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# SQAR-1

## SUPPLIER QUALITY ASSURANCE REQUIREMENTS for DESIGN AND PROCUREMENT SERVICES Revision 2 Date: 11/26/2019

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### 1.0 SCOPE

This document establishes the quality program requirements for an organization providing engineering design services to Southern Company and is required to be supplemented by Attachment A, Supplier Quality Assurance Requirements for Procurement Services, when procurement services are included in the contract scope.

Technical documents prepared by the Engineering, Procurement, and Construction (EPC) Contractor for use by Southern Company to procure items or for construction services are considered a design service. Procurement services are applicable when the EPC Contractor purchases and supplies equipment, material, or services.

### 2.0 GENERAL

The quality assurance (QA) requirements set forth herein; the surveys, audits, and surveillances; or the absence or lack thereof, or deficiency therein, shall in no way relieve the EPC Contractor of any contractual obligations or responsibilities.

#### 2.1 Definitions

*Contract* – The procurement agreement between Southern Company and the EPC Contractor for an identified scope of equipment, material and/or services.

*Country of Origin* – The country where the material was melted, cast, forged, rolled, fabricated, or manufactured. Completed material and equipment may have multiple countries of origins, such as “Material was cast in location X, forged in location Y, and then fabricated in location Z.”

*Engineering, Procurement, and Construction (EPC)* – a particular form of contracting arrangement where the EPC Contractor is made responsible for all the activities from design, procurement, and construction to commissioning and handover of the project to Southern Company.

*Engineering, Procurement, and Construction (EPC) Contractor* – The organization providing the services specified in Southern Company’s EPC contract arrangement or

purchase order. The contracted services may be one, some, or all of Engineering, Procurement, or Construction.

*Project Quality Assurance Plan (PQAP)* – Project quality plan to facilitate quality activities which help improve overall quality on E&CS managed projects. The PQAP supports communication of quality expectations, defines who needs to be involved, and establishes when quality activities should occur. The plan is supported with an overall checklist of activities critical to quality, a surveillance plan for procured equipment, and contractor quality requirements for construction quality to manage project quality activity.

*Subsupplier* – An organization contracted by the EPC Contractor to support the Southern Company contract or purchase order. For this SQAR-1 document, this term is used to describe the EPC Contractor's Suppliers and any of their Sub-Tier Suppliers. The requirements will flow down to any organization contracted by the Sub-Tier Suppliers to support the Southern Company contract.

*Southern Company* – Refers to any Southern Company organization acting as the purchaser of equipment, material, and/or services identified in the contract.

### 3.0 QUALITY PROGRAM

The EPC Contractor shall establish, document, and maintain a Quality Program which meets the requirements of this SQAR document and shall provide any additional controls necessary to ensure compliance with Southern Company's contract documents. The EPC Contractor shall be responsible for assuring that the quality of all services obtained from their subsuppliers or from corporate branch locations meets the requirements of Southern Company's contract documents. All applicable requirements of Southern Company must be accurately transferred by the EPC Contractor to all EPC Contractor work locations and Subsuppliers. The EPC Contractor shall have the responsibility of assuring that the quality of the services provided by Subsuppliers meets the requirements of the contract with Southern Company. EPC Contractor and Subsupplier work locations not included in the EPC Contractor's proposal must be approved in writing by Southern Company prior to utilizing the work location.

To achieve a successful quality project, and ensure key elements of the EPC contractor's quality program and Southern Company's quality program are met, the EPC contractor is required to participate in Southern Company's creation of a project-specific Project Quality Assurance Plan (PQAP). This will include attending meetings and being held responsible for certain activities as listed on the PQAP checklist.

#### 3.1 Quality Program Requirements

The EPC Contractor shall have a quality program that includes, but is not limited to, the following:

1. Quality Organization – The EPC Contractor shall maintain an organizational structure that places particular emphasis on quality. The quality responsibilities shall be defined, including any project quality requirements. The EPC Contractor shall

maintain an organizational chart that identifies the quality organization. This chart shall show how the reporting relationship of the quality organization is at a sufficiently high level of management to ensure that quality problems can be resolved without undue influence from production or scheduling processes.

2. Quality Assurance Program – The EPC Contractor’s quality program shall be documented.
  - a. The EPC Contractor shall have a quality manual that has been reviewed, approved, and signed by a senior management official. The EPC Contractor shall periodically review and update the manual to reflect current quality policies and procedures. The review period shall not exceed 2 years and shall adhere to the requirements of this SQAR document.
  - b. Their quality program shall include an established Foreign Material Policy (FMP) or Foreign Material Specification (FMS), which addresses the use of foreign materials in critical materials and equipment. The FMS or FMP shall be submitted to Southern Company Project Quality for approval prior to the start of any procurement activity. The FMS or FMP shall include stipulations for Southern Company to provide written approval prior to the use of material from a foreign country of origin. (See section 2.1 for definition of “country of origin.”) The foreign supplier’s quality program, testing processes, and sub-suppliers shall be evaluated.

