UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

March 19, 2004

Mr. William A. Eaton, Vice President
System Energy Resources, Inc.
Entergy Nuclear, M-ECH-38
1340 Echelon Parkway
Jackson, MS 39213

SUBJECT: SYSTEM ENERGY RESOURCES, INC., - NRC INSPECTION OF APPLICANT AND CONTRACTOR QUALITY ASSURANCE ACTIVITIES INVOLVED WITH PREPARATION OF THE APPLICATION FOR AN EARLY SITE PERMIT, NRC INSPECTION REPORT 052000009/2004001

Dear Mr. Eaton:

On February 13, 2004, the Nuclear Regulatory Commission (NRC) completed a special team inspection of quality assurance procedures and controls in Kennesaw, Georgia, at the offices of Enercon Services, Inc., your contractor. The enclosed report presents the results of that inspection.

The team concluded that the quality assurance procedures and controls used by you, your primary contractor, and subcontractors, were equivalent in substance with the criteria contained in Section 17.1.1, "Early Site Permit Quality Assurance Controls," of Draft Review Standard 002, "Processing Applications for Early Site Permits." Additionally, the team concluded that there was reasonable assurance that the collected data was accurate and maintained in a manner equivalent with the above cited criteria.

Two issues with possible generic implications were identified by the team and will be categorized as open items pending NRC review and resolution. The first open item involved the validation of data obtained directly from publicly accessible internet websites for reference in the application. The team was concerned that data posted to websites may not be subject to the same degree of review and verification as data obtained directly from the sponsoring organization, or that malicious computer data tampering could impact the integrity or reliability of the website data. This issue is identified as Open Item 052000009/2004001-01, “Validation Requirements for Website Data Used in License Applications.” The second item involved the applicability of 10 CFR Part 21, "Reporting of Defects and Noncompliance," to the early site permit application. This issue is identified as Open Item 052000009/2004001-02, "Applicability of Part 21."

These open items will be resolved during the completion of the licensing review for the early site permit, and will be closed in the final NRC Safety Evaluation Report, or during a followup inspection prior to the issuance of that report.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Charles S. Marschall, Chief
Engineering Branch
Division of Reactor Safety

Docket No: 52-009

Enclosure: NRC Inspection
Report 052000009/2004001

cc w/enclosure:
George A. Zinke
Manager, Project Management
Nuclear Business Development
Entergy Nuclear, M-ECH-683
1340 Echelon Parkway
Jackson, MS 39213

Michael A. Krupa
Acting Director, Nuclear Safety Assurance
Grand Gulf Nuclear Station
Bald Hill Road – Waterloo Road
Port Gibson, MS 39150

William A. Eaton
Vice President
System Energy Resources Inc.
Entergy Operations, M-ECH-38
1340 Echelon Parkway
Jackson, MS 39213

Patricia L. Campbell
Winston & Strawn
1400 L. Street, N.W.
Washington, DC 20005-3502

Michael D. Bourgeois
Manager, Project Management
Nuclear Business Development
Entergy Nuclear, M-ECH-683
1340 Echelon Parkway
Jackson, MS 39213

Frances G. Buford
Acting Director, Nuclear Safety Assurance
Entergy Nuclear South, M-ECH-414
1340 Echelon Parkway
Jackson, MS 39213

William K. Hughey
Sr. Manager, Business Development
Entergy Nuclear, M-ECH-683
1340 Echelon Parkway
Jackson, MS 39213

Bob Evans
Enercon Services Inc.
12850 Middlebrook Road, Suite 108
Germantown, MD 20874

George A. Williams
Site Vice President
Grand Gulf Nuclear Station
Bald Hill Road - Waterloo Road
Port Gibson, MS 39150
Federal, State and local

Attorney General
Department of Justice
State of Louisiana
P. O. Box 94005
Baton Rouge, LA 70804-9005

Attorney General
Asst. Attorney General
State of Mississippi
P. O. Box 220
Jackson, MS 39205-0220

Mr. Robert W. Goff, Program Director
Division of Radiological Health
Mississippi State Dept. of Health
P.O. Box 1700
Jackson, MS 39215-1700

Phil Bass, Director
Office of Pollution Control
Department of Environmental Quality
P.O. Box 10385
Jackson, MS 39289

Jerry Cain, Chief
Environmental Permits Division
Department of Environmental Quality
P. O. Box 10385
Jackson, MS 39289

Kathleen B. Blanco
Office of the Governor
P.O. Box 94004, State of Louisiana
Baton Rouge, LA 70804-9004

Haley Barbour
Office of the Governor
P.O. Box 139, State of Mississippi
Jackson, MS 39205

Mr. Rick Foster, Director
Emergency Management for Tensas Parish
P.O. Box 768
St. Joseph, LA 71366

Military Department
Louisiana Dept. of Homeland Security/Emergency Preparedness
Col. Mike Brown, Asst. Director
7667 Independence Boulevard
Baton Rouge, LA 70806

Robert R. Latham, Jr., Director
Mississippi Emergency Management Agency
P.O. Box 4501, Fondren Station
Jackson, Mississippi 39296-4501

Ms. Bobbie Young, Director
Claiborne County Emergency Management Agency
P. O. Box 558
Port Gibson, MS 39150

Thomas E. Reynolds
Co-RAC Chair
FEMA Region IV
3003 Chamblee-Tucker Road
Atlanta, GA 30341

Prosanta Chowdhury, Project Leader
Louisiana Department of Environmental Quality
Office of Environmental Compliance
Nuclear Power Plant Emergency Preparedness
P. O. Box 4312
Baton Rouge, LA 70821-4312

