater level of protection than the minimum required to protect workers from the hazards.
4. Fit the worker with the PPE and give instructions on its use and care. It is very important that workers be made aware of all warning labels for and limitation of their PPE.

Based on the hazard assessment for _____ **the following PPE is required:**
(Job Classification)

EYE HAZARD	JOB	PPE

HEAD HAZARD	JOB	PPE

FOOT HAZARD	JOB	PPE

OTHER	JOB	PPE

Approved:_____
Site Manager

Predemolition Engineering Survey	**Company: _____**

<u>This form must be completed prior to any demolition activity.</u>

Before employees start demolition operations, a competent person shall make an engineering survey of the structure to determine the condition of the framing, floors, walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed shall also be similarly checked. The employer shall have in writing evidence that such a survey has been performed. ***All electric, gas, water, steam, sewer, and other service lines shall be shut off, capped, air gapped, or otherwise controlled, outside the building line before demolition work is started.*** In each case, any utility company that is involved shall be notified in advance.

Project name:		Date:	
Competent person signature:		Location:	
Job Contact:		Tel #:	
Name of structure:			Year built:
Description of structure:			
Dimensions	Length:	Width:	Height:
Materials	Foundation:	Walls:	
	Floors:	Roof:	
Method of demolition:			
Equipment to be used:			
Disposal plan:			

Has the structure been damaged by fire, flood, explosion, or other causes?	YES	NO
Potential hazards (for example, collapse, structural failure, explosive material)?		
Any unique site/structural conditions?		

HAZARDOUS ENERGY

All electric, gas, water, sewer, or other utility should be shut off, capped, air-gapped, or controlled at or outside of structure before demolition work is started. If it is necessary to maintain power, water, or other utilities during demolition, such lines shall be temporarily relocated or protected. All workers shall be notified of any existing or relocated utility service.

Did the structure use any of these utilities?			If YES, what is the operational state of the utility?			
Utility	**YES**	**NO**	**Active**	**Disconnected**	**Verified Y/N**	**If active, who will disconnect, cap, air-gap, or relocate, and when?**
Electrical power/lines?						
Natural gas lines?						
Water lines?						
Sewer lines?						
Fiber-optic cables?						
Phone lines?						
Telemetering lines?						
Oxygen lines?						
Other utility lines?						

Underground Utilities	**YES**	**NO**
Is there going to be any excavation work?		
Have Utility Locator Services been notified (811)?		
Are underground services marked?		

CHEMICALS

Determine if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property. When the presence of any such substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated before demolition is started.

Are any of these hazards present?			If YES, what is the status the hazardous chemical/material?				
Hazard:	**YES**	**NO**	**Present**	**Drained**	**Purged**	**Verified Y/N**	**If hazards are present, who will mitigate the hazards prior to demolition?**
Underground storage tanks (USTs)?							
Vessels/storage tanks?							
Process piping (chemical)?							
Hydraulic piping/reservoirs?							

Are these chemical / environmental hazards present?	YES	NO	If YES, what is the plan for removal of these materials? Give details on location and description of action taken or to be taken.
Are asbestos-containing materials present?			
Any Freon or other refrigerants?			
Lead-containing materials?			
PCBs?			
Mercury devices?			
Radiation sources?			
Any additional hazardous materials?			

PREEXISTING DAMAGE

When employees are required to work within a structure to be demolished that has been damaged by fire, flood, explosion, or other cause, the walls or floor shall be shored or braced.

Are any of these hazards present?			Location/Description
Hazard:	**YES**	**NO**	
Is there any preexisting structural damage?			
Is shoring required?			

Are personnel exposed to the following hazards?			
Hazard/Exposures	**YES**	**NO**	**Location/Description**
Pit/trenches?			
Fall hazards?			
Holes?			

Safety Exposures	YES	NO	Location/Description
Fire hazards?			
Combustibles?			
Process hazards?			
Basements?			
Elevators?			
Party walls?			
Bulkheads?			
Confined spaces?			
Additional safety exposures?			

During demolition operations, are safety or protective measures needed for the following?			
Safety/Protection Measures	**YES**	**NO**	**Location/Description**
Adjacent walkways / sidewalks?			
Adjacent roadways?			
Adjacent buildings?			
Public exposure?			
Utilities?			
Manholes?			
Storm-water runoff?			
Temporary support, shoring, or bracing?			
Adjacent retaining walls or slopes?			
Additional items?			

Emergency Information		
Service	**Name of Location Agency**	**Phone Number**
EMS		
Fire		
Police		
Site superintendent		
Owner's representative		
Nearest urgent medical facility		
Address:		
Directions:		
Nearest hospital:		
Hospital address:		
Directions:		

Acknowledgement:

The undersigned have performed and reviewed this Predemolition Engineering Survey as outlined by OSHA 29 CFR 1926.850a.