The FMS shall include, as a minimum:

- i. pressure-retaining parts (that is, the application involves a pressure greater than 200 psig). These include, but are not limited to, vessel shells, heads, and nozzles; pipes, tubes, and fittings; valve bodies, bonnets, and disks; pump casings and covers; and bolting that joins pressure-retaining parts.
  - ii. hazardous systems (that is, systems and equipment containing any substance likely to cause injury by reason of being explosive, flammable, poisonous, corrosive, oxidizing, an irritant, or otherwise harmful).
  - iii. structural steel, miscellaneous steel, steel components, plates, bars, bolts, nuts, washers, or when reinforcing is to be used in concrete.
  - iv. equipment that has a high potential of stored energy such as a large volume tank.
  - v. When the failure of the specified material would likely result in significant disruption to operations.
- c. The quality program shall include established contract quality language to be included in each specification or purchasing contract. The contract quality

language shall be submitted to Southern Company Project Quality for approval.

The contract quality language shall include the following as a minimum:

- i. Requirements that the supplier's quality program meets the intent of SQAR-1 attachment A.
  - ii. Adherence to an approved FMS or FMP.
  - iii. Witness and Hold points such as:
    1. Pre-fab Meeting.
    2. First Weld for each process.
    3. First NDE for each process.
    4. Post Weld Heat Treat.
    5. Testing (Hydro, Function, etc.).
    6. Coating Prep and Coating.
    7. Final Review and Shipping.
  - iv. Language to allow the addition of witness and hold points after final design or due to a concern from Southern Company.
  - v. Notification requirements of witness and hold points to include when, how, to whom.
  - vi. Submission and adherence to the EPC Contractor approved Inspection and Test Plan.
  - vii. The use of EPC Contractor approved vendors.
  - viii. Requirements for an approval process to deviate from the contract documents.
  - ix. Rights of access language as stated in SQAR-1.
  - x. When custom lifting accessories, as defined by OSHA standard 29 CFR 1926.251(a)(4), are used for receiving and job site handling at the customer's site, a requirement for document submittal shall be included in the contract language.
- d. For projects that involve Process Safety Management (PSM), the quality program shall address a plan to perform and oversee the activities of a PSM program, to include management of required document control to meet oversight needs, required code, and specifications.
3. Training – The EPC Contractor shall provide for the indoctrination and training of personnel performing or managing activities affecting quality. As a minimum, this shall include the quality program, procedures, and all other types of control documents applicable to personnel performing the specified quality activity.

The EPC Contractor shall designate those types of activities designated by codes, standards, or quality program requirements that require personnel certification and the requirements for obtaining and maintaining the certification.

4. Procedures – The EPC Contractor shall develop and utilize procedures, guidelines, related forms, and other designated documents that address the processes, actions, and activities necessary for the implementation of the quality program, design processes, and procurement processes, including all necessary controls for the

specified contract scope of work. The procedures shall be controlled and available to the personnel performing the work. The procedures shall identify activities to be performed and the individuals responsible for the designated activities, and shall provide for appropriate controls with objective evidence to verify that the controls have been satisfactorily performed. Procedures should include forms and figures to ensure consistency and standardization.

5. Design Control – The EPC Contractor’s engineering and design activities shall be controlled to ensure that Southern Company’s requirements are accurately translated into the EPC Contractor’s design output documents and/or deliverables. The following controls shall be applied to original-issue design documents, revisions to those design documents, and the engineering and design activities associated with them:
- Designs shall be originated by individuals qualified by education and/or experience to perform or direct the assigned work.
  - Design documents shall be technically correct and adequate to meet the design requirements to safeguard the life, health, property, and welfare of the public.
  - Codes and standards referenced by Southern Company shall be applied to the design, and all other design activities shall be in accordance with the latest applicable code or standard.
  - Designs shall be prepared in sufficient detail (including methods, assumptions, and references) to allow for an independent review without recourse to the originator.
  - Engineering and design controls shall provide for preparation of appropriate documentation (including references to codes and standards) in sufficient detail to permit the independent review by another qualified individual of the process used, and to substantiate obtained results.
  - A qualified individual shall perform an independent review of all engineering and design documents that are generated to establish a design basis.
  - All reviews of engineering and design documents shall be documented.
  - Design documents, including drawings, calculations, datasheets, and specifications (and related changes), shall be independently reviewed by another qualified individual and approved for release to Southern Company.
  - Software developed by the EPC Contractor (excluding procured standard industry software) used to perform design analysis or to control design processes shall be verified to ensure the software provides accurate and consistent results. Any identified software errors shall be clearly and expeditiously communicated to all users. The impact of any software errors

shall be evaluated to determine the significance of the error and broadness of its use.

- Nonconformance of the EPC Contractor's design activities shall be reviewed by the EPC Contractor and by Southern Company.

The EPC Contractor is fully responsible for complying with state professional engineering sealing requirements for engineering and design documents.

