



**Solar Project Construction**  
*Quality Program*

Prepared for:

**NextEra Energy Resources (NEER)**  
High River Energy Center

## **Preface**

**The purpose of this Quality Program is to outline the various processes and procedures to be employed by Blattner Energy Inc. (BEI). This Quality Program shall summarize the responsibilities, processes, procedures and controls that constitute the components to be incorporated into a project Quality Plan. The Quality Program encompasses those processes and procedures which, when performed, will lead to the assurance, verification and validation that the Quality requirements of contract documents, general conditions, and project specifications shall be satisfied.**

**Under no circumstances shall this document supersede the plans or specifications of the engineer, architect, manufacturer or supplier on a project. This Quality Program and the subsequent project Quality Plan are intended for use in conjunction with the contract documents, general conditions, and project specifications.**

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## 1.0 INTRODUCTION

### 1.1 Quality Commitment

Blattner Energy Inc. (BEI) is committed to delivering the right project the first time. Quality is viewed as more than just meeting a series of specifications or a scope of work, a Quality mindset is engrained within the culture of the organization. The BEI Quality Program has been established through meticulous efforts examining the leading Quality methodologies and melding them into a system tailor made to optimize BEI performance, while meeting or exceeding customer expectations. From our proprietary Best Practices, to our broader devotion to serving the energy market, we are committed to quality delivery. BEI is committed to refining delivery methods and processes to build value into each project delivered. This Quality Plan shall support the project team with delivering consistency, accountability, transparency and reliability.

Through the application of this Quality Plan, BEI strives to obtain a uniform, high level of quality workmanship in all production tasks. The BEI Quality objectives are as follows:

- Confirm the design and process specifications for each task along the production chain.
- Confirm the accuracy of materials ordered for completion of the job.
- Confirm accurate receipt of materials and control the logistics associated with storing and distributing materials to the work site.
- Confirm that BEI Best Practices are trained and adhered to ensuring proper execution.
- Confirm that the project scope and specifications are clearly identified, communicated, and met by BEI and its subcontractors.
- Confirm that technical processes governed by regulatory or other standards bodies are correctly performed, inspected, and documented.
- Confirm that testing is completed in compliance with generally accepted testing procedures and equipment.
- Support the identification and resolution of nonconforming material, product and/or processes.
- Confirm that proper records of production activities are maintained, reviewed, and certified, as required, to support the project scope and specifications.

### 1.2 Quality Policy

Blattner Energy, Inc. is committed to be the leading multi-disciplined engineering, project management and construction organization delivering professional services and solutions to the energy industry by:

- Focusing on customer requirements and expectations to ensure that the highest quality products and services are delivered efficiently and effectively.
- Fostering a culture focused on continuous improvement, by collaborating on creative solutions and valuing all contributions.
- Applying a comprehensive Quality Program that enables meeting or exceeding customer expectations in a sustainable manner.
- Empowering employees to achieve success by providing clarity and setting direction.
- Never compromising our commitment to safety and quality.
- Ensuring processes and policies align with and are governed by the established Blattner Values.

## **2.0 ACCOUNTABILITIES AND OVERSIGHT**

Blattner Energy Inc. will perform and/or oversee the monitoring and controlling of the Quality expectations as defined within the scope of work and in general accordance with the project specifications.

BEI will be the entity responsible for providing oversight of contractor quality workmanship, acceptance inspection, testing, and documentation.

BEI personnel, its subcontractors or other qualified designees, will conduct process inspections on the project site, in accordance with this project Quality Plan and project specifications.

BEI personnel, its subcontractors or other qualified designees, will conduct or oversee prudent testing for controlling the quality of the work. The quantity and frequency of testing will be determined by the project requirements or the project Quality Plan where not specified.

BEI will be responsible for documenting and maintaining inspections and testing records applicable to the defined scope of work. The scope of documentation to be submitted to the Owner shall be based on contract requirements.

The project management team will monitor Quality documents to ensure general conformance with the contract requirements.

The project and work product shall meet professional standards utilized by design and construction professionals regularly involved in comparable projects. These standards will generally comply with applicable laws, permits, and the contract agreement.

This Quality Plan sets forth general meeting and reporting standards used to communicate project status, general conformance, and other necessary metrics defined in collaboration with the project Owner.