Lisa Hammond
Chief, Technological Services Branch
FEMA Region VI
800 N. Loop 288
Denton, TX 76209-3606

Ms. Vanessa E. Quinn, Chief
Radiological Emergency Preparedness Branch
Department of Homeland Security/FEMA
500 C Street, SW
Washington, DC 20472

Dr. Gail H. Marcus
U.S. Department of Energy
Room 5A-143
1000 Independence Ave., SW
Washington, DC 20585

Mr. Thomas P. Miller
U.S. Department of Energy
Headquarters - Germantown
19901 Germantown Road
Germantown, MD 20874-1290

Mr. Gary Wright, Manager
Division of Nuclear Safety
Illinois Emergency Management Agency
1035 Outer Park Drive
Springfield, IL 62704

Ms. Nancy Butler, Director
Harriette Person Memorial Library
606 Main St.
Port Gibson, MS 39150

Mr. David Lochbaum
Union of Concerned Scientists
1707 H Street, NW
Suite 600
Washington, DC 20006-3919

Mr. Paul Gunter
Director of the Reactor Watchdog Project
Nuclear Information & Resource Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Mr. James Riccio
Greenpeace
702 H Street, NW, Suite 300
Washington, DC 20001

Mr. David Ritter
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Marvin Fertel
Senior Vice President
and Chief Nuclear Officer
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. Ron Simard
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. Russell Bell
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. James F. Mallay, Director
Regulatory Affairs
FRAMATOME, ANP
3315 Old Forest Road
Lynchburg, VA 24501

Mr. Ernie H. Kennedy
Vice President New Plants
Nuclear Plant Projects
Westinghouse Electric Company
2000 Day Hill Road
Windsor, CT 06095-0500

Dr. Regis A. Matzie
Senior Vice President and
Chief Technology Officer
Westinghouse Electric Company
2000 Day Hill Road
Windsor, CT 06095-0500

Mr. Vince Langman
Licensing Manager
Atomic Energy of Canada Limited
2251 Speakman Drive
Mississauga, Ontario
Canada L5K 1B2

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Tom Clements
6703 Guide Avenue
Takoma Park, MD 20912

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Mr. Jack W. Roe
SCIENTECH, INC.
910 Clopper Road
Gaithersburg, MD 20878

Mr. Charles Brinkman
Westinghouse Electric Co.
Washington Operations
12300 Twinbrook Pkwy., Suite 330
Rockville, MD 20852

Dr. Glenn R. George
PA Consulting Group
130 Potter Street
Haddonfield, NJ 08033

Mr. Joseph D. Hegner
Lead Engineer - Licensing
Dominion Generation
Early Site Permitting Project
5000 Dominion Boulevard
Glen Allen, VA 23060

Mr. Thomas Mundy
Director, Project Development
Exelon Generation
200 Exelon Way, KSA3-N
Kennett Square, PA 19348

External Email
gzinke.entergy.com

Electronic distribution by RIV:
Regional Administrator **(BSM1)**
DRP Director **(ATH)**
DRS Director **(DDC)**
Branch Chief, DRP/A **(WDJ)**
Senior Project Engineer, DRP/A **(TRF)**
Staff Chief, DRP/TSS **(PHH)**
RITS Coordinator **(NBH)**
Rebecca Tadesse, OEDO RIV Coordinator **(RXT)**
DAPowers (DAP)
M. Concepcion-Robles (MCR1)
S. Dennis (SXD2)
L. Dudes (LAD)
A. Fernandez (AXF2)
R. Gardner (RNG)
N. Gilles (NVG)
K. Heck (KCH1)
M. Itzkowitz (MLI)
S. Koenick (SSK2)
J. Lyons (JEL)
P. Prescott (PFP)
T. Quay (TRQ)
M. Scott (MLS3)
D. Thatcher (DFT)

ADAMS: ☒ Yes ☐ No Initials: __CJP____
☒ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ☐ Non-Sensitive

SRI:EB	PM:NRR	OE:NRR	OE:NRR	OE:NRR	SPM:RIII	C:EB	C:PBA	C:EB
CJPaulk/lmb	SKoenick	PPrescott	SDennis	KHeck	RGardner	CSMarschall	WDJohnson	CSMarschall
/RA/	/RA/ E	/RA/ E	/RA/ E	/RA/ E	/RA/	/RA/	/RA/	/RA/
3/18/04	3/18/04	3/2/04	3/9/04	3/8/04	3/10/04	3/19/04	3/19/04	3/19/04

OFFICIAL RECORD COPY T=Telephone E=E-mail F=Fax

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	52-009
Report :	05000009/2004001
Applicant:	System Energy Resources, Inc.
Location:	Enercon Services, Inc. Kennesaw, Georgia
Dates:	February 9-13, 2004
Team Leader:	C. Paulk, Senior Reactor Inspector, Engineering Branch, Division of Reactor Safety, Region IV
Inspectors:	S. Dennis, Operations Engineer, Quality and Maintenance Section, Office of Nuclear Reactor Regulation
	R. Gardner, Senior Project Manager, Division of Reactor Safety, Region III
	K. Heck, Operations Engineer, Quality and Maintenance Section Office of Nuclear Reactor Regulation
	P. Prescott, Operations Engineer, Quality and Maintenance Section Office of Nuclear Reactor Regulation
Accompanying Personnel:	M. Concepcion-Robles, Intern, Office of Nuclear Reactor Regulation S. Koenick, Project Manager, Office of Nuclear Reactor Regulation
Approved By:	Charles S. Marschall, Chief Engineering Branch Division of Reactor Safety

EXECUTIVE SUMMARY

System Energy Resources, Inc., Early Site Permit
NRC Inspection Report 052000009/2004001

This special team inspection reviewed aspects of applicant and contractor quality assurance and quality control activities involved with preparation of the application for an early site permit for a location on the Grand Gulf Nuclear Station site.