Contractor Representative	Date	Owner's Representative	Date

Safety Data Sheets (SDS)/ Product Evaluation Form	**Company: _____**

Project Name: _____
Project Number:_____

Trade name for product under review: _____

Manufacturer's name, address, and phone number:
_____
_____
_____

Date SDS was received from the purchasing agent/contractor _____

Check the appropriate response:

☐ **YES -** The information contained in the SDS for this product has been reviewed by the ES&H professional and the product has been approved for order.

☐ **NO -** Based upon the hazard information contained in the SDS, it is not recommended that this material be used on this project if an alternative material is available.

☐ **CONDITIONAL APPROVAL -** The SDS review of this product indicates that special precautions will be required in order to use this product on this site. The purchase and use of this material will be approved, provided arrangements are made to meet the following requirements:

Storage:_____
_____

Ventilation:_____
_____

Training:_____
_____

Personal protective equipment:_____

Other: _____

Reviewed by: _____ Date Reviewed: _____

Scaffold Integrity Checklist	**Company: _____**

This checklist shall be completed by the responsible person to identify the scope of work inside and outside of the boiler that may impact the load-bearing capability of the scaffold support structure. This checklist shall be shared with the contractor, competent person, qualified person, and the P.E.

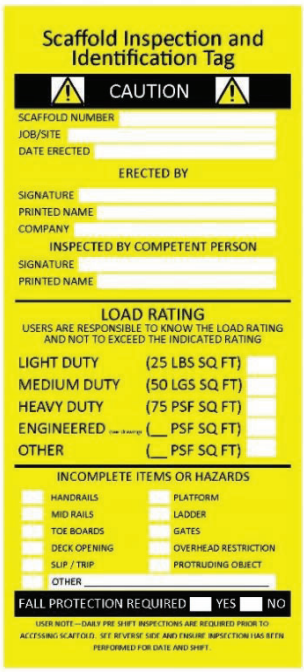
Plant:	**Unit:**	**POET:**
Responsible Person (*Print*):	**Responsible Person: (*Sign*)**	**Date:**

Question		**Responsible Person's Initials**
1. Are there any plans to stage equipment (panels, burners, etc.) on the scaffolding that will add weight to the scaffold? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	
2. Are there any structural members (buckstays, trusses, tension bars, etc.) or structural tubes (rear waterwall hanger tubes) being cut or removed? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	
3. Will any work be completed on the coutant slopes? Any waterwall panel replacements in this area or a large quantity of panels replaced in the vertical walls? Are any structural modifications required on the boiler proper to complete a major section (Superheat, Reheat, etc) that may add weight or affect the integrity of the boiler? Will burner corners be replaced? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	
4. Will any work be in the lower dead-air space on any structural members or hangers? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	
5. Will any headers be unpinned or disconnected from structural steel in the lower furnace area? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	
6. Will any large water wall section be removed while the unit has installed scaffolding? *Explanation:*	☐ YES (*provide explanation*) ☐ NO	

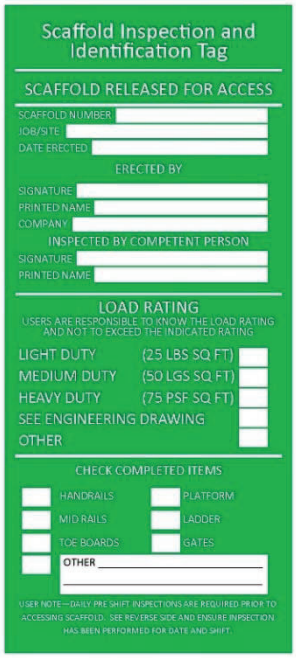
Scaffold Tags (Examples)	

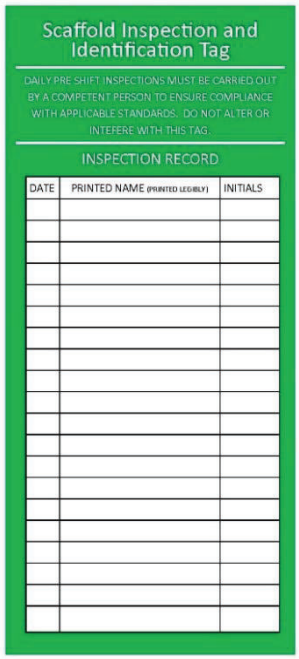
Do Not Use Scaffold Tag
(Red)
Item #9-2561

Incomplete but Structurally Safe Scaffold Tag
(Yellow)
Item #9-2562



Completed Scaffold Tag
(Green)
Item #9-2563





Safety and Health Orientation Checklist

Company Representative(s) shall review with the Contractor's site management all site-specific and Contract-specific safety and health requirements that are applicable to the Contractor's scope of work as defined in the written contract. In addition, Company Representative(s) will provide the Contractor with applicable electrical system characteristics, conditions and design information outlined in section 9 below. It is the Contractor's responsibility to convey this information to all of the Contractor's employees and subcontractors.