6. Document Control – The EPC Contractor shall have measures to control the issuance of and changes to documents affecting quality. The EPC Contractor shall ensure that documents are reviewed for adequacy, approved for release by authorized personnel, and distributed to the appropriate work location. The EPC Contractor shall ensure that changes to documents receive the same level of authorization as the original documents. All changes shall be documented, and all obsolete documents shall be removed promptly from all points of issue and use or be adequately marked to identify their status. Documents shall be easily retrievable, legible, reproducible, and uniquely identified.
7. Corrective Action – The EPC Contractor shall have a system to identify and promptly correct conditions that are adverse to quality. A system of continuous improvement or lessons learned is required by Southern Company.
8. Quality Records – The EPC Contractor shall have procedures for identifying and maintaining quality records. Personnel responsible for retrieval, retention, and disposition shall be identified. Records to be delivered to Southern Company as part of project close-out shall be identified and delivered.
9. Audits – The EPC Contractor shall perform audits to determine compliance with their quality assurance program requirements. Audits shall be performed to a written checklist and results documented. The audit schedule shall ensure that every aspect of the program is audited at least once every two years and that a project is audited at least once during the project's life.

### 3.2 Project Quality Assurance Plan

Southern Company requires the EPC Contractor to participate in the creation and implementation of Southern Company's project-specific Project Quality Assurance Plan (PQAP).

As the project goes through the different phases, PQAP documents define quality activities, listing the associated responsible parties, to ensure the key elements of the approved quality programs are adhered to.

The EPC Contractor will be required to attend workshops and meetings as the project progresses.

The PQAP is a living document and is to be followed throughout the life of the project.

## **4.0 QUALITY PROGRAM DOCUMENTATION**

### **4.1 Quality Manual**

The EPC Contractor shall have a quality manual that describes their quality program. The manual shall be approved and signed by a senior management official. The EPC Contractor shall periodically review and reaffirm or update the manual to reflect the current policies, processes, and organizations. The period for review may be established by the EPC Contractor's management but is not to exceed 2 years.

### **4.2 Quality Program Submittal**

The EPC Contractor shall provide Southern Company an electronic copy of their QA program as part of a pre-qualification process or as a part of the bid proposal. Manuals shall be identified by revision level and/or revision date. If project-specific quality manuals are required by Southern Company, the EPC Contractor may submit corporate or representative site manuals.

Within 30 days of award of business or prior to the start of work, the EPC Contractor shall submit their QA program to Southern Company for approval as part of the project documentation requirements.

### **4.3 Documentation Required After Award or per Contract**

#### **4.3.1 Document Deliverables**

Documents delivered to Southern Company shall comply with General Specifications, Supplemental Specifications, Document Submittal Specification, and/or Vendor Document Submittal Schedule (VDSS). The design documents shall be submitted in the appropriate sequence and on a schedule to allow for processing and review by Southern Company.

Design drawings shall be prepared on drawings with borders and title blocks approved by Southern Company. The numbering scheme for EPC Contractor design drawings shall be approved by Southern Company. The EPC Contractor shall revise the design drawings to show the status and shall promptly submit any revisions of the design documents to Southern Company, per the submittal requirements.

## **5.0 QA SURVEYS AND AUDITS**

### **5.1 QA Surveys**

A QA survey to evaluate the EPC Contractor's subsupplier's facilities and quality capabilities may be conducted at any time but will normally be made before the purchase order is awarded, or prior to the award of business. Subsuppliers are also subject to survey by Southern Company.

### **5.2 QA Audits**

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The EPC Contractor's quality program and technical activities are subject to auditing by Southern Company. Such audits will vary depending on the EPC Contractor's performance, past records, the results of surveillance, and other factors. The EPC Contractor shall respond in writing within 30 days after receipt of the audit report to all audit findings. Corrective action for audit findings shall be accomplished expeditiously. Subsuppliers are also subject to audit by Southern Company, including corrective actions for addressing audit findings.

## **6.0 RIGHT OF ACCESS**

Southern Company or its designated agent(s) shall have the right of access to the EPC Contractor's facilities, equipment, or records generated as the result of work performed on the contract. This right of access shall include the right to perform surveillance or quality audits, including any subcontracted work by Subsuppliers. These surveillance activities or audits shall include, but are not limited to, the examination of the work planned, in progress, and completed. The purpose of these surveillance activities and audits will be to ensure that the EPC Contractor's and Subsuppliers' activities comply with the technical and quality requirements of Southern Company's contract and the EPC Contractor's approved quality program. Southern Company or its designated agent(s) shall have the right to document findings and concerns with photographic evidence.

All access for Southern Company or Southern Company's representative shall be at no charge and at a time and schedule to support the designated work activities.



# SQAR-1 Attachment A

## SUPPLIER QUALITY ASSURANCE REQUIREMENTS for PROCUREMENT SERVICES

### 1.0 SCOPE

The base SQAR -1 document, used in conjunction with Attachment A, establishes the minimum quality program requirements for an EPC contractor and their Subsuppliers when providing procurement services for Southern Company.

#### NOTE

The base document establishes the quality program requirements for engineering design. It is required to be supplemented by this Attachment A when procurement is included in the contract scope.

### 2.0 GENERAL

The quality assurance requirements described in this document; the surveys, audits, and surveillances; or the absence or lack thereof or deficiency therein, shall in no way relieve the EPC contractor of any contractual obligations or responsibilities. The EPC contractor's quality program shall be reviewed and approved by Southern Company's Supplier Quality management to ensure it meets the requirements of this SQAR and provides the controls necessary to ensure compliance with Attachment A.

### 3.0 DEFINITIONS

*Contract* – The procurement agreement between Southern Company and the EPC Contractor for an identified scope of equipment, material, and/or services.

*Country of Origin* – The country where the material was melted, cast, forged, rolled, fabricated, or manufactured. Completed material and equipment may have multiple countries of origins, such as “Material was cast in location X, forged in location Y, and then fabricated in location Z.”

*Engineering, Procurement, and Construction (EPC)* – a particular form of contracting arrangement where the EPC Contractor is made responsible for all the activities from design, procurement, construction, to commissioning and handover of the project to Southern Company.

*Engineering, Procurement, and Construction (EPC) Contractor* – The organization providing the services specified in Southern Company’s EPC contract arrangement or purchase order. The contracted services may be one, some, or all of Engineering, Procurement, or Construction.

*Project Quality Assurance Plan (PQAP)* – Project quality plan to facilitate quality activities which help improve overall quality on E&CS managed projects. The PQAP supports communication of quality expectations, defines who needs to be involved, and establishes when quality activities should occur. The plan is supported with an overall checklist of critical to quality activities, a surveillance plan for procured equipment, and contractor quality requirements for construction quality to manage project quality activity.

*Subsupplier* – An organization contracted by the EPC Contractor to support the Southern Company contract or purchase order. For this SQAR-1 Attachment A document, this term is used to describe the EPC Contractor’s Suppliers and any of their Sub-Tier Suppliers. The requirements will flow down to any organization contracted by the Sub-Tier Suppliers to support the Southern Company contract.

*Southern Company* – Refers to any Southern Company organization acting as the purchaser of equipment, material, and/or services identified in the contract or purchase order.

#### **4.0 QUALITY PROGRAM REQUIREMENTS FOR THE EPC CONTRACTOR**

Southern Company requires the EPC contractor to have a Quality Program. It shall include a Quality Manual and a structured Quality Organization. Their Quality Program shall have an established Foreign Material Policy (FMP) or Foreign Material Specifications (FMS), which addresses the use of foreign materials in critical materials and equipment. Their Quality Program shall include a process for utilizing and selecting Subsuppliers. It shall have an established surveillance program to ensure satisfactory performance of Subsuppliers, including minimum quality requirements for Subsuppliers.

All elements of the submitted quality program shall be approved by Southern Company’s Supplier Quality Management.

To achieve a successful quality project, and ensure key elements of the EPC contractor’s quality program and Southern Company’s quality program are met, the EPC contractor is required to participate in Southern Company’s creation of a project-specific Project Quality Assurance Plan (PQAP). This will include attending meetings and being held responsible for certain activities as listed on the PQAP checklist.

Southern Company has the right to perform oversight surveillance activities of the EPC Contractor and any of their Subsuppliers to ensure they are working in compliance with the requirements of the procurement documents.

## 4.1 Quality Manual

The EPC contractor shall have a quality manual that has been reviewed, approved, and signed by a senior management official. The EPC contractor shall periodically review and update the manual to reflect current quality policies and procedures. The period for review may be established by the EPC contractor, but is not to exceed 2 years.

### 4.1.1 Quality Organization

The manual shall define the organizational structure of the EPC contractor, with emphasis on the quality assurance/quality control (QA/QC) organization. The QA/QC responsibilities shall be defined. The manual shall include an organizational chart that identifies the QA/QC organization. This chart shall identify the reporting level to a sufficiently high level of management that quality problems can be resolved without undue influence from production or scheduling processes.

## 4.2 Foreign Material Specification

Their quality program shall include an established Foreign Material Policy (FMP) or Foreign Material Specification (FMS), which addresses the use of foreign materials in critical materials and equipment. The FMS or FMP shall be submitted to Southern Company Project Quality for approval prior to the start of any procurement activity. The FMS or FMP shall include stipulations for Southern Company to provide written approval prior to the use of material from a foreign country of origin. (See section 3.0 for definition of "country of origin.") The foreign supplier's quality program, testing processes, and sub-suppliers shall be evaluated.

The FMS shall include, at a minimum:

- a. pressure-retaining parts (that is, the application involves a pressure greater than 200 psig). These include, but are not limited to, vessel shells, heads, and nozzles; pipes, tubes, and fittings; valve bodies, bonnets, and disks; pump casings and covers; and bolting that joins pressure-retaining parts.
- b. hazardous systems (that is, systems and equipment containing any substance likely to cause injury by reason of being explosive, flammable, poisonous, corrosive, oxidizing, an irritant, or otherwise harmful).
- c. structural steel, miscellaneous steel, steel components, plates, bars, bolts, nuts, washers, or when reinforcing is to be used in concrete
- d. equipment that has a high potential of stored energy such as a large volume tank.
- e. When the failure of the specified material would likely result in significant disruption to operations.

### 4.3 Quality Language for Specifications

The quality program shall include established contract quality language to be included in each specification and/or purchasing contract. The contract quality language shall be submitted to Southern Company Project Quality for approval.

The contract quality language shall include the following as a minimum:

- i. Requirements that the supplier's quality program meets the intent of SQAR 1 attachment A.
- ii. Adherence of an approved FMS or FMP.
- iii. Witness and Hold points such as:
  1. Pre-fab Meeting.
  2. First Weld for each process.
  3. First NDE for each process.
  4. Post Weld Heat Treat.
  5. Testing (Hydro, Function, etc.).
  6. Coating Prep and Coating.
  7. Final Review / Shipping.
- iv. Language to allow the addition of witness and hold points after final design or due to a concern from Southern Company.
- v. Notification requirements of witness and hold points to include when, how, to who.
- vi. Submission and adherence to the EPC Contractor approved Inspection and Test Plan.
- vii. The use of EPC Contractor approved vendors.
- viii. Requirements for an approval process to deviate from the contract documents.
- ix. Rights of access language as stated in SQAR-1.
- x. When custom lifting accessories, as defined by OSHA standard 29 CFR 1926.251(a)(4), are used for receiving and job site handling at the customer's site, a requirement for document submittal shall be included in the contract language.

### 4.4 Process Safety Management

For projects that involve Process Safety Management (PSM), the quality program shall address a plan to perform and oversee the activities of PSM to include management of required document control to meet oversight needs, required code, and specifications.

### 4.5 Utilizing Subsuppliers

#### 4.5.1 Process for Selecting Subsuppliers

The EPC Contractor shall utilize only Subsuppliers listed as "satisfactory" or "conditionally satisfactory" by Southern Company. If they are listed as "conditionally satisfactory," they can be utilized as long as conditions are met. The EPC Contractor shall contact Southern Company's Supplier Quality to verify the status of their selected Subsuppliers. For Subsuppliers not in the Southern Company Vendor Database, the EPC contractor shall have a documented process for evaluating and selecting those

Subsuppliers. This documented process is to be provided to Southern Company's Supplier Quality Management for review and approval.

EPC Contractors must identify in their proposal the names and locations of any Subsupplier from which they plan to procure and/or fabricate materials. If multiple locations are listed, the EPC Contractor shall identify the scope of work, primary location, and the estimated percentage of material manufactured there. The EPC Contractor shall only list those Subsuppliers it is reasonably assured will be used on the particular contract. A general listing is not acceptable.

The EPC Contractor is responsible for ensuring the quality of all manufacturing and fabrication services, obtained from their Subsuppliers or from corporate branch locations, meets the requirements of Southern Company's contract documents and the EPC Contractor's requirements. All applicable requirements of Southern Company must be accurately transferred by the EPC Contractor to all of their Subsupplier locations.

Any EPC Contractor's Subsupplier work locations not included in their proposal must be approved in writing by Southern Company, prior to utilizing that work location.

#### **4.5.1.1**     *QA Surveys conducted by the EPC Contractor*

Before the purchase order is awarded, or prior to the award of business, the EPC Contractor shall conduct QA surveys at the location of Subsuppliers for engineered and safety critical components. The purpose of the survey is to evaluate each Subsupplier's manufacturing and fabrication capabilities, ensuring they are in compliance with the contract requirements, and to verify the effectiveness of their quality program.

These surveys may also be performed at any time.

#### **4.6**     **Establishing a Surveillance Program**

Southern Company requires the EPC contractor to develop a surveillance program. The surveillance program should include the selective review, observation, and evaluation of the EPC Contractor's Subsuppliers (*including their Sub-Tier Suppliers*) to determine if the processes are in compliance with the procurement documents. These processes include procurement, manufacturing operations, testing, materials, equipment, and quality program requirements.

The surveillance program is performed by using a project quality surveillance plan (PQSP), performing surveillance activities, and communicating results through a reporting process.

A preliminary summary or outline of the surveillance program shall be submitted with the EPC contractor's proposal for approval by Southern Company Supplier Quality.

#### **4.6.1**     Requirements of a Project Quality Surveillance Plan

A project quality surveillance plan is to be included in the surveillance program.

The Surveillance Plan shall include a list of the equipment requiring surveillance, and the level of surveillance required based on the risk assigned to each procured item. The risk analysis shall include input from Southern Company Supplier Quality and Project Management.