The team concluded that the quality assurance procedures and controls used by the applicant, System Energy Resources, Inc.; the primary contractor, Enercon Services, Inc.; and subcontractors were equivalent in substance to the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1, "Early Site Permit Quality Assurance Controls," of Draft Review Standard 002, "Processing Applications for Early Site Permits."

Two issues with possible generic implications were identified by the team and will be categorized as open items pending NRC review and resolution. The first open item involved the validation of data obtained directly from publicly accessible internet websites for reference in the application. The team was concerned that data posted to websites may not be subject to the same degree of review and verification as data obtained directly from the sponsoring organization, or that malicious computer data tampering could impact the integrity or reliability of the website data. This issue is identified as Open Item 052000009/2004001-01, “Validation Requirements for Website Data Used in License Applications.” (Section 2B.b.(9))

The second item involved the applicability of 10 CFR Part 21, "Reporting of Defects and Noncompliance," to the early site permit application. This issue is identified as Open Item 052000009/2004001-02, "Applicability of Part 21 to Early Site Permit Application Process." (Section 2C.b.(4)(a))

These open items will be resolved during the completion of the licensing review for the Early Site Permit, and will be closed in the final NRC Safety Evaluation Report, or during a followup inspection prior to the issuance of that report.

Report Details

Status

On October 21, 2003, the NRC received an application from System Energy Resources, Inc., dated October 15, 2003, for an early site permit in accordance with 10 CFR Part 52, Subpart A, "Early Site Permits"

The site selected for the early site permit is a parcel of land on the Grand Gulf Nuclear Station site in Claiborne County, Mississippi, approximately 25 miles south of Vicksburg, Mississippi. An existing nuclear facility licensed by the NRC is located on the Grand Gulf Nuclear Station (NRC Docket No. 50-416) site.

A Site Safety Analysis Report supports System Energy Resources, Inc.'s application for the early site permit. Quality assurance measures that were used during preparation of the application are briefly summarized in Part 5, "Programs and Plans," of the application.

This inspection was conducted to assess the validity of the Site Safety Analysis Report data by determining whether the quality assurance controls, applicable to elements of the early site permit activities, were implemented without substantive deviations. This inspection was performed using the guidance contained in NRC Inspection Procedure 35006, "Early Site Permit Quality Assurance Controls Assessment and Conclusion."

Under 10 CFR 52.18, Standard for Review of Applications," the staff will review early site permit applications in accordance with the applicable regulation of 10 CFR Part 50 and its appendices and Part 100 as they apply to construction permits. The current regulations do not require implementation of a quality assurance program compliant with Appendix B to 10 CFR Part 50. However, the applicant is expected to implement quality assurance controls equivalent in substance to the controls described in Appendix B to 10 CFR Part 50 to provide reasonable assurance that information derived from early site permit activities that would be used in design and/or construction of structures, systems, and components important to safety would support satisfactory performance of such structures, systems, and components in service. Draft Review Standard 002, which references Section 171.1, "Early Site Permit Quality Assurance Controls," contains staff guidance for conducting the review quality assurance controls applied to the early site permit.

Quality Assurance

1. Quality Assurance Manual/Control Documents (35006)

a. Inspection Scope

For specific organizations with quality assurance/quality controls responsibilities, the team reviewed the procurement documents, the Enercon Services, Inc., (Enercon) quality assurance program, the early site permit-specific quality assurance project planning document, project instructions, and applicable corporate standard procedures to determine if requirements for quality-related activities were equivalent in substance to the controls described in Appendix B to 10 CFR Part 50 and consistent with the guidance contained in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

Entergy Nuclear Potomac Company, a subsidiary of Entergy Corporation, was authorized by Systems Energy Resources Inc., to prepare the early site permit application. Entergy Nuclear Potomac Company selected Enercon as the lead contractor for development of the early site permit application. The procurement documentation specified that Enercon would implement a quality assurance program in accordance with 10 CFR Part 50, Appendix B. This quality assurance program addressed those portions of the early site permit application activities that support the design input for the future power plant design and construction. Specifically, this included hydrological and meteorological site characterization activities. In addition, the procurement documentation specified that Enercon would provide quality assurance oversight of Entergy Nuclear Potomac Company's subcontractor, William Lettis & Associates (WLA), in developing the seismic and geologic input for the early site permit application.

Enercon Quality Assurance Program Manual

The quality assurance program was designed to provide requirements for nuclear facilities. The quality assurance program was written to be compliant with the requirements of 10 CFR Part 50, Appendix B, and contained quality assurance policies corresponding to each of the Appendix B criteria. A specific project planning document was developed to provide guidance for implementation of the quality assurance program to the System Energy Resources, Inc., application.

Enercon Quality Assurance Project Planning Document

The staff reviewed the "Enercon Services, Inc., Quality Assurance Project Planning Document for Entergy Nuclear Potomac Early Site Permitting Project Grand Gulf Nuclear Station Site Project No. ENTO-002," Revision 5, dated October 6, 2003. The Quality Assurance Project Planning Document was developed to implement the Enercon quality assurance program for specific activities related to the early site permit application. The stated purpose of the Quality Assurance Project Planning Document was to provide a detailed description of the total scope of work and tasks necessary to produce the early site permit application for the Grand Gulf Nuclear Station site. The Quality Assurance Project Planning Document identified hydrological and meteorological activities that fell within the Enercon quality assurance program, as well as, oversight of seismic and geotechnical work performed by WLA. The team verified that calculations associated with the determination of atmospheric dispersion factors were performed with quality assurance program controls within the scope of meteorological activities. In addition, the team confirmed calculations to determine population projections were developed with adequate quality measures.