This Checklist is a tool that can be used by responsible Company personnel to ensure that basic safety and health issues are discussed with Contractor personnel. This checklist contains many topics that may or may not be applicable to the service being provided. For the items that do not apply to the work being performed, the form can be edited to remove these items or the item can be left unchecked which will signify that the item is not applicable.

The Checklist provides signature lines to document both the Company and Contractor representative that reviewed the information. An orientation should be conducted, and signature collected, for all high and moderate risk projects. Documentation of this review will not be required for low risk projects. To determine if the work is high or moderate risk, utilize the Safety and Health Orientation Decision Tree in ***Chapter IV, Section D*** or contact your LSO or Safety and Health representative.

1. Personal Protection Equipment

- ☐ Head Protection
- ☐ Eye and Face Protection
- ☐ Foot Protection
- ☐ Hand Protection
- ☐ Traffic Vests
- ☐ Respiratory Protection
- ☐ Basic Work Clothing
- ☐ FR Clothing

2. General Safety

- ☐ Housekeeping
- ☐ Sanitation
- ☐ Illumination
- ☐ Materials Storage and Handling
- ☐ Signs and Barricades
- ☐ Ladders
- ☐ Scaffolds
- ☐ Manlifts – Use and Training
- ☐ Fall Protection
- ☐ Steel Erection
- ☐ Rigging and Lift Plans
- ☐ Crane Suspended Work Platforms
- ☐ Chain & Lever Hoists & Jacks
- ☐ Power Tools
- ☐ Grinders – Pedestal, Bench and Portable
- ☐ Hazardous Energy Control (Lockout/Tagout)
- ☐ Excavation and Trenching
- ☐ Blasting Operations
- ☐ Confined Space Entry
- ☐ Welding, Cutting, Heating
- ☐ Compressed Gas Cylinders
- ☐ Transporting Personnel
- ☐ Working Over or Near Water
- ☐ Demolition Operations
- ☐ Atmospheric Monitoring

3. Major Equipment

- ☐ Mobile Cranes
- ☐ Forklift Operations
- ☐ Earth Moving Equipment
- ☐ Aerial lifts and Bucket Trucks
- ☐ Elevators
- ☐ Overhead Cranes
- ☐ Mobile Equipment Near Electric and Process Lines
- ☐ Vehicles, Carts and Gators

4. Electrical Safety

- ☐ Temporary Wiring
- ☐ Ground Fault Circuit Interrupter (GFCI)
- ☐ System Voltage
- ☐ Arc Flash Incident Energy
- ☐ Available Fault Current
- ☐ Switching Procedures
- ☐ Work On or Near Energized Electrical Circuits
- ☐ Welding and Portable Generators

5. Occupational Health

- ☐ Hearing Conservation
- ☐ Hazard Communication Program
- ☐ Bloodborne Pathogens
- ☐ Lead Paint Abatement
- ☐ Inorganic Arsenic
- ☐ Hexavalent Chromium
- ☐ Silica
- ☐ Asbestos
- ☐ Abrasive Blasting
- ☐ Industrial Radiography
- ☐ Safety Data Sheets (SDS)
- ☐ Combustible Dust Safety

6. Fire Protection and Prevention

- ☐ General Requirements
- ☐ Fire Extinguishers
- ☐ Fire Watch
- ☐ Flammable/Combustible Material Storage
- ☐ Hot Work Permits

7. Emergency Procedures and Alarms

- ☐ Fire
- ☐ Chemical Release
- ☐ Spill
- ☐ Injuries/illnesses
- ☐ Weather Related
- ☐ Security

8. Miscellaneous Issues

- ☐ Eating in the Plant
- ☐ First Aid/Medical Facilities
- ☐ Reporting Occupational Injuries, Illnesses and Incidents
- ☐ Smoking
- ☐ Job Safety Analysis
- ☐ Site Hazards
- ☐ Non-English-Speaking Employees
- ☐ Safety Violations
- ☐ Corrective Actions
- ☐ Regulatory Agency Visits
- ☐ Use of Company Tools/Equipment

9. Information Transfer – Required when contractor's scope of work involves working on electric power generation, transmission and/or distribution installations and equipment or when constructing new electric transmission and distribution lines and equipment. Company Representatives will provide the following information relative to the safety of the work to be performed:

- ☐ Nominal voltages of lines and equipment
- ☐ Maximum switching-transient voltages
- ☐ Presence of induced voltages
- ☐ Presence of protective grounds and equipment conductors
- ☐ Locations of circuits, equipment, electric supply lines, communication lines, and fire protective services
- ☐ Condition of protective grounds and equipment grounding conductors
- ☐ Condition of poles
- ☐ Environmental conditions relating to safety
- ☐ Appropriate information needed for Contractor to perform safety assessments, such as enclosed spaces, minimum approach distances, incident energy, pole and tower design strength, etc.