The risk assigned to each procured item is based on categories such as:

**Safety Impact** – *Is the component a safety critical item?*

**Reliability** – *What would be the impact if that component failed?*

**Costs** – *What is the purchase order value of the equipment?*

**Availability** – *Is it a long lead time item?*

**Constructability** – *How critical is it to the design, if it were to be built incorrectly?*

**Access** – *Are there stages in the fabrication process beyond which the inspection of critical components is no longer possible or where repairs are costly, impractical, or unworkable?*

**Subsupplier's Performance** – *What is the confidence level in the subsupplier's quality and capability?*

The surveillance plans shall identify designated witness and hold points for the surveillance on each type of equipment. The EPC contractor shall ensure all the witness and hold points from the surveillance plan are incorporated into their Subsupplier's Inspection and Test Plans (ITPs), as well as their own ITPs, if they are manufacturing or fabricating, and submitted to Southern Company for approval. Southern Company reserves the right to add or remove witness and hold points at any time with written notification to the EPC Contractor. Added points shall be included in the applicable ITPs.

A finalized surveillance plan shall be submitted to Southern Company for review and approval, as specified by Southern Company Supplier Quality Management. Once approved by Southern Company, any change shall be resubmitted to Southern Company for approval prior to implementation.

The surveillance plan shall address the following, as applicable:

- Brief description of equipment or material that requires surveillance.
- Witness and Hold (W/H) points for each piece of equipment or material, including W/H points that Southern Company plans to attend.
- ITP status.
- EPC Contractor's name or their Subsupplier's, along with contact information.

- PO number.
- Risk assessment values agreed on with input from Southern Company's Supplier Quality and Project Management.

#### **4.6.2** Surveillance Activities

##### **4.6.2.1** *Initial Visit or Contact*

Prior to the start of manufacturing, the EPC Contractor's quality representative may perform an initial surveillance visit, or contact the Subsupplier, and review the procurement documents and surveillance requirements. During this visit or contact, Southern Company's Supplier Quality representative, the EPC Contractor, and the Subsupplier will review any witness and hold points established by the surveillance plan. Additional witness and hold points during the course of the work shall be established if quality concerns become evident.

##### **4.6.2.2** *Manufacturing Schedule and Procedures*

The EPC Contractor should request a manufacturing schedule and any subsequent revisions to coordinate the surveillance activities and maintain the surveillance plan.

Manufacturing procedures and special processes should be requested by the EPC Contractor and provided to the EPC Contractor's quality representative prior to the start of manufacture.

##### **4.6.2.3** *Surveillance Notification of Witness and Hold Points*

Witness and hold points are critical steps in the manufacturing and testing of equipment. The EPC Contractor's quality representative shall establish and require sufficient notification from the equipment manufacturer to observe the prescribed witness and hold points. Hold points in the EPC Contractor's surveillance plan shall not be waived unless approved by Southern Company. If Southern Company has elected to participate in the surveillance, Southern Company shall be provided a minimum of 5 business days' notice for domestic surveillance and 10 business days' notice for surveillance outside of North America. This notification shall be sent to [supplierquality@southernco.com](mailto:supplierquality@southernco.com).

##### **4.6.2.4** *Release for Shipment*

A quality release of shipment document shall be prepared and delivered to the construction site or operating plant with the shipment of equipment or material. The EPC contractor shall ensure they have a quality representative that has the authority to refuse the quality release of shipment if requirements of Southern Company's contract or the EPC Contractor's procurement documents have not been fulfilled.



#### **4.6.2.5**    *Surveillance Reports*

Reports for surveillance activities shall be originated by the EPC Contractor's surveillance personnel and reviewed by the EPC Contractor's appropriate management.

All reports shall be submitted within 7 calendar days of the surveillance activity to Southern Company Supplier Quality Management in a mutually agreed-on fashion.

Surveillance Reports shall include, where applicable:

- Surveillance activities including witness/hold points; initial meetings; and progressive, in-process, and final inspections.
- Provide the identification, notification, and disposition of any nonconforming equipment identified during the surveillance process. The report shall detail the item(s) resolved and the action(s) taken to implement an effective resolution and recovery plan.
- Photos showing the components, so they are identifiable. Include close-up photos comparing conditions of good and poor workmanship, and deficiencies. In close-up photos establish a frame of reference using items such as a pen or coin.
- Meeting minutes, notes from discussions, including punch-lists, may be provided.
- A final close-out report may be necessary to document that all punch-list and non-conformances have been resolved

#### **4.6.2.6**    *Surveillance Personnel*

The EPC Contractor's quality personnel performing surveillance shall have sufficient ability, experience, and training to properly perform the surveillance activity. Surveillance of activities, special processes, or ASME code equipment may require the surveillance personnel to be certified by the applicable organization.

### **4.7**    **Quality Requirements for Subsuppliers**

The EPC Contractor shall ensure Subsuppliers establish, document, and maintain a quality program that meets the requirements of this of this SQAR-1 Attachment A document, and that provides any additional controls necessary to ensure they meet the minimum quality requirements in key process areas.

These quality requirements shall be adhered to regardless of whether the manufacturing and fabricating is performed by the EPC Contractor or Subsupplier.

See sections 4.5.1 through 4.5.10 for minimum requirements of these key quality processes:

- Quality Manual describing a Quality Organization. Procurement Control.
- Document Control.
- Design Control.
- Material Control.
- Inspection and Testing.
- Nonconformance and Corrective Action.
- Quality Records.
- Special Processes.
- Receipt, Storage and Handling.

Subsuppliers are required to have a process for evaluating their sub-tier suppliers to ensure their capabilities and the reliability of materials, equipment fabrication, inspection, and testing services are all in compliance with procurement and contract specifications.

#### **4.7.1 Quality Manual**

Subsuppliers shall have a quality manual that has been reviewed, approved, and signed by a senior management official. The Subsupplier shall periodically review and update the manual to reflect current quality policies and procedures. The period for review may be established by the Subsupplier's management but is not to exceed 2 years.

##### **4.7.1.1 Quality Organization**

Subsupplier's quality manual shall include an organizational chart that identifies the QA/QC organization. Subsuppliers shall define their organizational structure, with emphasis on the quality assurance/quality control (QA/QC) organization. The QA/QC responsibilities shall be defined. This chart shall identify the reporting level to a sufficiently high level of management that quality problems can be resolved without undue influence from production or scheduling processes.

#### **4.7.2 Procurement Control**

Subsuppliers shall have procurement controls that ensure purchased equipment, materials, and services meet the specifications. These controls shall include procedures for evaluation of the capabilities and reliability of items the purchaser considers could have a significant quality impact on the end product.

#### **4.7.3 Document Control**

Subsuppliers shall have measures to control the issuance of and changes to documents such as instructions, specifications, purchase orders, procedures, and drawings. They shall ensure documents are reviewed for adequacy, approved for release by authorized personnel, and distributed to the appropriate work location(s). The Subsupplier shall ensure changes to documents receive the same level of review, approval, and distribution as the original documents. All changes shall be processed in writing. All obsolete documents shall be removed promptly from all points of issue and use, or be adequately marked to identify their status.

#### 4.7.4 Design Control

Subsupplier shall have measures to control the design process, including design review, to ensure applicable design criteria, codes, regulations, standards, and contractual requirements are correctly translated into specifications, drawings, procedures, and instructions that clearly and precisely reflect the requirements of the procurement documents. Design changes, including field changes, shall be subject to the same measures applied to the original design. Design documents shall reflect the final as-built conditions as provided by the EPC Contractor.

#### 4.7.5 Material Control

Subsuppliers shall have a material control system that identifies each item (lot, component, or part) to prevent improper use. Such identification shall relate the item to its design drawing, specification, or other descriptive information throughout its production, receipt, installation, repair, or modification.

Throughout the manufacturing process, materials shall be controlled to prevent improper or inadvertent use.

#### 4.7.6 Inspection and Testing

Subsuppliers shall have an inspection program that includes receiving, in-process, and final inspections. Procedures used to control inspections shall include the characteristics to be inspected, examined, or tested and the acceptance criteria used.

Subsuppliers shall include, as part of the inspection program, the necessary documentation of inspection activities with forms, reports, tags, or other suitable means.

- Receiving inspection shall include checking of material verification documents and physical examinations of the material or equipment.
- In-process inspection shall include necessary verification that procedures for special processes are being used when applicable, and that physical examinations of the material or equipment are being conducted.
- Final inspection shall include verification that all required records and documents are complete, and that physical examination of the material or equipment has been made.

Subsuppliers shall have a system to indicate the inspection status of each item being inspected, using stamps, tags, travelers, or other suitable means. The system shall contain provisions for mandatory hold points that may be required by Southern Company.

If testing is required, the Subsupplier shall have documented testing procedures and shall perform the tests to ensure the end product meets the requirements of the procurement documents. Test results shall be documented and made available to Southern Company.

#### **4.7.7 Nonconforming Items and Corrective Action**

Subsuppliers shall have procedures for identifying and controlling nonconforming items. These procedures shall establish personnel responsibilities and authority for disposition of those items. The procedures also shall establish methods for investigating each nonconformance and initiating corrective action to prevent recurrence. These measures shall establish methods to verify repair, rework, or dispose of the nonconforming items, and for subsequent reinspection or retesting as required to ensure compliance with procurement documents. Records shall be maintained to document the nature, extent, and disposition of the nonconforming items and the corrective action to prevent recurrence. Southern Company shall have access to such records.

##### **4.7.7.1 *Deviations***

The EPC Contractor shall request and obtain written approval from Southern Company to deviate from Southern Company's specifications, purchase order, or contract. This is a requirement during manufacturing or fabrication of the product, after award of an order, and prior to incorporating any deviation.

A deviation or a nonconformance for material or equipment manufactured with a disposition of "use-as-is" or that does not return the item to the original requirements (such as a repair), shall be submitted by the EPC Contractor to Southern Company for approval.

The request for approval shall be submitted using a Vendor Deviation Request form (VDR) processed through Southern Company's Project Information Management System (PIMS).

