

ENERCON SERVICES, INC.
QUALITY ASSURANCE
PROJECT PLANNING DOCUMENT

for

ENERGY NUCLEAR POTOMAC
Early Site Permitting Project
Grand Gulf Nuclear Station Site

Project No. ENTO-002

Revision 2

Issued by: A. J. Schneider  Date: 7/29/02
Project Manager

Reviewed by: SEE ATTACHED FAX Date: _____
Quality Assurance Manager

Approved by: Robert H. Bryan Date: 7/29/02
Manager of Projects / Division Manager

ENERCON SERVICES, INC.
QUALITY ASSURANCE
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for

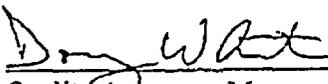
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Revision Summary Page

<u>Revision No.</u>	<u>Date</u>	<u>Summary of Changes and List of Changed Pages</u>
0	5/30/02	Initial issue.
1	7/19/02	Major revision to update attached project instructions PI-02 (Rev. 1), PI-03 (Rev. 1) and add PI-05 as Attachment 6. Incorporated discussion of procurement requirements for subcontract work, revised organization chart, added additional personnel classifications, and incorporated GEOVision procedures by reference for P-S velocity survey work. Pages revised: 1 – 10, Att. 1 cover, Att 2 cover, Att. 3 cover, Attachment 4 cover, Att. 6 added (cover and PI-05).
2		Added Revision Summary page. Added reference to vendor procedure for use of cone penetrometer for CPT testing requirements, and PI-05 is revised to Rev. 1. Revised org. chart. Pages revised: All PPD pages to indicate new page count for Rev. 2. Page 10 to add reference to CPT procedure/manual. Att. 1 organization chart, Att. 6 cover for PI-05 Rev. 1.

I. PROJECT SCOPE

a) Summary of Scope

The objective of this project is to prepare an Early Site Permit (ESP) application for a new nuclear power plant that may be constructed at Entergy's Grand Gulf Nuclear Station site near Port Gibson, Mississippi.

The process of preparing the ESP application involves environmental (meteorological, hydrological and ecological) studies and analyses, seismic and geo-technical evaluations, radiological consequences analyses, development of a plant parameters envelope, and preparation of the actual permit application documents. The ESP application will include a safety assessment which includes (1) a description of the proposed site, and (2) an assessment of the seismic, meteorological, hydrological and geological characteristics of the site affecting facility design. Four principal elements of the application will be administrative information, a site safety analysis report, an environmental report, and emergency planning information. The work will involve extensive review of existing materials relating to the selected site, including existing environmental permits, hydrological studies, previous environmental studies and reports, and routine environmental reports prepared and submitted to the NRC and state regulatory agencies. The original Final Environmental Report for the chosen site, as well as the NRC's Final Environmental Statement will be used to the fullest extent practicable, to expedite preparation of the application. Existing monitoring programs and data from the site will also be utilized where possible, and will be augmented as required to support the application preparation. Additionally, the current GGNS Updated Final Safety Analysis Report (UFSAR) will be a source of input for this project.

ENERCON will use the methodology developed by industry and the Nuclear Energy Institute as a guide to prepare the ESP application. The application will address applicable requirements from 10 CFR Parts 50, 51 and 52, and will conform to applicable requirements in NRC Regulatory Guide 4.7, *General Site Suitability Criteria for Nuclear Power Station* and in NRC Regulatory Guide 1.70, *Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants*. Other relevant NRC guidance documents will be used as appropriate in development of the application.

Project Instruction ENTO002-PI-02 included as Attachment 3 to this plan, provides the methodology for collection, review and analysis of hydrological and meteorological data to be used in the ESP application development. The process of collection, review and manipulation of hydrological and meteorological data in support of development of the site safety assessment, requires implementation of the ENERCON QA program.

The seismic and geo-technical site evaluation processes (e.g., site investigations and evaluations) in support of development of the site safety assessment must be conducted under this PPD. Project Instructions ENTO002-PI-03, ENTO002-PI-04 and ENTO002-PI-05 included as Attachments 4, 5 and 6, respectively, to this plan, provide the requirements and methodology for seismic and geo-technical data collection and evaluation, and preparation of the inputs to be used in support of the ESP application development.

Development of the Plant Parameters Envelope (PPE), which will specify the bounding parameters for the new plant design and operation against which the site is to be evaluated for acceptability, will also be done in accordance with the applicable requirements of the QA Program and this PPD. Data for the PPE document will be obtained from third party inputs (i.e., vendors with specific plant designs addressed in the PPE), and will be accepted as is, without further review or verification. The PPE will be prepared and reviewed as required by the QA Program and this document.