10. Other Safety and Health

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

I have received a review of the Site-Specific and Contract-Specific Compliance and Safety, Health requirements checked above, and the applicable information listed in Section 9. I understand these Southern Company expectations and I will ensure these requirements are communicated prior to work activity to all of my contract workers/representatives and all of the representatives of my subcontractors.

Contractor Site Manager Date

Company Representative Date

Suspended Personnel Platform Preuse Checklist	**Company: _____**

Date:		Competent Person:
Crane Make:	Model:	Serial Number:
Equipment Number:	Hours:	Crane Capacity:
Crane Type:	Hydraulic:	Conventional:

1. CRANE REQUIREMENTS

Subcontractors and/or users must ensure all items in this checklist are satisfied, including compliance with all safety requirements prior to making a lift. All precautions and instructions on the decals attached to the crane and the platform must be strictly adhered to.

Circle Items "Yes" to verify compliance:

No	Yes	Use of a suspended personnel platform is the safest and most practical way to accomplish the task.
No	Yes	All crane inspections are current per ANSI B30.5 requirements.
No	Yes	All hooks have a current inspection per ANSI B30.10 and have positive locking-type hook latches.
No	Yes	The correct load chart is with the crane and the operator is thoroughly familiar with all special notes and manufacturer recommendations given on the chart.
No	Yes	All operational aids and safety devices in the crane are functioning, and the operator is fully versed in their operation.
No	Yes	The load lines have a 7:1 safety factor (10:1 when using non-spin rope). NOTE: This safety factor is achieved by a 50-percent derating of the crane load chart.
No	Yes	The crane is on firm footing and the crane outriggers are all the way out, down, and locked as applicable.
No	Yes	The crane is level within 1 percent (1 ft in 100 ft) and is on firm surface. NOTE: Stability of the footing will be verified during the full cycle of the operation test.
No	Yes	Means have been provided to enable the operator to ensure the crane is level.
No	Yes	A firm, level surface has been prepared and designated as a "runway" or path of travel for the weight and configuration of the crane begin used.
No	Yes	The crane counterweights are per manufacturer specification.
No	Yes	All load lines are properly revved and laying properly on the drums.
No	Yes	All drum hoists have full control load lowering. NOTE: Free fall is not to be used.
No	Yes	The boom is fully powered up and down, live boom is not to be used.
No	Yes	The boom angle and radius indicator works. NOTE: Measure radius with tape measure on conventional cranes.
No	Yes	The boom length indicator on telescoping booms is fully functional.
No	Yes	The positive anti-two-block device is functioning properly. NOTE: A warning system alone does not suffice.

2. RIGGING REQUIREMENTS		
No	Yes	Each bridle leg is connected to the master link or shackle in a way that ensures the load is evenly distributed between all the bridle legs.
No	Yes	All rigging, wire rope, shackles, rings, master links, and other rigging hardware have a minimum safety factor of 5:1. NOTE: When non-spin cable is used, a minimum safety factor of 10:1 is required.
No	Yes	All wire rope eye fittings are provided with thimbles.
No	Yes	All load hooks are closed with locking-type latches.
No	Yes	All rigging equipment for the suspended personnel platform is exclusively for that use only.
No	Yes	All rigging has been inspected for kinks or damage of any kind.
No	Yes	Shackle pins are of the nut-with-pin-retainer-type.
No	Yes	Separate wire rope sling connected to a shackle on the load line directly above the headache ball to the pad eye or shackled to hoisting platform.
3. SUSPENDED PERSONNEL PLATFORM REQUIREMENTS		
No	Yes	The basket has been designed with a 5:1 safety factor by a qualified engineer and welded by a qualified welder.
No	Yes	The suspension rigging system has been designed in such a way as to minimize tipping of the suspended personnel platform.
No	Yes	The maximum rated load and maximum capacity is posted on a permanently affixed plate on the suspended personnel platform.
No	Yes	The guardrail designed to enclose the platform is provided and is enclosed from the toeboard to the mid-rail.
No	Yes	Body harness anchorage is provided.
No	Yes	The access gate has been designed to open in and is positively prevented from swinging outward while the suspended personnel platform is in use.
No	Yes	The access gate must have a positive locking system to prevent accidental opening during operation.
No	Yes	The design allows enough headroom for personnel to stand upright.
No	Yes	There are no rough edges on any suspended personnel platform surface.
No	Yes	In addition to hardhats, overhead protection is provided when personnel are exposed to falling objects.
No	Yes	A trial-lift meeting has been attended by the crane or derrick operator, signal person(s) (if necessary for the lift), personnel to be lifted, and the person responsible for the task to be performed
No	Yes	Precautions have been taken to protect personnel from any special hazards in the area where the crane and suspended personnel platform will be operating; for example, power lines or areas where the suspended personnel platform will be out of the operator's view.
No	Yes	Special precautions have been taken to protect personnel from electrical hazards. When the crane with a suspended personnel platform is working near electrical lines or devices, the minimum working clearances shall be at least twice those for material handling operations.
No	Yes	A suspended personnel platform use authorization has been issued, dated, and properly signed for the task at hand.
No	Yes	The suspended personnel platform and rigging has been proof-tested to 125 percent of the platform rated capacity.