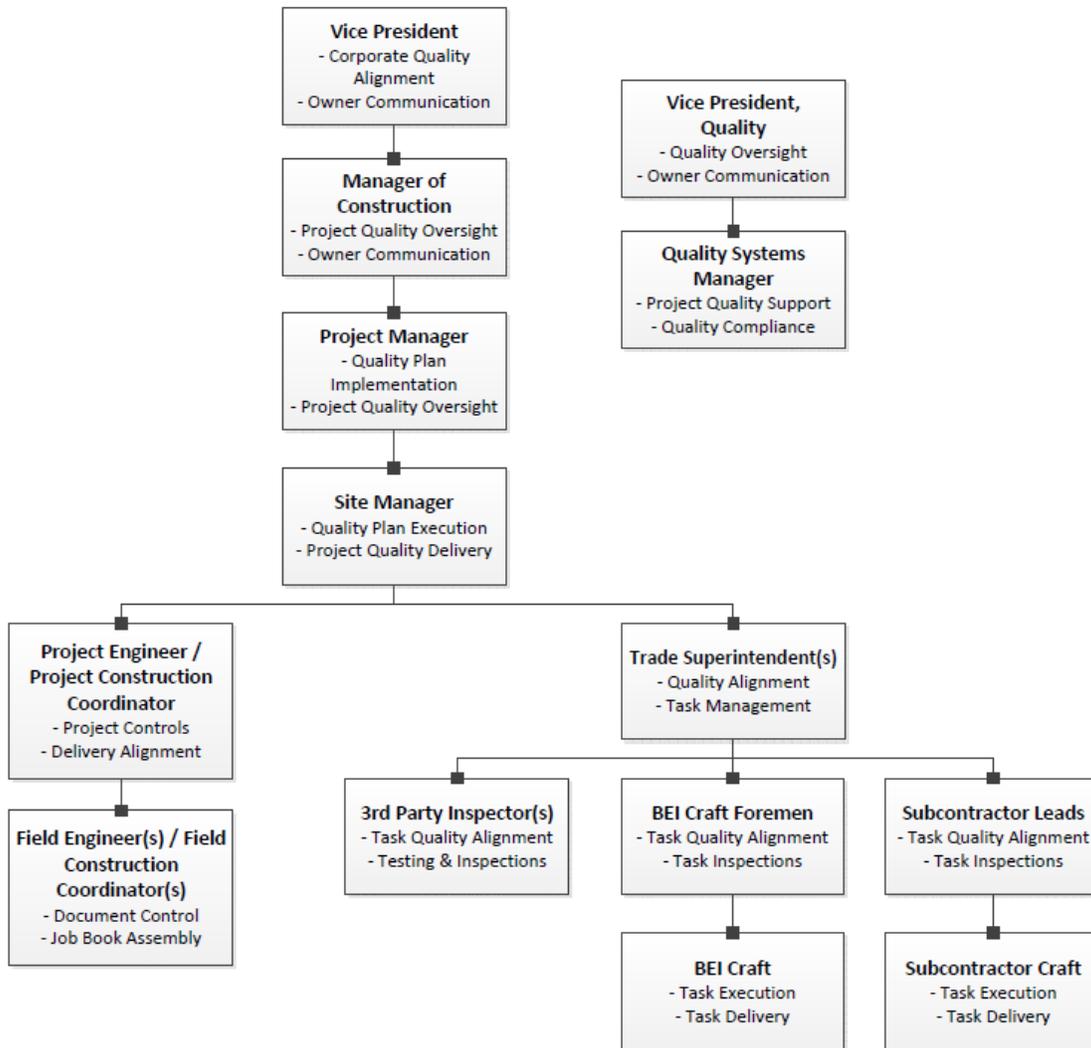
## **3.0 PROJECT ORGANIZATION**

### **3.1 Project Organization**

BEI is committed to cultivating an environment where all resources work collectively in completing quality work with a focus on efficiency, cost effectiveness and safety. Project organizational charts are developed through the careful assessment of resources to craft a project team with the appropriate experience and skill set.

Figure 1.1 illustrates a representative project organizational structure and the reporting relationship for key corporate and project personnel.

Figure 1.1 – Representative Project Organizational Structure



**3.2 Roles and Quality Responsibilities**

**3.2.1 General**

It is the responsibility of every employee to ensure that quality is maintained in every aspect of construction and delivery. Employees are empowered to make decisions that will deliver a quality project.

**3.2.2 Specific Responsibilities**

The following positions have roles and responsibilities associated with the project Quality Plan.

***Vice President - Solar Division***

The Vice President monitors and controls construction quality through the directing of corporate and senior level field personnel.

The Vice President's specific Quality functions include:

- Ensuring corporate and senior level field personnel are meeting and/or exceeding the company and project objectives, policies, procedures, and performance standards.
- Ensuring that the corporate Quality strategy is implemented and aligned within each project.