The Entergy Nuclear Potomac Early Site Permitting Program Plan provides a detailed description of the total work-scope and tasks necessary to produce the ESP application for the GGNS site. However, only the tasks identified above require implementation of the QA Program.

b) Participating Organizations

- | | | |
|----|---|---|
| 1. | <u>ENERCON</u>
<u>Organization</u>
Engineering
E&IS

Government Services
Nuclear Plant Services | <u>Location</u>
Atlanta, GA
Houston, TX
Dallas, TX
Oklahoma City, OK
Tulsa, OK
Germantown, MD
Germantown, MD
Pittsburgh, PA |
| 2. | <u>Client</u>
<u>Organization</u>
Entergy Nuclear Potomac | <u>Location</u>
Jackson, MS |
| 3. | <u>Subcontractor**</u>
William Lettis & Associates, Inc
(WLA) | <u>Location</u>
1777 Botelho Drive, Suite 262
Walnut Creek, CA 94956
(925) 256-6070
Fax: (925) 256-6076 |

** Services for seismic and geo-technical evaluation of the site will be provided by William Lettis & Associates, Inc. (Lettis) under separate contract with Entergy Nuclear Potomac. Lettis & Associates employees and their subcontractors will perform work under ENERCON's Quality Assurance Program as specified in the Entergy contract with Lettis. Subcontractor employees will be trained to ENERCON's QA Program and this PPD as required to support completion of the work under ENERCON's QA Program.

c) Project Input

The following documents will be obtained from Entergy (GGNS or the Central Design Engineering Offices in Jackson, MS). Information not available from these Entergy will be obtained from other organizations, as appropriate, such as the National Oceanographic and Atmospheric Administration, National Weather Service, US Geological Survey, NRC, etc.

- UFSAR and Technical Specifications
- Technical Requirements Manual
- GGNS Safety Evaluation Report and Supplements (NUREG-0831)
- Drawings for the GGNS Site and Owner Controlled Areas (OCA)
- Meteorological data
- Hydrological data
- Ecological data

GGNS Final Environmental Report
NRC Final Environmental Statement (FES) (NUREG-0777)
Preliminary Safety Analysis Report (PSAR)
Design data such as seismic response spectra for the GGNS site and OCA
Other inputs as determined during the course of the project

d) Expected Output

The expected output of this project is an Early Site Permit (ESP) application for a new nuclear power plant to be constructed at the Grand Gulf Nuclear Station site. The ESP application document itself is not a QA record, but inputs or portions of inputs to the application will be developed under the QA Program and this PPD as discussed in Section I.a above.

II. ORGANIZATION

a) Organization Chart

An organization chart for the project team is depicted in Attachment 1 to this PPD. William Lettis and Associates, Inc. has been contracted by Entergy for completion of project technical activities related to seismic and geo-technical aspects required to support an ESP application. Technical guidance and inputs to William Lettis, Inc. will be provided by Entergy. William Lettis, Inc. personnel will perform any work in these areas, that is required to be done under a QA Program, under Enercon's QA Program and this PPD. Appropriate training will be provided to these personnel to ensure the requirements of Enercon's QA Program and this PPD are understood. Project deliverables will be processed to Entergy under the requirements of Enercon's QA Program and this PPD.

b) Responsibilities and Qualifications

Position: Project Manager

Responsibilities: Responsible for quality of final product, including technical content, presentation, and compliance with overall contract, budget, schedule, and technical requirements. Direct project leads with regard to QA Program requirements for this work. Approve Project Instructions included with this PPD. Primary interface with the client.

Qualifications: Engineering or Related Science/Technical Degree or equivalent. Previous project management expertise. 15 years minimum nuclear industry experience.

Position: Project Technical/Task Leads

Responsibilities: Responsible for quality of final product, including technical content and presentation, and compliance with budget, schedule, and technical requirements for assigned project tasks. Supervises staff engineers, staff geologists. Provides technical direction based on engineering experience

and plant knowledge. The WLA Project Manager shall provide overall technical direction of the seismic and geo-technical work.

Qualifications: Engineering or Related Science/Technical Degree or Equivalent. Previous supervisory or management experience. 10 years minimum nuclear industry experience or technical experience in the field or task area(s) assigned. The Seismic/Geo-technical task lead (WLA Project Manager) shall have an advanced degree in Geology with over 10 years experience working on nuclear projects, including experience working on earthquake hazard assessments.

Position: Senior Geologist / Engineering Seismologist

Responsibilities: The Senior Geologist/Engineering Seismologist will be responsible for day-to-day performance of the technical work in the seismic and geo-technical areas.

Qualifications: The Senior Geologist/Engineering Seismologist will be either a Principal Geologist or Senior Geologist with WLA. The Senior Geologist/Engineering Seismologist shall have an advanced degree in geology/seismology and over 10 years experience.

Position: Project Staff

Responsibilities: Duties as assigned by Task Leads or Senior Geologist/Engineering Seismologist. Work under the supervision of the Task Lead. Staff geologists will assist the Senior Geologist with specific tasks and duties, and work under his direction.

Qualifications: Minimum 4 years engineering or related scientific/technical experience, or experience as required by the tasks assigned. Bachelor's degree or equivalent experience. Project and staff geologists will have an advanced degree in Geology and at least 3 years experience.

Position: Technical Support Staff

Responsibilities: Duties as assigned by Task Leads or Senior Geologist/Seismologist. Works under the direct supervision of the Task Lead or Senior Geologists/Seismologist.

Qualifications: Task-related scientific or technical experience, or other applicable experience as required by the tasks assigned.

c) Client Interface

Mr. Michael Bourgeois – Contract Manager (601) 368-5676

Mr. George Zinke – Regulatory Compliance/QA Manager (601) 368-5381

III. PROJECT PROCUREMENT

a) Items or Services

Entergy Nuclear Potomac will be responsible for procurement of services for seismic and geological evaluation of the site(s); these services will be procured from William Lettis & Associates, Inc by Entergy Nuclear Potomac. William Lettis & Associates will perform the work under ENERCON's Quality Assurance Program as required, in accordance with the requirements of Entergy's contract with William Lettis & Associates.

Procurement of materials and services for completion of tasks that require implementation of QA Program requirements, which may be required by this project (see Section V below), is to be done in accordance with Enercon's QA Program and requirements.

b) Procurement Schedule

Not applicable.

IV. SPECIAL REQUIREMENTS

Work at the GGNS site will be controlled in accordance with the requirements of Project Instruction No. ENTO002-PI-05 (Attachment 6). Any special requirements with respect to equipment, environment or prerequisites are identified in PI-05.

V. ENERCON QA PROGRAM APPLICABILITY

a) Section Applicability

<u>Corporate Quality Assurance Program Manual Section</u>		<u>Yes</u>	<u>No</u>
1.0	Organization	X	
2.0	Quality Assurance Program	X	
3.0	Design Control	X	
4.0	Procurement Document Control	X	
5.0	Instructions, Procedures and Drawings	X	
6.0	Document Control	X	
7.0	Control of Purchased Items and Services	X	
8.0	ID and Control of Material, Parts and Components		X
9.0	Control of Special Processes		X
10.0	Inspections		X
11.0	Test Control		X
12.0	Control of Measuring and Test Equipment	X	
13.0	Handling Storage and Shipping		X

14.0	Inspection, Test and Operating Status		X
15.0	Nonconforming Materials, Parts or Components		X
16.0	Corrective Action	X	
17.0	Quality Assurance Records	X	
18.0	Audits	X	

Comments

None

b) Special Contractual Requirements

None

VI. PROCEDURES/INSTRUCTIONS

a) Applicable CSPs

<u>CSP#</u>	<u>Rev. No.</u>	<u>Title</u>
2.01	2	"Project Planning"
2.03	1	"QA Training Requirements"
3.01	3	"Preparation and Control of Calculations"
3.02	5	"Control of Computer Software"
3.03	0	"Third Party Design Review"
16.01	3	"Corrective Action"
16.02	4	"Evaluating and Reporting of 10 CFR 21 Defects and Noncompliance"
17.01	2	"Issuance of Project Deliverables"
17.02	1	"Project Closure"
17.03	1	"Quality Assurance Records"

b) Document Control Instructions

Document Control Registers

<u>Document</u>	<u>Information Contained</u>
Project Plan Distribution Log	As required by CSP 2.01
Calculation Control Log	As required by CSP 3.01

Project Documents Numbering System

Project Planning Document

ENTO-002, Rev. z, where
z is the revision designator, beginning with zero

Project Report(s)

ENTO002-PR-xx, Rev. z, where
xx is a sequential number beginning with 0, and
z is the revision designator, beginning with zero

(Energy DEAM ES-P-003 may be used as a guide for format/content. At a minimum, reports shall have a cover page with signatures indicating the report has been prepared, reviewed and approved, as required by Enercon's QA Program.)