Since certain aspects of the applicant's quality controls are not required to be fully implemented, the Quality Assurance Project Planning Document identified quality assurance requirements only applicable to the early site permit project. Specifically, of the 18 elements in the Enercon Quality Assurance Program Manual, the following elements were not applicable to the early site permit project: Section 8.0, "ID and Control of Material, Parts and Components"; Section 9.0, "Control of Special

Processes"; Section 10.0, "Inspections"; Section 11.0, "Test Control"; Section 14.0, "Inspection, Test and Operating Status"; Section 15.0, "Nonconforming Materials, Parts or Components." For Section 12.0, "Control of Measuring and Test Equipment," quality standards are addressed in applicable early site permit procedures. Attached to the Quality Assurance Project Planning Document are specific project instructions tailored to the scope of work.

The applicability of quality assurance policies was determined in accordance with Enercon Corporate Standard Procedure 2.01, "Project Planning," Revision 2. The issue of whether these specific elements of the Quality Assurance Program Manual should have been applied to the early site permit project will be discussed in the NRC's safety evaluation report. However, the elements that were not included in the quality assurance program did not appear to impact activities related to early site permit activities.

Activities performed by Enercon subcontractors, WLA, and WLA subcontractors were governed under the Enercon Quality Assurance Program Manual through purchase order or the Quality Assurance Project Planning Document. Eustis Engineering Company, Inc. (Eustis), was one exception, which is discussed in Section 2.B. of this inspection report.

c. Conclusions

The application of the Enercon Quality Assurance Program Manual through its Enercon Quality Assurance Project Planning Document was equivalent in substance to the controls described in Appendix B to 10 CFR Part 50 and guidance delineated in Section 17.1.1 of Draft Review Standard 002.

2. Quality Assurance Control Implementation (35006)

For each organization with quality assurance and quality control responsibilities, the team reviewed quality assurance organizations and responsibilities, implementing procedures, contractual requirements, and work records. These reviews were performed to determine if the activities were equivalent in substance to the controls described in Appendix B to 10 CFR Part 50 and met the applicable guidance in Section 17.1.1 of Draft Review Standard 002.

2A. Quality Assurance Organization

a. Inspection Scope

The team reviewed selected organizations having quality assurance and quality control responsibilities applicable to early site permit activities at the proposed site. The team interviewed cognizant applicant and contractor personnel, and reviewed applicant, contractor, and subcontractor procedures to verify that adequate controls existed regarding early site permit quality assurance and quality control activities.

These activities were performed to verify the activities were equivalent in substance to the controls described in Appendix B to 10 CFR Part 50 and met the applicable guidance in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

Systems Energy Resources, Inc.

System Energy Resources, Inc., a subsidiary of Entergy Corporation, is the applicant for the Grand Gulf Nuclear Station Early Site Permit. Entergy Nuclear Potomac Company was authorized by System Energy Resources, Inc., to prepare the early site permit application. Entergy Nuclear Potomac Company selected Enercon to perform the actual preparation of the early site permit application. Early site permit quality assurance organizational responsibilities, including quality assurance oversight, were delegated to Enercon. The Entergy supplier quality assurance organization had included Enercon on the Entergy qualified supplier list as a qualified vendor.

The team noted that Entergy Nuclear Potomac Company assumed responsibility for the procurement of services for seismic and geotechnical early site permit evaluations (discussed below). The team determined that this organizational structure was equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

Enercon Services, Inc. (Enercon)

The team noted that the early site permit agreement contract, dated April 19, 2002, documented Entergy Nuclear's selection of Enercon as the primary contractor responsible for developing the early site permit application for the Grand Gulf Nuclear Station site. Section 28, "Quality Assurance and Reporting Requirements," stated that all services that could affect design input for safety-related systems, structures or components performed for preparation of the early site permit application shall be performed under the auspices of the Quality Assurance Program Manual and the Quality Assurance Project Planning Document developed by Enercon. It further stated that, for work designated as safety-related, the contractor (Enercon) shall comply with the provisions of 10 CFR Part 21, "Reporting of Defects and Noncompliance."

The team noted that the Enercon Quality Assurance Program Manual conformed with the requirements of 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." The team's review of selected portions of the Enercon Quality Assurance Program Manual identified the following quality assurance organization attributes:

> Section 1.0, "Organization," stated that the Quality Assurance Manager was responsible for the execution of the Enercon quality assurance program (including work performed by other organizations or companies) and that the Quality Assurance Manager had the authority to halt further processing, delivery or installation of a non-conforming item deficiency or unsatisfactory condition until proper disposition had occurred. It also stated that

the Quality Assurance Manager reported directly to the Chief Operating Officer, Enercon Services, and had access to the President, Enercon Services.

Section 16.0, "Corrective Action," stated that it is the responsibility of every Enercon employee to identify conditions adverse to quality, and notify the Quality Assurance Manager/Project Quality Assurance Engineer of the condition. It also stated that any employee may initiate a Corrective Action Report for conditions adverse to quality. In addition, it stated that, if a reported condition adverse to quality was determined to be sufficiently significant, the President, Enercon Services, may be called upon to assist in obtaining timely corrective action.