### ***Vice President - Quality***

The Vice President of Quality provides oversight of the BEI Quality Program and defines the strategic Quality view of the organization. Through the directing of the Quality Systems Manager, the Vice President of Quality ensures the Quality objectives, policies, procedures and performance standards are enforced and achieved.

The Vice President of Quality's specific Quality functions include:

- Establishing Quality objectives to direct the development of the Quality Program.
- Defining and enforcing corporate Quality policies and procedures.
- Establishing and communicating the BEI Quality Policy.

### ***Manager of Construction***

The Manager of Construction reports to the Vice President and controls and monitors quality through the directing of Project Managers and Site Managers to ensure they establish project objectives and performance standards.

The Manager of Construction's specific Quality functions include:

- Collaborating with the Owner and the BEI Quality Department to ensure that the Quality objectives of BEI are aligned with the project and Owner's requirements.
- Responsibility for providing oversight of the overall project implementation of the project Quality Plan, with assistance from project management.
- Delegation to Quality Systems Manager any tasks to assure general conformance with the BEI Quality Program and project Quality Plan.

### ***Project Manager***

The Project Manager reports to the Manager of Construction and has ultimate responsibility for all aspects of the project specific work, including health and safety, quality, engineering, construction, and technical support.

The Project Manager's specific Quality functions include:

- Responsibility for the overall project implementation of the project Quality Plan, with assistance from site management.
- Oversight to verify that construction field management is performing in general accordance with the project Quality Plan.
- Delegation to the Site Manager any task or tasks to assure general conformance with the project Quality Plan.

### ***Quality Systems Manager***

The Quality Systems Manager reports directly to the Vice President of Quality and is responsible for planning, coordinating, and directing the BEI Quality Program and project Quality Plans to ensure quality delivery consistent with established standards.

The Quality Systems Manager's specific Quality functions include:

- Developing and initiating standards for inspection, testing, and evaluation.

- Maintaining and monitoring Quality objectives complementary to corporate policies and goals.
- Reviewing representative samples of Quality data obtained during Quality Assurance and Quality Control activities to ensure consistency with company policies and procedures.
- Administering the Managing Nonconformance procedure at the corporate level and directing organizational improvements.
- Interpreting and training of Quality philosophy and policies.

### ***Site Manager***

The Site Manager reports directly to the Project Manager and is responsible for the work executed on the project. The Site Manager may delegate to Assistant Site Manager or Project Engineer/Project Construction Coordinator any task or tasks to assure the general conformance with the project Quality Plan.

The Site Manager's specific Quality functions include:

- General oversight that the project construction activities and project engineering are in general conformance with the project Quality Plan.
- Embedding the philosophy that Quality is the responsibility of each person working on site.
- Coordinating Quality procedures, standards, and guidelines.

### ***Project Engineer/Project Construction Coordinator***

The Project Engineer/Project Construction Coordinator administers and coordinates the daily operations of the project site under the supervision of Site Manager. The Project Engineer/Project Construction Coordinator operates as a leader in Quality activities, cost control, quantity tracking, procurement, client satisfaction, and daily jobsite needs.

The Project Engineer's/Project Construction Coordinator's specific Quality functions include:

- Functions as a lead facilitator as it relates to the implementation and compliance with the project Quality Plan.
- Assisting with the periodic monitoring of the adherence to the internal BEI inspection processes.
- Coordinating pre-construction alignment meetings with various subcontractors, vendors, and other project stakeholders.
- Assisting Field Engineers/Field Construction Coordinators and other site team members in assembling final project documentation.
- Ensuring Quality standards are met as set forth within this Quality Plan.

### ***Site Quality Engineer/Site Quality Coordinator***

The Site Quality Engineer/Site Quality Coordinator reports directly to the Site Manager and is responsible for ensuring compliance with contract plans and specifications. The Site Quality Engineer/Site Quality Coordinator shall provide on-site Quality oversight by conducting periodic QA/QC assessments and generating Quality reports throughout the duration of the project.

The Site Quality Engineer/Site Quality Coordinator's specific Quality functions include:

- Providing coordination of required inspections, testing, reviewing results, and maintaining Quality records.
- Possesses the authority and the responsibility to halt any operation or activity that appears to be out of compliance with the project contract, drawings, specifications and/or BEI expectations.

- Administering the Managing Nonconformance procedures at the project level and ensuring timely resolutions.
- Works with the Trade Superintendents in the development of task level expectations, Quality forms, benchmarks, and technical verification standards.
- Acting as the on-site champion for the project Quality Plan.
- Collaborating with the BEI corporate Quality Department to ensure adherence to BEI Quality Program.