No	Yes	An unoccupied trial lift loaded to 125 percent of the platform-rated capacity has been performed and hoisted to each location where work is to be performed, or to any point where personnel are expected to enter or exit the platform. NOTE: The trial lift must be performed each time the crane is moved.
No	Yes	A post-trial-lift inspection of the crane has been carried out by a designated person.
No	Yes	The loading is less than 50 percent of the crane-rating chart for all work locations.
No	Yes	The operator has determined that all systems, controls, and safety devices are activated and functioning properly and that no interferences exist.
No	Yes	The suspended personnel platform has been hoisted a few inches and has been reinspected after the trial lift for any deficiencies.
No	Yes	Prior to hoisting personnel, the suspended personnel platform has been hoisted a few inches to verify its hang level.
No	Yes	All hoist ropes are free of kinks.
No	Yes	Multipart lines are not twisted around each other.
No	Yes	The hook is centered over the load.
No	Yes	The hoist lines are laying properly on hoist drums and in the sheaves.
No	Yes	All post-trial-lift defects have been corrected.
No	Yes	The crane-bearing surface has been rechecked and crane releveled as required.
No	Yes	The crane safety components, dogs, pawls, brakes, etc., have been reinspected after the trial lift.
No	Yes	Travel with the crane is not permitted except where all requirements are satisfied and where not to do so would endanger life.
No	Yes	The operator has been advised that the load and boom hoist drum brakes, swing brakes, and locking devices such as pawls or dogs must be engaged when the occupied personnel platform is in a stationary working position.
No	Yes	The operator has been advised that the platform must be hoisted in a slow, controlled, cautious manner with no sudden movement of the crane, derrick, or platform.
No	Yes	Personnel have been advised to perform tasks specified in the suspended personnel platform authorization only. NOTE: Only the number of personnel needed for the task at hand are allowed to be hoisted.
No	Yes	All personnel have been advised to keep all body parts inside the platform during raising. NOTE: This provision does not apply to an occupant of the platform performing the duties of a signal person.
No	Yes	All personnel have been advised that they are not allowed to enter or exit the platform until it is secured to the structure where the work is to be performed, unless securing to the structure creates an unsafe situation.
No	Yes	All personnel have been advised that they are not allowed to exit the platform before landing.
No	Yes	All personnel have been advised that taglines must be used unless their use would create an unsafe condition.
No	Yes	The operator has been advised to remain at the controls at all times while the crane engine is running and the platform is occupied.
No	Yes	All personnel have been advised that platform use must be promptly discontinued if there is any indication of dangerous weather conditions or other impending danger.
No	Yes	The operator is in constant contact by standard hand signals or voice communications during operation of crane and suspended personnel platform.
No	Yes	All personnel have been advised to remain in continuous sight of, or in direct communication with, the operator or signal person.

No	Yes	All personnel have been advised that the use of a radio is permissible when direct visual contact is not possible, or where the use of a signal person could create a greater hazard.
No	Yes	All personnel occupying the platform have been advised to wear a personal fall-arrest harness system, with the lanyard appropriately attached to a structural member within the personnel platform capable of supporting the fall impact for personnel using the anchorage.
No	Yes	All personnel have been advised to wear a life vest when working over water.
No	Yes	Personnel have been advised to secure materials and tools to prevent displacement during the lift.
No	Yes	All personnel have been advised to load the suspended personnel platform evenly and to only carry tools and materials needed for the task at hand.
No	Yes	The operator and all personnel that will be using the platform have been advised that no other object may be lifted on any of the crane load lines while the platform is suspended.
No	Yes	An audible and visual device has been provided to the personnel in the platform so they can signal for assistance in the event of an emergency.
No	Yes	Personnel have been advised to stand firmly on the floor of the platform and to not sit or climb on the edge of the platform or use planks, ladders, or other devices for attaining a work position.
No	Yes	If welding is to be performed by personnel occupying the platform, the electrode must be protected from touching the metal components of the platform.
No	Yes	Any needed repairs to the crane or suspended personnel platform used only original manufacturer parts to ensure the new components are compatible with their original counterparts.
No	Yes	Care taken to prevent ropes, electrical cords, and hoses from becoming entangled in the platform when the platform is being moved.
No	Yes	Operator aids or interlocks have not been altered, modified, or disabled in any way.
No	Yes	The crane operator responsible for operating the cranes used for personnel handling is a thoroughly trained operator and has related experience operating the subject crane.
No	Yes	All manuals, operating instructions, and load charts provided have been read and understood by the operating personnel prior to starting the operation.
No	Yes	The operator has ensured the area surrounding the platform is clear of personnel and equipment before moving the platform.
No	Yes	Prior to the trial lift at each new location, a prelift meeting has been held, and is also held for any new worker assigned to the suspended personnel platform.
No	Yes	All deficiencies discovered in post-trial-lift inspection have been corrected.
No	Yes	All personnel attending the prelift meeting signed the roster for the meeting.
No	Yes	Minimum of two workers are assigned to work from the suspended personnel platform.
No	Yes	The trial-lift calculation sheet has been completed, signed, and dated.