The applicant indicated that the Quality Assurance Project Planning Document was prepared by Enercon and reviewed by Entergy. The stated purpose of the project was to prepare an early site permit application for a site upon which a nuclear power plant could be constructed near Port Gibson, Mississippi. The Quality Assurance Project Planning Document included an organization chart, which depicted key organizational positions such as project manager, quality assurance program manager, and project technical/task leads. Section 2 of the Quality Assurance Project Planning Document included a description of associated position responsibilities and qualification requirements. The team noted that the Enercon quality assurance manager fulfilled the roles and responsibilities of that position. The team also found the individuals identified on the project organization chart met the acceptance criteria of Section 17.1.1 of Draft Review Standard 002.

William Lettis & Associates, Inc. (WLA)

Services for seismic and geotechnical evaluation of the site was provided by WLA under separate contract with Entergy Nuclear Potomac Company. William Lettis & Associates employees and their subcontractors were required to perform work in accordance with Enercon's Quality Assurance Program Manual. The team reviewed selected project instructions prepared by WLA and reviewed by Enercon to provide guidelines for conducting seismic and geotechnical activities. The team verified that the project instructions required that work be performed under the Enercon Quality Assurance Program Manual.

The team determined that WLA personnel had extensive education and experience in seismic analyses. Training was adequately provided and documented.

c. Conclusion

The team concluded that the early site permit quality assurance organization met the acceptance criteria delineated in Section 17.1.1 of Draft Review Standard 002. By meeting the acceptance criteria of Section 17.1.1, the quality assurance organization was equivalent in substance to the requirements of Appendix B to 10 CFR Part 50.

2B. Design Control

a. Inspection Scope

The team reviewed the implementation of quality assurance design control attributes applicable to early site permit activities at the proposed site to verify they were equivalent in substance with Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002. The team also interviewed cognizant applicant and contractor personnel, and reviewed applicant, contractor, and subcontractor procedures to verify that the controls were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

b. Observations and Findings

Enercon is the primary contractor providing personnel, systems, project management, and resources for the early site permit project. Entergy Nuclear Potomac Company procured engineering services and support for specific design control activities from subcontractor WLA. William Lettis & Associates subcontracted some of these activities to Eustis, GEOVision Physical Services, Pacific Engineering, Inc., the University of Texas, Jack Benjamin & Associates, and Omega Technical Services, Inc. Subcontractors, with the exception of Eustis, were subject to Enercon's quality assurance program and Quality Assurance Project Planning Document. The quality controls implemented by Eustis are discussed below.

Following are the findings from the team review and verification of the design control activities:

(1) *Enercon*

Entergy Nuclear Potomac Company selected Enercon as the primary vendor to establish a quality assurance program for the early site permit. Enercon prepared the Quality Assurance Project Planning Document that was used for applicable portions of the early site permit, which established the overall quality framework for the early site permit project. The Enercon Quality Assurance Program Manual was written to be in compliance with the requirements of 10 CFR Part 50, Appendix B.

The following portions of the Quality Assurance Project Planning Document, as they related to the design control area for the early site permit, were reviewed by the team.

(a) Instruction ENTO002-PI-02, "Hydrologic and Meteorological Data Management," Revision 2, described the guidelines applicable to the collection, development and/or evaluation and control of hydrological and meteorological data required to support evaluations or assessments of the site as reported in the Site Safety Analysis Report. The project instructions further described that controls for data

manipulation of calculations and algorithms will utilize an appropriate method to derive results, such as weighted average or median value. Additionally, the project instructions stated that computer software used for data manipulation shall meet the requirements of Procedure CSP 3.02, “Control of Computer Software.”

(b) Instruction ENTO002-PI-03, "Compilation of Geosciences Database and Development of Seismic Source Model," Revision 2, provided guidelines for compilation of the database used for calculation for the safe shutdown earthquake ground motions for the proposed site. The project instructions described the method for data compilation, geological mapping, and seismic source characterization. The project instructions also described the technical review and reviewer qualification requirements.

(c) Instruction ENTO002-PI-05, "Geologic, Geotechnical, and Geophysical Field Exploration and Laboratory Testing," Revision 3, provided guidelines for geologic site characterization activities. The project instructions described the methodology to be used by WLA for activities, which included exploratory borings, sampling techniques, collection and transportation of samples, and laboratory testing. The project instructions also described the requirements for technical review of the findings.

(d) Instruction ENTO002-PI-06, "Analysis of Site Response and Development of SSE [safe shutdown earthquake] Ground Motions," Revision 0, provided guidelines for completing the site response analysis and development of the safe shutdown earthquake ground motions for the proposed site. The project instructions also described requirements for independent technical review of the site response analysis.

(e) Instruction ENTO002-PI-07, "Comparison of Current Seismicity to 1986 EPRI [Electric Power Research Institute] Catalog," Revision 0, provided guidelines for comparing the post-1986 EPRI seismicity parameters to the seismicity parameters used in the 1986 EPRI seismicity owners group seismicity catalog. The project instructions also described the methodology used to complete the seismicity analysis in the probabilistic seismic hazard assessment probabilistic seismic hazard assessment.

The team noted that Section 3.0 “Design Control,” of the Quality Assurance Program Manual, provided guidelines for quality assurance controls in the areas of design input, verification, change control, and corrective actions. Additionally, the procedure provided the guidelines for design process, interface control, document control, and referenced other Enercon quality assurance procedures for document control and corrective actions.

The team noted the following:

Procedure CSP 2.03, “QA Training Requirements,” Revision 1, prescribed the activities required for providing quality assurance indoctrination of project

personnel at the initiation of the project, as well as, measures for updates and orientation of new personnel during the project duration.