### ***Trade Superintendents***

The Trade Superintendents report directly to the Site Manager and are responsible for the on-site supervision of craft personnel. The Trade Superintendents shall provide oversight of the craft personnel's activities to ensure a safe, productive, and a quality job is attained within their discipline.

The Trade Superintendents' specific Quality functions include:

- Interpreting project documents to determine project specific construction standards.
- Establishing and communicating the contract specifications and craftsmanship expectations to BEI craft, vendors, subcontractors, and other agents.
- Aligning stakeholders on a single view of the project specifications.
- Responsible for the safe, efficient, and quality construction of assigned product.
- Verification that the project construction activities and project engineering are in general conformance with the project Quality Plan.
- Creating a collaborative environment with BEI craft, subcontractors, vendors, and the Owner to continually improve BEI's delivery performance.

### ***Field Engineer/Field Construction Coordinator***

The Field Engineer/Field Construction Coordinator reports directly to the Project Engineer/Project Construction Coordinator and is responsible for administering daily operations of the project site. The Field Engineer/Field Construction Coordinator must operate in a fashion that ensures and maintains cost, safety, schedule, and quality of the project.

The Field Engineer's/Field Construction Coordinator's specific Quality functions include:

- Administering of the project documentation.
- Assembling of documentation for job books.
- Assisting with the coordination of pre-construction alignment meetings with various subcontractors, vendors, and other project stakeholders.
- Assists with QA/QC assessments and/or inspections as deemed necessary.

### ***BEI Craft Foremen/Subcontractor Lead Men***

BEI Craft Foremen and Subcontractor Lead Men are empowered to oversee the successful completion of the tasks given to them. Foremen and Lead Men act as a primary control point for field Quality Control of their assigned task. They also have the responsibility to demonstrate through the use of project Quality documentation that construction specifications have been met.

The Craft Foremen/Subcontractor Lead Men specific Quality functions include:

- Aligning with Trade Superintendent on project expectations and Quality standards through continual collaboration.
- Communicating the task specific Quality expectations to craft and laborers through the use of BEI processes and/or Quality procedures.

- Ensuring that construction tasks are delivered according the established Quality guidelines.
- Executing and documenting the Quality inspections and tests.

***BEI Craft/Subcontractor Craft***

Blattner Energy Craft and Subcontractor Craft are responsible for performing their respective construction tasks in a manner that meets or exceeds the project quality specifications.

The BEI Craft/Subcontractor Craft specific Quality functions include:

- Aligning with BEI Craft Foremen/Subcontractor Lead Men on the expected project Quality standards through continual collaboration.
- Performing tasks within the Quality guidelines set forth.

***Third Party Inspectors/Testers***

Blattner Energy Inc. may utilize third party inspectors and testers to verify that technical specifications are met at various stages of construction. Third party inspectors and testers will be used as required by contract or as deemed necessary by BEI management.

The third party inspectors/testers specific quality functions include:

- Follow project guidelines and industry accepted standards/methodologies to document the verification of materials and work performance.
- Aligning with project stakeholders on the qualitative and quantitative measures that define the project specific quality standards.

**4.0 PROCESS CONTROL****4.1 General**

Process controls are the organizational controls associated with performing work in a safe, consistent, and quality manner. These controls are prescribed through various processes, procedures, instructions and meetings. BEI utilizes internally developed proprietary Best Practices and other supporting processes to guide the execution of project activities. These controls include, but are not limited to:

- Defined and Documented BEI Processes
- BEI Management Best Practices
- BEI Construction Best Practices
- Defined and Documented BEI Practices

This project Quality Plan provides a framework for how these internal process controls interrelate with project documents, contracts, and/or requirements set forth by the Owner. This project Quality Plan is a working document within the BEI organization that imposes and assigns general conformance requirements to ensure the construction Quality objectives are achieved. Through the utilization of the defined processes, procedures and instructions, the production processes are controlled to ensure consistent and repeatable results.

**4.2 Project Meetings**

Regular meetings will be held throughout the course of the project to help ensure process control as it relates to Quality and constructability of the work. These meetings are intended to maintain communication amongst the Contractor, Subcontractor(s), Owner and Engineer(s). These meetings aid in maintaining familiarity with the construction procedures and activities. In addition, these meetings shall address related Quality, safety, and design changes. Following is an outline of the standard meetings that shall be utilized to maintain these goals.