4. PERSONNEL PLATFORM WEIGHT CALCULATION SHEET			
• Platform rated capacity			
• 125-percent proof test			
***(NOTE:** Suspended load for 5 minutes)*			
• Number of occupants x 250 lb each			
• Tools plus materials (weight) in platform			
• Misc. weight not otherwise listed			
• Tare weight of platform plus rigging			
• Total occupied weight of platform			
• Hoist line cable weight:			
• Headache ball weight			
• Load block weight			
• Rooster sheave weight			
• Effective JIB weight:			
• (if hoisting on main load line)			
• JIB weight stowed			
• Misc. weight not otherwise listed			
• Total load chart deductions			
• Total weight, “W” (total load chart deductions plus)			
• Total occupied weight of platform			
• Capacity of crane at minimum radius			
• Capacity of crane at platform work radius			
• 50 percent of crane capacity at minimum radius			
• 50 percent of crane capacity at platform working radius			
• Total load, “W” divided by 50 percent crane rating = percent of de-rated capacity used			
Signature:	**Title:**	**Date:**	

Suspended Scaffold Inspection Checklist	**Company:** _____

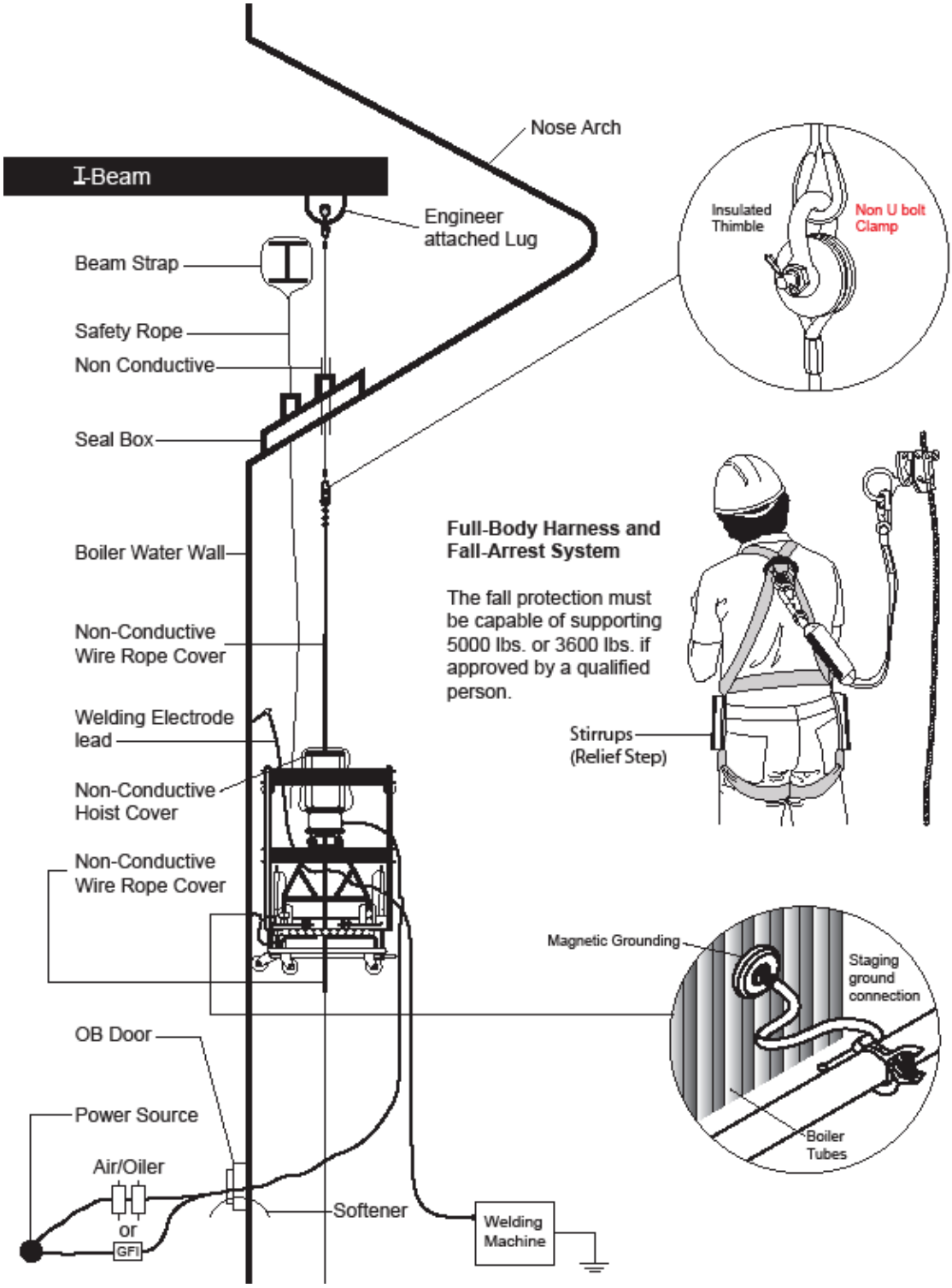
Plant _____ Unit_____

Competent Person _____ Date_____

	Yes	N/A
Support system		
Structure has been verified to support load with a 4-to-1 safety factor‡		
Wire rope has 3 non-U-bolt type wire rope clips torqued to the manufacturers' requirements‡		
Load has been applied to the suspended scaffold and wire rope clips have been re-torqued		
Power supply requirements checked for hoist operation (for example, voltage, air flow, and air pressure)‡		
Hoist emergency stop and over-speed brake checked for proper operating condition		
Wire rope inspected for damage; the wire rope is protected from sharp edges‡		
All loaded connection points on the suspended scaffold are secured		
GFIs are in place for electric operated hoist and auxiliary equipment		
Inline oiler and filter are in place on the air hoist‡		
Hoist was installed using SAE grade 5 or better American or Canadian fasteners		
Hoist has an operator manual attached		
Suspended scaffold inspection certification is current		
Support Safety Systems		
Lifelines anchorage points are properly terminated and can support a 5,000-lb load for each line‡		
Before usage, all lifelines are inspected for damage and each line is protected from sharp edges ‡		
The safety line and rope grab are properly sized for the lifeline or wire rope being used		
Safety lines are installed in close proximity of the work cage or platform‡		