Project Instructions

(See Attachment 2, ENTO002-PI-01, Preparation and Control of Project Instructions)

Calculations

ENTO002-CLC-xx, Rev. z, where
 xx is a sequential number beginning with 01, and
 z is the revision designator, beginning with zero

c) Entergy and Other Procedures/Instructions/Guides

During the performance of the work scope indicated herein, reference to and compliance with applicable Entergy procedures, instructions, design guides, and other documents may be necessary as determined by the work being performed. The Entergy documents listed are not directly applicable for work performed for Entergy Nuclear Potomac; however, they may be used for guidance in developing project deliverables. Other documents (NEI, and NRC regulatory documents) listed will also be used to provide guidance in performance of this work. Since these guidance documents are to be used as guides only, specific revision levels of each are not listed; generally the latest revision should be used, however. Where required, the revision is listed.

<u>Document</u>	<u>Title or Subject</u>
ES-P-001-01	Design Inputs
ES-P-002-00	Design Verification
ES-P-003-00	Engineering Reports
NEI 01-02	Industry Guideline for Preparing an Early Site Permit Application – 10 CFR Part 52, Subpart A
RG 1.3	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss-of-Coolant Accident for Boiling Water Reactors
RG 1.4	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss-of-Coolant Accident for Pressurized Water Reactors
RG 1.23	Onsite Meteorological Programs
RG 1.27	Ultimate Heat Sink for Nuclear Power Plants
RG 1.59	Design Basis Floods for Nuclear Power Plants
RG 1.70	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants
RG 1.76	Design Basis Tornado for Nuclear Power Plants
RG 1.102	Flood Protection for Nuclear Power Plants
RG 1.117	Tornado Design Classification
RG 1.132	Site Investigations for Foundations of Nuclear Power Plants
RG 1.162	Identification and Characterization of Seismic Sources and Determination Safe Shutdown Earthquake Ground Motion
RG 4.2	Preparation of Environmental Reports for Nuclear Power Stations
RG 4.7	General Site Suitability Criteria for Nuclear Power Stations

NUREG-0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans & Preparedness in Support of Nuclear Power Plants
NUREG-0800	Standard Review Plan (SRP) for the Review of Safety Analysis Reports for Nuclear Power Plants
NUREG-1555	Standard Review Plans for Environmental Reviews for Nuclear Power Plants

GEOVision Procedure for OYO P-S Suspension Seismic Velocity Logging, Revision 1.2, dated 6/20/00

GEOVision Seismic Recorder/Logger Calibration Procedure, Revision 1.2, dated 2/16/99

Guideline for Geotechnical Design Using Cone Penetrometer Test and CPT with PORE Pressure Measurement, 5th Edition, September 1995

VII. PROJECT RECORDS

a) Required Records

<u>Record #</u>	<u>Title</u>	<u>Required (yes/no)</u>	<u>Retention Period</u>
1.	Project Planning Document (current)	yes	2 years
2.	Project Planning Document (superceded)	yes	Note 1
3.	Training Records	yes	2 years
4.	Personnel Qualifications	yes	2 years
5.	Audit Reports	yes	6 years
6.	Corrective Action Reports	yes	Lifetime
7.	Procurement Documents	yes	Lifetime
8.	Design Records requiring implementation of QA Program (reference Section I.a)	yes	Lifetime
9.	Document Control Registers	yes	2 years
10.	Instructions/Procedures/Drawings	yes	Lifetime (Note 2)
11.	Others		
	Pertinent Design Correspondence	yes	Lifetime
	Project Report(s)	yes	Lifetime
	Record Transmittals	yes	2 years
	Completed Project Deliverable Checklists	yes	2 years

- Notes:
1. Retained until project completion and closure.
 2. Not applicable to Client controlled procedures/instructions.

b) Disposition of Records

1. Project Records to be transmitted upon project completion. "Record #" below corresponds to Section VII.a "Record #".

<u>Record #</u>	<u>Recipient</u>
8, 11	Entergy Nuclear Potomac

2. Project Records to be maintained by ENERCON as per ENERCON QA Manual 17.3.4. "Record #" below corresponds to Section VII.a "Record #".

Record #

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

VIII. AUDIT/INSPECTION SCHEDULE

a) Internal Audits - Schedule/Frequency

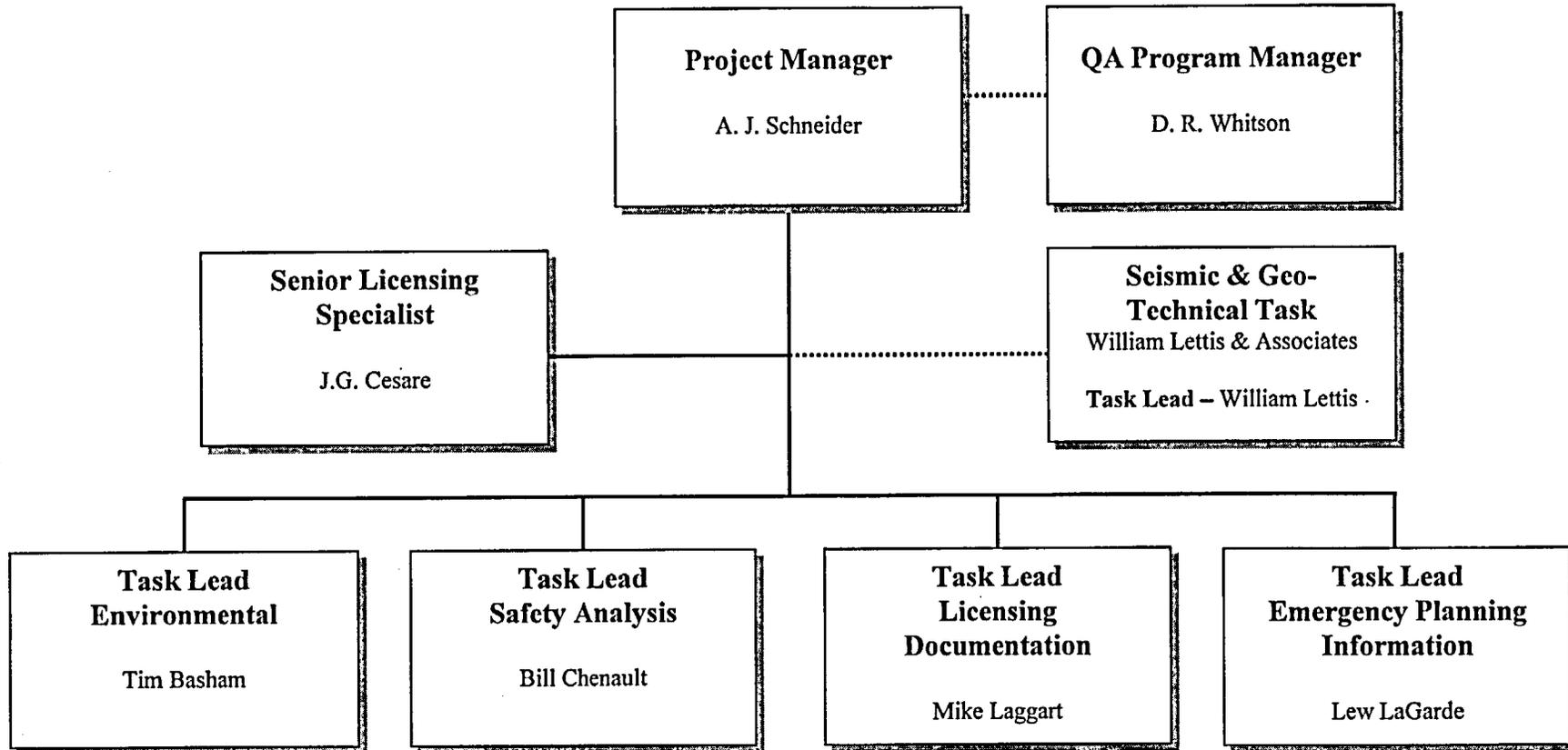
Audits and inspections of project activities conducted by Enercon, William Lettis & Associates and their subcontractors, will be conducted as directed by the ENERCON QA Manager. In lieu of scheduled audits, the project output documents requiring the implementation of a QA Program may be inspected by a lead auditor for compliance with the QA Plan requirements. Audits and inspections will be documented in an inspection report.

Unscheduled audits or inspections may be conducted at the QA Manager's direction.

b) External Audits - Schedule/Frequency

Entergy, their designated representative, the NRC, or any other parties authorized by Entergy will be provided access to ENERCON's facilities and records for inspection and audit. This includes the facilities and records of William Lettis & Associates, Inc. as related to completion of the scope of work designated under the relevant Entergy Nuclear Potomac contract with William Lettis & Associates, Inc. and completed under this QA PPD requirements. Right of access will be provided as and when requested by Entergy.

PROJECT ORGANIZATION CHART



- Bennett Howell (Meteorology)
- Paul Brodin
- Jennifer Pluhar
- Karla Housley
- Denise Todt
- David Lanier (Ecology)
- Lori Evans (Hydrogeology)
- Jim Roberts
- Christie Marquez
- Christina Adams
- Archie Peyton

- Dr. Ralph Berger
- Paul Hansen
- Sam Beaver
- Bill Ellis

- Bill Chenault
- John Richardson
- Bob Evans