#### 4.2.1 Pre-Construction Meeting / Alignment Meeting

When feasible, the pre-construction meeting shall be held at the project site and shall be scheduled prior to the start of onsite construction activities. Representatives from BEI, Subcontractor(s), Owner and Engineer(s) are required attendees. The primary objectives of the pre-construction meeting are to:

- Conduct a site review to discuss work plans and work areas.
- Review the responsibilities of each party.
- Review lines of authority and lines of communication.
- Review procedures for documentation, reporting, and distribution.
- Review procedures for submittal and RFI's.
- Review QA/QC plans and protocol for testing.
- Review the protocol for managing nonconformance and corrective actions.
- Review a timeline schedule for all operations, including milestone dates.
- Discuss intended construction methods and procedures.
- Review Owner's RFP and BEI proposal, exclusions, assumptions, and design intentions.
- Review site specific safety plan.
- Review emergency contact information.
- Discuss security measures.
- Discuss reporting procedures.
- Review daily Job Hazard Analysis (JHA) meetings procedure.
- Discuss site safety meetings.
- Review designated care facilities.

These items may also be addressed during individual phase specific pre-construction meetings when deemed to be more pragmatic.

#### 4.2.2 Daily Plan of the Day (POD) Meetings

The Plan of Day shall review and address the following:

- Safety concerns.
- Activities and progress of the previous day.
- Ongoing and future work activities.
- Current or potential construction challenges.
- Action items and resolutions.
- Coordinate / communicate concurring work activities with all construction parties.

BEI will schedule and conduct the meetings and will distribute a daily POD summary.

#### 4.2.3 Monthly Management Meetings

The monthly management meeting is intended to specifically review the work activities for the past month and discuss future activities. The meeting should also review safety incidents, Quality issues, schedule, indicators, and corrective action plans. BEI is responsible for producing a presentation manual including information for the project contractors and subcontractors. Specialty meetings may also be scheduled as needed.

## 5.0 DESIGN CONTROL

### 5.1 General

Design control shall be administered via submittal and transmittal procedures to ensure structured and controlled design change requests and manage design document revisions.

Documents provided to the Owner or Engineer of Record shall be submitted under cover of a transmittal letter. Transmittals shall be entered in the transmittal log and updated with progress for each new development related to the transmittal. Documents provided by the Owner or Engineer of Record shall be submitted as transmittals and will be recorded to the transmittal log.

The submittal and transmittal procedure shall cover the following document types as a minimum:

- Design documents and drawings
- Request for information (RFI)
- Design change requests
- BEI submittals / procedures

Plans and specifications shall be thoroughly reviewed to verify completeness for construction. Any concerns or omissions should be brought to the Engineer of Record attention by transmittal of a request for information. This transmittal should be documented, tracked and updated with new developments.

### 5.2 Engineering

All design deviations must have the written authority of the Engineer of Record. Nonconformances must be documented and identified to the Engineer of Record and a determination made for resolution, if necessary.

## 6.0 DOCUMENT CONTROL

### 6.1 General

Through defined internal processes and referencing any contractual requirements, document control standards are established for the purpose of receiving, issuing, retrieving, and collecting documents in a controlled and defined manner.

Controlled documents shall include, but are not limited to, the following:

- Engineering drawings, specifications and other key documents issued by the Engineer.
- Documents received from suppliers including drawings, procedures, manuals, etc.
- Documents annotated as changes or revisions to original issued documents.
- Drawings marked & handled in controlled fashion for "as-built or as constructed condition".
- OEM installation checklists and verification records.
- BEI forms, Quality records and inspection records.
- Third party testing and inspection records.

The submittal and transmittal procedures shall be applied, where applicable, as a means of document control for received and issued documents.

### 6.2 Document Storage

Documents shall be stored and organized in a manner that provides access to authorized individuals. Documents and records shall be stored in a manner that provides reasonable protection from damage or loss. Established document storage procedures shall account for Owner requirements and specifications, as well as internally defined BEI standards.

### 6.3 Project Close Out Documentation Deliverables

At project closeout, final documentation shall be provided to the Owner based on contract requirements. Following are examples of project close out documentation deliverables.

#### 6.3.1 Project Job Books

Job books will be kept in conformance with the project contract requirements and BEI practices. These job books ensure the completion of proper documentation and provide an accurate representation of the project construction activities. The scope of documentation to be included within each job book shall be based on contract requirements.

#### 6.3.2 As-Built Drawings

Generally, the as-built or record drawings are the responsibility of the EPC contractor to maintain and submit at project completion. Throughout the project duration, project personnel shall document, on the drawings, the as-built conditions that differ from the project drawings. As-built drawings shall be reviewed for completion and accuracy before transmitting to the Owner.

Contract documents shall be referred to for as-built requirements and the delivery schedule. BEI project management shall verify with the Owner the requirements for individual as-built drawings for landowners.

#### 6.3.3 O&M Manuals

O&M manuals shall be compiled for transfer to the Owner as project closeout deliverables. Contract documents shall be referenced for submittal times and any additional Owner requirements.