At least one person on the suspended scaffolding has a radio to communicate with support team		
Safety harness was inspected, and harness has suspension trauma straps (stirrups)‡		
Falling or loose objects above the platform are cleared		
Top, middle guardrails, and toe board are complete, and platform is free of debris		
Suspended System		
All welds and hardware checked on guardrails, toeboards, platforms, stirrups, and roller bumpers		
Chokers, chains, or clips used for anchorage have been inspected and are in good working order‡		
Electric cables and air hoses are in good working order, protected from sharp edges, and have strain reliefs installed		
All wire rope on the load-bearing side is insulated from electrical grounding‡		
All excess wire ropes on the tail line of the hoist are insulated from electrical grounding		
Wire ropes are insulated above/below hoist motors and wire rope is not in contact with the platform‡		
Hoist motors have properly insulated protective covers‡		
If welding is to be performed, platform is grounded with a grounding clamp equal in size to the welding leads‡		

‡ See attached Suspended Scaffold Inspection Drawing

SUSPENDED SCAFFOLD INSPECTION DRAWING



Switchyard Permit
Permit Number _____

Southern Company

DESCRIPTION OF WORK

Plant:	Work Performed By:	Date Created
Detailed Work Description:		

The following items shall be completed prior to approving the Switchyard Permit.

Yes	No	
☐	☐	Is Lockout/Tagout required?
☐	☐	Have Single Lines been reviewed prior to work being performed?
☐	☐	Has a job safety briefing or equivalent been performed?
☐	☐	Is the work preapproved for Transmission?

Approval of Switchyard Permit

I have confirmed precautionary measures are in place and authorize the Switchyard Permit.

Southern Company Facility Representative	Signature	Approval Date	Contact#
Contractor Representative	**Signature**	**Approval Date**	**Contact#**
Operations Representative (If needed)	**Signature**	**Approval Date**	**Contact#**

Authorization for closeout of permit

The work area has been restored to a safe condition.

Southern Company Facility Representative	Signature	Release Date:

Ensure this permit is closed out in SafeTK when complete.

Third Party Crane Inspectors	
Annual	NDE Only
H&E Equipment Services	Applied Technical Services (ATS)
B&M Equipment Repair and Certification	TUV Rhineland Industrial Solutions
Gould Technical Services	Eagle Testing
Crane Industry Services	
Crane U, Inc.	
Crane Institute of America, Inc.	
EW Yeates Co	
Crane Safety	
Southeast Crane Inspections, LLC	
Crane Inspection Services, Inc.	