Procedure CSP 3.01, "Preparation and Control of Calculations," Revision 4, established the requirements, methodologies, and responsibilities for the preparation, design verification, approval, revision, and control of calculations.

Procedure CSP 3.02, "Control of Computer Software," Revision 5, prescribed the controls required for the development and use of computer software for quality assurance projects. The procedure further delineated the methodology for software verification and validation, error resolution (corrective actions), and configuration management.

The team found that the quality assurance design control measures described in the Enercon Quality Assurance Project Planning Document and other Enercon procedures and documents were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(2) *William Lettis & Associates Inc. (WLA)*

Entergy Nuclear Potomac Company contracted with WLA to perform various aspects of the work associated with the early site permit project. William Lettis & Associates was responsible for managing and directing field activities associated with the geological, geotechnical, and geophysical work involved with the early site permit project. The work was performed by WLA and their subcontractors under the guidance provided in Enercon project instructions (noted previously in this section), portions of the Enercon Quality Assurance Program Manual, and in accordance with American Society for Testing and Material Standards (ASTM).

William Lettis & Associates was responsible for compiling and evaluating the geosciences database and developing the seismic source model for input into the probabilistic seismic hazard assessment. Additionally, WLA was responsible for the technical review of the data compilation and seismic source characterization activities. The team noted that the following documents were related to the work performed, supervised, or reviewed by WLA, as provided in the Early Site Permit Project Engineering Reports ER-01, dated August 22, 2003, and ER-02, dated July 18, 2003, and the early site permit application.

(a) Site boring summary sheets
(b) Cone penetrometer test summary logs
(c) Static laboratory testing summary for site borings
(d) Borehole logging reports
(e) William Lettis & Associates daily reports

The team noted that the reports, which documented the independent technical review of Engineering Reports ER-01 and ER-02, verified the validity of stated assumptions, inputs, and cited references in the engineering reports. The reports also included a technical check of calculations as required by Procedure CSP 3.01. Additionally, the

independent technical review determined that the input data was collected and analyzed according to standard-of-practice methodologies outlined in ASTM Standards.

The team also reviewed the independent technical review reports of Calculation Packages ENTO002-CP-01, “Seismicity Analysis for the Grand Gulf ESP Site,” August 22, 2003, and ENTO002-CP-02, “Development of Safe Shutdown Earthquake Ground Motions for the Grand Gulf ESP Site,” July 18, 2003. The independent review report verified the validity of the assumptions, inputs, outputs, and references used for the calculations. The team noted that the independent reviews for these calculations, which concluded that there were no substantive discrepancies, were completed on January 13, and January 2, 2004, respectively, which was subsequent to the submission of the early site permit application, which occurred on October 16, 2003.

The team concluded that the quality assurance design control measures for the work performed by WLA, in support of the Grand Gulf Early Site Permit Project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(3) *University of Texas*

The University of Texas Soil Dynamics Laboratory was subcontracted by WLA to perform boring sample dynamic laboratory analysis for the early site permit project. Quality assurance program policies contained in the University of Texas report were in accordance with the Soil Dynamics Laboratory Quality Assurance Program, which was previously approved by the Department of Energy for the Yucca Mountain Project dynamic soil and rock tests. Documentation provided by University of Texas described technical and test procedures for the resonant column and torsional shear testing performed in the Soil Dynamics Laboratory.

The team noted that Attachment 5, "Technical Procedures for Resonant Column and Torsional Shear Testing of Soil and Rock Samples,” Revision 0, to Instruction ENTO002-PI-05; the dynamic test results and reports; and the validation procedures were designed to meet the standards of ASTM 3740, “Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.” The team found that University of Texas engineering personnel involved in performing the tests and writing the reports were trained and supervised for the work they performed for the early site permit project.

The team concluded that the quality assurance design control measures for the work performed by University of Texas, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(4) *Eustis*

Eustis was subcontracted by WLA to perform cone penetrometer tests and laboratory analysis in support of seismic studies for the early site permit project. The cone penetrometer test sounding, as specified in the subcontract between Eustis and WLA, was carried out under the requirements of Instruction ENTO002-PI-05, Sections 6.2 and 6.4. The laboratory analysis was carried out in accordance with the existing Eustis quality assurance procedure, which was reviewed and approved by the Enercon quality assurance manager.

The team determined that the Eustis quality assurance manual specified that qualified, trained individuals use approved procedures in accordance with ASTM or other industry standards to complete the laboratory analysis.

The team concluded that the quality assurance design control measures for the work performed by the Eustis, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(5) *GEOVision*

GEOVision was subcontracted by WLA and performed geophysical surveying for the early site permit project. The work by GEOVision was performed in accordance with Enercon's Quality Assurance Program Manual, as specified in Entergy Nuclear Potomac Company's contract with WLA.

The team noted that procedures were implemented for the validation of the software output calculations and similar calculations performed by hand. Training records showed that quality assurance training was conducted for key individuals performing quality assurance activities.

The team concluded that the quality assurance design control measures for the work performed by GEOVision, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(6) *Pacific Engineering*

Pacific Engineering was subcontracted by WLA to complete work for the early site permit project and performed the work under the guidance contained in the Enercon Quality Assurance Program Manual. The following work was performed:

(a) Provided technical advice for the detailed site investigation and laboratory testing program,

(b) Evaluated preliminary and final analysis of safe shutdown earthquake site response effects, and

(c) Developed safe shutdown earthquake site amplification factors and a calculation package to document the results.