#### 6.3.4 Completion Certificates

The contract requirements may require completion certificates for major portions of the work. Contract requirements shall be reviewed for references and instructions for completion of required paperwork.

### 6.4 Reporting

The contract requirements shall be consulted to make determinations for specific reporting and timeline requirements.

## 7.0 TRAINING

### 7.1 General

BEI has internally defined procedures and requirements to guide the training process and ensure that employees receive essential training. At the beginning of the project, the Human Resources Department shall contact the project management team to discuss the training program. A job training guide is compiled listing the required training, individuals to be trained, and a recommended training timeframe. This job training guide shall be used to ensure consistency and completeness of the job site training efforts.

When external training is required, a list of approved providers / trainers shall be furnished. External providers / trainers will be approved based their credentials and previous training experience.

Training records are tracked and recorded by the Human Resources Department. Training records are maintained for each employee within the tracking system and training reports shall be provided on a bi-weekly basis to the project management team.

## 7.2 Scope

The BEI training program encompasses topics covering a broad spectrum of subjects. The training program has been designed to develop employees and prepare them for success. There are training components that focus on safety requirements, corporate policies, professional and personal development. The training program includes extensive efforts dedicated to training the BEI Construction Best Practices.

## 8.0 SUBCONTRACTOR, VENDOR AND SUPPLIER EVALUATIONS

### 8.1 General

Subcontractor, vendor and supplier evaluations are a continual process that may involve the input of various stakeholders. The process involves the assessment of various aspects of the subcontractor's, vendor's and/or supplier's business including performance history, processes, capacities, capabilities, safety plan, and Quality Program. Utilizing the information acquired via the evaluation process, a subcontractor, vendor and/or supplier may be approved or eliminated from consideration. Owner requirements and expectations for subcontractors, vendors and/or suppliers shall be incorporated, when specified. Approved subcontractors, vendors and suppliers may be reevaluated on a periodic basis to ensure continued suitability.

### 8.2 Scope

As deemed necessary and/or based on contract requirements, proof of a Quality Program may be required for primary subcontractors, vendors and/or suppliers performing work on site or supplying product for a project. Submitted Quality Programs require defined Quality processes, which are specific to the activities and responsibilities of the respective subcontractor, vendor and/or supplier. The Quality processes will outline the procedures and practices the subcontractor, vendor and/or supplier will employ for assuring specifications, drawings, and standards are complied with and satisfied.

BEI reserves the right to audit or inspect subcontractor, vendor and/or supplier activities at any time to verify the performance of processes, personnel, inspections, or records.

## 9.0 MATERIAL MANAGEMENT

### 9.1 General

Material management shall be governed by procedures that provide guidelines to ensure that the quality of items received are in compliance with manufacturer / project specifications and maintained throughout the receipt, handling and storage processes. The receipt, handling and storage processes shall be in general accordance with the manufacturer's recommendations. When applicable, project specific requirements shall be applied to materials received on site. When manufacturer recommendations and specifications are not readily available, the operating procedures shall be agreed to between BEI, vendors / suppliers, subcontractors and Owners. When traceability procedures are required, procedures shall be defined and implemented as required by project specifications, Owner requirements and/or as deemed necessary by BEI project management.

### 9.2 Scope

Materials and equipment shall be controlled by procedures defined and agreed to between BEI, vendors / suppliers, subcontractors and Owners. Procedures shall be defined to cover at least the following topics:

- Receipt inspection procedures for material and equipment.
- Documentation for material and equipment transferred between the parties.
- Storage and maintenance practices of supplied materials that meet manufacturer and/or vendor requirements for storage and maintenance.

- Control & handling of materials that may be lost, damaged, or otherwise unsuitable for use.
- Identification and traceability processes, as required.
- Ensure that traceability records are turned over from the vendor / supplier to the project for any material or equipment which requires such records.

## **10.0 INSPECTION AND TESTING**

### **10.1 General**

Inspection and testing shall be performed in a controlled manner per defined procedures and instruction. Inspection and testing shall be executed at a minimum of the frequency and rates established within the contract documents, plans, manufacturer and project specifications. Inspection and testing shall include internal Quality Control inspections, and may include additional testing and inspections by third party agencies as required. Vendor / supplier inspections shall be performed as required by contract or as deemed necessary by BEI.

### **10.2 Scope**

Testing may include industry standard testing procedures, specific to a particular trade, activity, material or product. BEI utilizes internal Quality forms to monitor and ensure the in-process quality of project tasks. Quality control inspections may be performed by BEI, subcontractor personnel and/or third party inspectors.