* Contact Mike Watson (mrwatson@southernco.com) for questions or additions to this list
Reviewed 10/26/2023

Trenching and Excavation Permit	**Company: _____**

Date: _____ Time: _____ Expiration Date: _____

Job description (be specific): _____

_____

Location (be specific): _____ Permit Number: _____

☐ YES ☐ NO Have the individuals assigned to this task been trained in excavation safety?

☐ YES ☐ NO Have all drawings been obtained and reviewed from all applicable sources? (TSS, plant, Distribution, contractor, subcontractor, other sources)

☐ YES ☐ NO Has "Call Before You Dig - 811" notification taken place per State/local requirements? If NO, explain. _____

_____

☐ YES ☐ NO Will underground nondestructive discovery be done? (Example: hydro/vacuum excavation or ground penetrating radar)
NOTE – Noncontact electrical testers will not detect the presence of energized electrical cables if the cables are shielded, encased in conduit, or use DC voltage. Be aware of the limitations of TIC tracing.

☐ YES ☐ NO Has a prejob meeting with all entities involved been done? (Example: Plant, Distribution, contractor, TSS)

Before Trenching and Excavating

☐ Soil Classification
☐ Type C
☐ Type B
☐ Type A
☐ Stable

_____ Distance, in feet, to utilities, buildings, footings, or pilings. (*A drawing or sketch must be attached to permit.)*
_____ Distance, in feet, to sources of vibrations
_____ Have the owners of utilities been notified, if applicable?
_____ Has the ground been disturbed previously?
_____ List the allowable slope.

Indicate if the items below are:	**Necessary**	**Adequate**	**Available**
Personal protective equipment (be specific)	☐	☐	☐
Shoring materials	☐	☐	☐
Signs, barricades	☐	☐	☐
Machinery	☐	☐	☐

List known obstructions: ☐ Electrical ☐ Telephone ☐ Water ☐ Sewer ☐ Steam
☐ Alarm ☐ Drain ☐ Process ☐ Footings ☐ Pilings
☐ Concrete encasement ☐ Gas ☐ Fiber optic ☐ Other (specify) _____

Excavation method: ☐ Backhoe ☐ Hand dig ☐ Track hoe
☐ Ditchwitch ☐ Hydro-Excavation ☐ Other (specify) _____

Precautions to be taken Method of Hazardous Energy Control ☐ De-energize lines ☐ Ground tools ☐ Insulate equipment operator
☐ Lockout/Tagout (LOTO) ☐ Other (specify) _____

Size of the excavation: Depth _____ Width _____ Length _____

☐ YES ☐ NO Are ground conditions changing, particularly after rainfall?

Ensure the shoring and/or sloping remains adequate as excavation progresses.

Method for entry and exit: ☐ Stairway ☐ Ladder ☐ Ramp

☐ YES ☐ NO Has there been a change in vehicular and machinery operation patterns?

☐ YES ☐ NO Is water removal equipment needed?

☐ YES ☐ NO Available? ☐ YES ☐ NO Operable? ☐ YES ☐ NO

☐ YES ☐ NO Are portable trench boxes or trench shields adequate?

☐ YES ☐ NO Is there a hazardous atmosphere potential? If YES, list hazard(s), control measures, and rescue provisions. _____

_____

List atmospheric readings on the Excavation/Trenching Daily Inspection Form.

Protective system used for excavation:
☐ Sloping
☐ Shoring
Indicate the shoring method used and applicable appendix:
☐ App. C, Timber Shoring
☐ App. E, Alternatives to Timber Shoring
☐ App. F, Selection of Protective Systems
☐ Predesigned shoring

NOTE: Protection for excavations greater than 20-ft deep (shoring, benching, sloping designs) shall be developed by a registered professional engineer.

Signatures and Dates

	Excavation Competent Person	**Client Representative (if applicable)**	**Job Supervisor**	**EH&S Professional**	**Registered Professional Engineer (if applicable)**
Signature					
Date					
	Electrical Representative	**Mechanical Representative**	**Equipment / Operator Representative**	**Field Engineer**	**Other (specify)** _____
Signature					
Date					

FOR ALL EXCAVATION OPERATIONS EXCEPT HYDRO-EXCAVATION, PERMIT IS VOIDED AND WORK IS TO STOP IF AN UNKNOWN OR ABANDONED UTILITY IS ENCOUNTERED. WORK MAY CONTINUE WITH NEW PERMIT AFTER UNKNOWN ENCUMBERANCE IS IDENTIFIED AND A SAFE WORK PLAN IS IN PLACE.
Note: Each individual signing above is entitled to a copy of this permit, if desired.