Pacific Engineering worked in conjunction with Jack Benjamin and Associates and conducted safe shutdown earthquake ground motion analyses for the proposed site. All calculations and software utilized in the development of safe shutdown earthquake ground motions were certified for use in accordance with Enercon Procedures CSP 3.01 and CSP 3.02. Personnel involved in design activities were trained in quality assurance controls as stated in training records.

The team concluded that the quality assurance design control measures for the work performed by Pacific Engineering, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(7) *Jack Benjamin and Associates*

Jack Benjamin and Associates was subcontracted by WLA to perform work for the early site permit project in accordance with the Enercon Quality Assurance Program Manual. The work performed by Jack Benjamin and Associates included the following.

(a) Developed safe shutdown earthquake ground motion based on site response amplification factors,

(b) Provided updated EPRI probabilistic seismic hazard assessment for the proposed site,

(c) Updated seismicity parameters for EPRI source zones, as required, and

(d) Prepared a calculation package documenting any analysis.

The team verified that key personnel were trained on quality assurance controls in accordance with Procedure CSP 2.03.

The team concluded that the quality assurance design control measures for the work performed by Jack Benjamin and Associates, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(8) *Omega Technical Services*

Omega Technical Services (Omega) performed the assessment for radiological dose consequences in support of the early site permit project. The scope of work performed by Omega included non-nuclear safety-related activities and safety-related activities. The activities that were determined to be nuclear safety-related by Omega and Enercon were subject to the requirements of Enercon's Quality Assurance Program Manual and

Corporate Standard Procedures. The team noted that Omega personnel involved in the early site permit project performed the following:

(a) Drafting of calculations used to develop the normal dose calculation estimates for radiological consequence evaluations;

(b) Performing dose calculations for various accidents associated with the advanced boiling water reactor, AP1000 and Advanced Converter Reactor-700 plants;

(c) Performing calculations for normal atmospheric dispersion factors required to determine maximum offsite dose; and

(d) Evaluating the proposed methodology for preparation of calculations and analyses.

The team found that the quality assurance design control measures for the work performed by Omega, in support of the early site permit project, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

(9) *Quality Assurance Measures for Control of Publicly Accessible Internet Data*

The team noted that the applicant used publicly accessible internet websites to obtain information referenced in various parts of the early site permit application. For example, the early site permit referenced internet websites controlled by the National Weather Service and the National Oceanic and Atmospheric Administration. This data was used, in part, to establish population distributions and growth estimates, as well as the meteorological profile for the planned early site permit site. During the inspection, the applicant provided a partial listing of internet websites used in the application and the associated disclaimer information. However, objective evidence that demonstrated that the applicable website data was identical to the official data controlled by the website sponsoring organization was not available.

In reviewing the National Oceanic and Atmospheric Administration website used by the applicant, the team noted that the agency offered certification services to verify that data supplied to users was identical to the agency officially archived data. In Publication Environmental Information Summary C-1, “Weather records in Private Litigation,” the National Oceanic and Atmospheric Administration indicated that in accordance with Title 28 of the United States Code, Section 1733, "Government Records and Papers; Copies," only properly authenticated copies or transcripts of records can be admitted as evidence in a court of law.

The team was concerned that data posted to websites may not be subject to the same degree of review and verification as data obtained directly from the sponsoring organization or that malicious computer data tampering could impact the integrity or reliability of the website data. This issue is identified as Open Item 052000009/2004001-01, “Validation Requirements for Website Data Used in License Applications.”

c. Conclusions

Pending resolution of the open item, the inspectors concluded that the early site permit application quality assurance controls in the design control area were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002 regarding early site permit design control activities.

2C. Procurement Control

a. Inspection Scope

The team reviewed the implementation of quality assurance controls for procurement of services by the applicant and the applicant's contractors and sub-contractors. The team reviewed purchase orders, work scope technical requirements, project plans, supplier quality assurance programs and methods used by the purchasing organization to qualify suppliers of safety-related services. These reviews were performed to determine if the procurement controls were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

(1) *General*

Entergy Operations Inc.'s, contract with Enercon assigns the primary responsibility for project control and preparation of the early site permit application to Enercon. Under the contract, Enercon developed the Project Planning Document, initially issued in May 2002, with subsequent revisions through Revision 5, issued October 2003. The Project Planning Document identifies Entergy Nuclear Potomac Company as the client organization; Enercon as the primary contractor for preparation of the early site permit application; and WLA as the primary contractor for early site permit site characterization.

The contract with WLA assigns that organization the responsibility for regional and site investigations, geological hazards investigation, seismic source characterization and updating the Probabilistic Seismic Hazards Analysis, developed by the EPRI. Entergy Nuclear, issued a purchase order to EPRI, under the auspices of an existing service agreement, for control information exchanged between EPRI and WLA.

Enercon issued purchase orders to two principal subcontractors. One contract authorized Omega to prepare calculations and analyses to determine radiological dose consequences. A second contract authorized Black Diamond Consultants to update an evacuation time estimate completed in 1986.

William Lettis & Associates issued purchase orders in two general areas of activity. One area was for subsurface investigations and characterization of the site. The second area was for the preparation of seismic calculations and independent technical reviews under essentially personal service contracts.

(2) *Entergy Contracts*

(a) Enercon

Enercon is on the Entergy Nuclear's qualified supplier list to provide the following engineering services for Entergy Nuclear: energy design, engineering services (general), and computer software (engineering). Nuclear Utilities Procurement Issues Committee has audited Enercon's quality assurance program conforms to the requirements of 10 CFR Part 50, Appendix B, and the reporting requirements of 10 CFR Part 21. The Enercon quality assurance program follows the guidelines of ANSI N45.2 and ANSI/ASME NQA-1.