Specific testing services may be subcontracted to a 3rd party testing agency based on the type of testing and the testing requirements. 3rd party testing agencies shall be required to provide proof of the following:

- Testing personnel are experienced in the testing methods they will execute.
- Personnel have completed the required training and carry any required certifications.
- Test methods to be utilized shall conform to industry standards.

### **10.3 Establishing Benchmarks**

Benchmarks are an established project standard for a work method and finished product. To ensure a finished product is in accordance with project specifications, when appropriate, a benchmark will be established. As defined within BEI's Quality Program, a benchmark shall be established for specified finished products. Work performed by or under the direction of BEI may be subject to the establishment of a benchmark. The scope of required benchmarks shall be defined internally within BEI. When a benchmark has been defined as required, a benchmark shall be established after the initial completion of the specified finished product.

Benchmark documents shall be generated in accordance with internal BEI standards. Once established, benchmarks become the standard by which future work shall be performed. These benchmarks serve as the agreed upon project standard, aligning the expectations of the key stakeholders.

### **10.4 Documentation and Records**

Quality documentation and records shall be generated for inspection and testing activities.

Documentation and records generated shall be governed by the Document Control policies and procedures.

## 11.0 CALIBRATION

### 11.1 General

Calibration is an essential component for ensuring the accuracy of tooling and equipment utilized on BEI project sites. Tooling and equipment shall be calibrated per manufacturer recommendations, industry standards and/or project specifications. Calibrations shall be executed against defined standards and to traceable standards when appropriate.

### 11.2 Scope

Calibration shall apply to tooling and equipment with defined calibration requirements to ensure that performed work conforms to the technical requirements. The following criteria are considered while establishing calibration requirements for tooling and equipment:

- Gauges and instruments utilized for calibration have established requirements for frequencies and accuracy in accordance with manufacturer's recommendations, industry standards, or per project specifications.
- Use of known measurement standards traceable to the National Institute of Standards and Technology (NIST). Where such standards do not exist, the calibration standard shall be documented and approved.
- A process has been established for maintaining the calibration records and results.
- Controls are in place to assure equipment that is damaged or is of questionable accuracy is removed from service for repair and recalibration and/or disposal.
- A process has been implemented that assures traceability of tools and equipment to the calibration records.

## 12.0 MANAGING NONCONFORMANCE

### 12.1 General

Nonconformance is managed through a defined process and shall be applied to nonconformities associated with materials, products and/or processes. The prescribed process covers nonconformance identification, documentation, analysis, resolution proposal and the implementation of corrective actions. Nonconforming materials shall be prevented from unintended use.

### 12.2 Scope

Nonconforming conditions may be detected by activities associated with auditing, inspections, testing, Quality form completion, and general observations. Nonconforming conditions shall be reported by the person that discovers the nonconformance and shall be reported to the BEI project management team. The BEI project management team shall investigate the reported nonconformance to determine if the reported condition exists. Reported nonconformities shall be accepted or rejected based on the findings of the investigation. Accepted nonconformities shall have a nonconformance report processed through to completion in a timeframe that aligns with the criticality of the discovered condition. Nonconformance reports shall contain a description of the nonconforming condition, location, resolution proposal and corrective actions. The nonconformance report shall be routed, as required, to gather acceptance signature(s).

### 12.3 Nonconforming Materials

Materials are inspected upon receipt and a determination is made about the acceptability of the items. Any items found to be in general nonconformance will be:

- Documented in a written form.
- Segregated (when practical) or tagged for nonuse and marked as hold or reject.

- When required, an engineering and/or Owner evaluation of the item will be secured to determine usability.
- Nonconformance resolution will be documented.

#### **12.4 Nonconforming Product or Work**

If nonconforming work is identified through inspection, testing, Quality form completion or general observations, the following steps will be taken:

- Nonconforming work will be identified and a nonconformance report generated.
- When required, an Engineer's evaluation will be secured to determine any necessary action, utilizing the transmittal process.
- Based upon the findings of the evaluation, one of the following proposed resolutions may be undertaken:
  - Use in as-is condition
  - Repair
  - Rework
  - Replace
  - Return
  - Other
- When required, based upon Owner and/or Engineer evaluation and recommendation the resolution shall be recorded within the nonconformance report.

### **13.0 AUDITING**

#### **13.1 General**

An auditing program shall be utilized to assess and measure the effective application of the project Quality Plan and the compliance with project specifications. Audit requirements are defined based on organizational and project requirements. The prescribed frequency for audits is determined by the BEI Quality Department and may be adjusted to suit project specifications and/or the scope of work.

#### **13.2 Scope**

The scope of this auditing program includes both process auditing and task quality auditing. Audit findings shall be utilized to correct deficiencies and drive continuous improvement efforts. Audit findings shall be utilized to ensure compliance with project specification and requirements. In addition, audit findings shall be applied to continuous improvement efforts for refining the BEI Quality Program and project Quality Plans.

### **14.0 DEVELOPMENT AND PERMITTING**

#### **14.1 Site Inspections**

Site inspections shall be conducted for feasibility estimates, bid walks, Owner requests, permitting, project constructability, and environmental reviews. Site inspections shall be conducted in a manner consistent with BEI's standard procedures.

#### **14.2 Permits**

Permits represent a vital part of the construction of any project. Required permits are needed on site before construction may begin. Local, county, state, and federal entities often control permitting activities. Therefore, all areas must be researched to understand the project area permitting.

Permit applications will vary from location to location. Local areas may assist in providing proper forms and information to obtain the permits. It is important to note that many permits require long lead time and proper planning will be required.

## **15.0 PROJECT DELIVERY**

### **15.1 Introduction**

This project Quality Plan is designed to ensure that site work, deliverables and materials comply with the project specifications and contract documents through the establishment of general guidelines and procedures for Quality on BEI projects. The project Quality Plan is not intended to replace existing contract language, project specifications, or required frequencies. It is intended to supplement BEI's understanding of the contract and project documents. The BEI project management team is responsible for implementing and sustaining the parameters of this project Quality Plan in general conformance as applied to the established project plans and specifications.

### **15.2 Pre-construction Activities**

#### **15.2.1 Review and Clarification**

Prior to the commencement of construction activities, the contract and project documentation shall be reviewed and clarification shall be sought where required. The BEI project management team shall ensure that project plans and specifications are understood and agreed upon.

BEI project management shall perform the following:

- Review pre-construction reports provided by the Owner and/or Engineer.
- Review project plans and contract specifications.
- Review materials manufacturer specifications.
- Perform a site evaluation.
- Review the provided survey of the project.

#### **15.2.2 Pre-construction Alignment**

BEI project management shall conduct alignment meetings with representatives covering the interests of the Owner, Engineer, Subcontractors and any other party of interest to ensure alignment of project plans, specifications, requirements and expectations.

Pre-construction alignment meetings may be coordinated at the project level, as well as, trade or discipline specific alignment meetings. BEI reserves the right to request additional alignment meetings as deemed necessary throughout the duration of the project. Representation by the Owner, Engineer, Subcontractor and/or any other party may be required depending the context of the alignment meeting.

### **15.3 Construction Activities**

#### **15.3.1 Process Control**

Construction activities shall be performed in general accordance with procedures defined within the BEI Construction Best Practices, approved subcontractor operating procedures, and/or industry standard practices. BEI Trade Superintendents, or their designate, shall provide BEI Construction Best Practices training for BEI crews and monitor compliance with these trained operating procedures. The same training expectations shall be applied to subcontractors under the direction of BEI, but shall incorporate the internal process control training for each respective subcontractor.

#### 15.3.2 Public Convenience and Safety

It is BEI's objective to deliver the project with minimum obstruction to public convenience. To maintain safety and quality on the project, consultation with local transportation authorities and county officials may be necessary to determine the appropriate traffic control for operations that may obstruct public traffic.

In addition, it is recognized that special landowner leases, easements, agreements, rights and reservations may be in place. BEI will work with the Owner to honor those agreements.

Public safety is of the utmost importance to BEI during all construction activities. Every effort will be made to ensure public safety during each phase of construction.

#### 15.3.3 Environmental Protection

Operations will follow state, local and federal laws and regulations for controlling potential pollution of the environment. Precautions to prevent pollution of streams, lakes, ponds, reservoirs, and wetlands with contaminants are required.

#### 15.3.4 Unknown Archeological or Hazardous Materials

In the event archeological or hazardous materials are encountered in the project, work will cease immediately. BEI management and Owner management shall be notified immediately of any occurrence.

#### 15.3.5 Project Scope of Work

A project specific Quality Plan will be developed including the project scope of work construction activities. This project specific Quality Plan will address the associated inspection and testing requirements per construction activity.

### **15.4 Inspection and Testing**

#### 15.4.1 Inspection and Testing Activities

Inspection and testing activities may include, but are not limited to, the following:

- Vendor / Supplier Inspection and Testing
- In-process Inspection and Testing
- Final Inspection and Testing

#### 15.4.2 Quality Documentation

Applicable inspection forms and test records shall be made available for review by Owner or Owner's representatives. Inspection forms and test records shall be included job books as defined in the contract.