#### **4.7.8 Quality Records**

Subsuppliers shall have procedures for identifying quality records (such as material test reports or inspection records) to be maintained. The quality record procedures shall indicate the personnel responsible for retrieval, retention, and disposition of quality records.

#### **4.7.9 Control and Calibration of Measuring and Test Equipment**

Subsuppliers shall have a process for controlling and maintaining calibrated measuring and testing equipment. At prescribed intervals or prior to each use, all measuring and testing equipment, and devices used for inspection or testing, shall be calibrated and adjusted against certified equipment having a known valid relationship to nationally recognized standards. When no national standards exist, the basis employed for calibration shall be documented. Subsuppliers shall identify measuring and test equipment and provide a tag, sticker, or other suitable means to show the calibration status. They shall maintain testing and calibration records and make them available to Southern Company.

Subsuppliers shall have a process for verifying the confidence of the measurement methods used. A measurement method is not defined as the capability of the

measurement device, but rather the method in which the measurement device is used. Subsuppliers must identify variables of the measurement methods, which may include variables of personnel, chosen measurement devices, and how the part is secured in the measuring device. This process shall document that the measurement method is proven to be repeatable and reproducible using methods such as gauge repeatability and reproducibility (R&R).

#### **4.7.10 Control of Manufacturing and Special Processes**

Subsupplier's manufacturing activities affecting the quality of the specified equipment, material, or service shall be described by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these documents. These documents shall include appropriate quantitative or qualitative criteria for determining that the prescribed manufacturing activities have been satisfactorily accomplished.

Subsuppliers shall establish written procedures to provide controls to ensure special processes such as welding, heat-treating, and nondestructive examination (NDE) are accomplished under controlled conditions by qualified personnel and equipment. Both procedures and equipment shall be used in accordance with the applicable codes, standards, and specifications. They shall maintain documentation for currently qualified personnel, processes, and equipment according to the requirements of applicable codes and standards. The actual process procedures, such as welding procedures and associated qualifications, should not be a part of the quality manual.

Subsuppliers shall have processes in place to verify controls of manufacturing equipment. The process shall establish target settings with control specification limits. The process shall include a verification process to ensure correct equipment settings prior to production runs. The process may include use of product measurement data to determine process control of the manufacturing equipment.

#### **4.7.11 Preventive Maintenance**

Subsuppliers shall have a process in place to identify, schedule, and manage all preventive maintenance activity on equipment that affects quality. This process should have documented records of preventative maintenance plans versus actual activity.

#### **4.7.12 Handling, Storing, Packaging, and Shipping**

Subsuppliers shall establish and maintain a system for handling, storing, preserving, packaging, and shipping all materials and equipment from the time of receipt through the manufacturing process to protect the quality of products and prevent damage, deterioration, or loss. The system shall include provisions for protection and identification of the product until delivery.

## **5.0 PROJECT QUALITY ASSURANCE PLAN**

Southern Company requires the EPC contractor to participate in the creation and implementation of Southern Company's project-specific Project Quality Assurance Plan (PQAP).

As the project goes through the different phases, PQAP documents define quality activities, listing the associated responsible parties, to ensure the key elements of the approved quality programs are adhered to.

The EPC contractor will be required to attend workshops and meetings as the project progresses.

The PQAP is a living document and is to be followed throughout the life of the project.

## **6.0 SURVEILLANCE CONDUCTED BY SOUTHERN COMPANY AS OVERSIGHT**

Southern Company or any authorized representative of Southern Company shall have the right to perform a surveillance or inspection of the EPC Contractor and any of their Subsupplier's work and procedures at Southern Company's discretion, which includes but is not limited to the pre-established witness and hold points defined in the contract documents. Southern Company reserves the right to follow the progress of the work and the manner in which it is performed. EPC Contractor and any of their Subsuppliers are required to maintain the following quality documents in dual language (native default and English): MTRs, calibration records, special process procedures, and inspection / test results.

Any defects found during surveillance or by test results, shall be repaired by the EPC Contractor or Subsupplier, at no additional cost to Southern Company. Southern Company shall have the authority to reject materials or suspend any work not being performed in accordance with the contract specifications.

## **7.0 RIGHT OF ACCESS**

Southern Company or its designated agent(s) shall have the right of access to the EPC Contractor's facilities, equipment, or records generated as the result of work performed on the contract. This right of access shall include the right to perform surveillance or quality audits, including any subcontracted work by Subsuppliers. These surveillance activities or audits shall include, but are not limited to, the examination of the work planned, in progress, and completed. The purpose of these surveillance activities and audits will be to ensure the EPC Contractor's and Subsuppliers' activities comply with the technical and quality requirements of Southern Company's contract and the EPC Contractor's approved quality program. Southern Company or its designated agent(s) shall have the right to document findings and concerns with photographic evidence.

All access for Southern Company or Southern Company's representative shall be at no charge and at a time and schedule to support the designated work activities.