The primary contract for preparation of the early site permit application was signed on April 16, 2002, by Entergy Nuclear Potomac Company and accepted on April 19, 2002, by Enercon. This contract is referred to as "Agreement and Task Order No. 2 for Development of an Early Site Permit Application (ESP) for the Grand Gulf Site." The authorizing letter was issued by the early site permit project manager; signed by the Enercon Senior Vice President, Business Development; and accepted for Enercon by the Director, Atlanta Operations.

The agreement sets forth the terms and conditions under which Enercon would provide consulting, professional, or technical services. The agreement specifies that specific work activities and schedules would be defined under individual task orders. The contract identifies project individuals responsible for technical administration, project performance, and contract management.

Quality and reporting requirements for conduct of project-related activities are specified in paragraph 28 of the contract as follows:

> "All services provided that could affect design input for the safety related systems, structures or components performed for preparation of the Early Site Permit (ESP) application shall be performed under the auspices of the Contract's Quality Assurance Program and the Quality Assurance Project Plan developed by contractor, as approved by the Entergy Nuclear Potomac Regulatory Compliance/Quality Assurance Manager. Further, for work designated as safety related, the Contractor shall comply with the provisions of 10 CFR Part 21, "Reporting of Defects and Noncompliance."

The responsibility of Enercon under the contract was to provide engineering, technical, and project management support to prepare an early site permit application in accordance with 10 CFR Part 52. The early site permit application was to consist of four key elements: 1) Administrative information, 2) Site Safety Analysis Report, 3) Site Environmental Report, and 4) Emergency Planning Information. Contract-related letters issued by Enercon documenting

acceptance of the contract, development of an infrastructure for the early site permit application, and other matters were included within the scope of the inspection review.

The team found that the procurement document controls, with respect to Enercon, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(b) *William Lettis & Associates*

The Entergy contract authorizing WLA to perform regional and site investigations was signed by authorized WLA representatives on April 12, 2002, and by Entergy Nuclear, project and procurement officers on April 16, 2002. The quality requirements, imposed by the contract, are as follows:

> "All services provided which could affect the safety related functions of systems, structures or components associated with the Early Site Permit Plant Parameter Envelope shall be performed under the auspices of Enercon's Quality Assurance Program as approved by Entergy Operations Manager, QA-Corporate, in accordance with the Entergy Quality Assurance Program as supplemented by the Entergy Nuclear Potomac Company Quality Assurance ESP Project Plan. All work performed at a facility licensed under the United States Nuclear Regulatory Commission shall additionally be performed in accordance with the applicable programs and procedures of the respective facility."

The Enercon Nuclear Quality Assurance Program incorporates a requirement (¶4.2.1.1) imposed on subcontractors to implement the reporting requirements of 10 CFR Part 21. Therefore, a subcontractor acceptance of a task under Enercon's quality assurance program also imposes the requirements of 10 CFR Part 21.

The contract provides for access rights by representatives of Entergy Nuclear, to observe contract-related activities and review for acceptances of all services provided under the contract. The scope of work was explicitly deferred to work orders subsequent to authorization of the contract. The tasks defined by the work orders generally invoked the quality requirements of the service agreement described above.

The team found that the procurement document controls, with respect to WLA, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(3) *Enercon Contracts*

(a) Omega

The Enercon service agreement authorizing Omega to conduct an assessment of a radiological dose consequence approach in support of development of an early site permit application was made effective on July 19, 2002. Work Order No. 2, authorized under this agreement, involved calculation of the accident atmospheric dispersion factors for the exclusion boundary and low population zone. For these safety-related activities, the contract specified that calculations be completed under Procedure CSP 3.01. Documentation of computer software used in completion of these calculations was specified to be in accordance with Procedure CSP 3.20, "Control of Computer Software," Revision 5. These are controlled Enercon procedures applicable to nuclear safety-related calculations.

The team found that the procurement document controls, with respect to Omega, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(b) Black Diamond Consultants

The Enercon contract authorizing Black Diamond Consultants to review the early site permit, site emergency plan, and update the associated evacuation time estimate was made effective on March 21, 2003. The scope of work entailed a field evaluation of roadway conditions and relevant changes since the original update estimate was completed in 1986, and interviews with appropriate state and local officials. The work was specified to be performed in accordance with NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (NUREG-0654, FEMA-REP-1, Rev. 1 Addenda)," Section II, and the requirements of 10 CFR 52.17(b)(2)(I). Documentation of the analyses was specified to include methods, contacts, assumptions, results, as appropriate to support conclusions reached. The work was authorized to be performed by a specific individual.

The team found that the procurement document controls, with respect to Black Diamond Consultants, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(4) *William Lettis & Associates Contracts*

(a) Eustis

Under subcontract work order dated August 7, 2002, WLA contracted with Eustis to provide cone penetrometer testing and laboratory testing services in support of WLA seismic investigations at the early site permit site. The site

work involved the completion of four cone penetrometer test soundings at the early site permit site, estimated to require borings on the order of 80 to 120 feet deep. The cone penetrometer test soundings were to be carried out under the Enercon quality assurance program and in accordance with applicable project requirements, specified as those contained in Sections 6.2 and 6.4 of Instruction ENT0002-PI-05, which is incorporated in the Enercon Early Site Permit Project Planning Document. The contract reserved the right of access for Enercon representatives to observe and inspect cone penetrometer test operations for compliance with the Enercon quality assurance requirements. