

**PALEN SOLAR POWER PROJECT (09-AFC-7)  
CEC STAFF DATA REQUEST 180**

**Technical Area: Power Plant Reliability**

**Response Date: January 6, 2010**

**DR-PPR-180**

**Information Required:**

Please describe the quality control program that would be utilized for the project, including examples of appropriate controls that would be applied to each of the stages of project development.

**Response:**

The Applicant will develop a comprehensive set of Project Procedures and a Quality Assurance Plan to ensure the highest degree of quality control in all functional areas and all phases of the PSPP. Development of these Project procedures will be directed by the EPC Quality Assurance (QA) Manager, who will report directly to the EPC Project Manager, and indirectly to the Owner's Project Manager. The Project procedures will be tailored to site-specific conditions and requirements. Due to the unique characteristics of each functional area, discipline leads will be responsible for the development of the Project procedures for their areas of responsibility, with approval of the final document resting with the QA Manager. Adherence to these Project procedures will be ensured by implementation of appropriate training and auditing programs conducted by the QA team.

The Quality Control (QC) program for a specific discipline and/or project phase may include the following major topics:

- Scope of Activities
- Organization (position descriptions and responsibilities)
- Inspections and testing
- Control of non-conforming items
- Processes
- Documentation
- Training and qualification

An example of the scope of the QC program for the Project's Engineering Design phase would include the methods for documenting design calculations, and would cover:

- Definition of preliminary and final calculations
- Calculation logs
- Checking methods and checker responsibilities
- Review and approval by the Project Engineer
- Revision control
- Filing and retention

An example of the scope of the QC program for the Project's Construction phase would include inspections, testing, and documentation, and would cover the follow aspects for piping:

- Material traceability
- Dimensional inspection
- Welding and weld consumable control
- Weld procedures qualifications and welders' qualifications

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- Visual inspection and non-destructive testing
- Hydrostatic testing
- Coating inspections

A list of Project procedures indicative of those that will be developed for the PSPP is provided below.

<b>PROJECT PROCEDURES</b>	
<b>Discipline</b>	<b>Procedure Title</b>
Project Management	Project Procedures Index
Project Management	Preparation & Issuance of Specific Project Procedures
Project Management	Contract Review
Project Management	Communications Documents
Project Management	Filing Criteria & Project Master File Index
Project Management	Design & Miscellaneous Documents
Project Management	Supplier Document Control
Project Management	Controlled Distribution & Receipt Acknowledgement
Project Management	Training
Project Management	Prime Contract Management
Project Management	Prime Contract Change Controls
Project Management	Records Retention & Turnover Program
Project Management	Project Closeout Report
Project Management	Conference Notes
Engineering	Engineering Planning and Control
Engineering	Drawing and Document Approval
Engineering	Design Interface Control
Engineering	Environmental Compliance
Engineering	Equipment Numbering
Engineering	Design Verification
Engineering	Design Calculations
Engineering	Engineering Drawings
Engineering	As-Built Drawings
Engineering	Engineering Specifications
Engineering	Field Change Request/Notifications
Engineering	Material Requisitions/Purchase Memos
Engineering	Contracts and Subcontracts

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<b>PROJECT PROCEDURES</b>	
<b>Discipline</b>	<b>Procedure Title</b>
Engineering	Technical Bid Evaluation
Engineering	Supplier Engineering & Quality Verification Documents
Engineering	Design Criteria
QA	Corrective and Preventive Action
QA	Quality Open Items List
QA	QA Records
QA	QA Surveillance
QA	QA Internal Audits
QA	Supplier/Subcontractor Audits
QA	Quality System Requirements - Suppliers/Subcontractors
Procurement	Purchasing
Procurement	Procurement Supplier Quality
Procurement	Expediting
Procurement	Field Procurement
Procurement	Traffic Procurement
Business Management	Project Schedules
Business Management	Progress Measurement
Business Management	Progress Reports
Business Management	Budget Control for Client Reporting
Business Management	Cost Control for Client Reporting
Business Management	Estimating / Forecasting
Construction	Construction and Commissioning Tagging/Lockout
Construction	Calibration of Inspection, Measuring or Test Equipment
Construction	Control of Customer-Supplied Products
Construction	Control of Non-conformances
Construction	Quality Records
Construction	Process Control
Construction	Daily Reports
Construction	Product Identification and Traceability
Construction	Construction Quality Control
Construction	Construction Inspection - Orientation and Training

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<b>PROJECT PROCEDURES</b>	
<b>Discipline</b>	<b>Procedure Title</b>
Startup and Facility Operations	Pre-Commissioning
Startup and Facility Operations	Commissioning Plan
Startup and Facility Operations	Initial Startup
Startup and Facility Operations	Servicing
Startup and Facility Operations	Emergency Preparedness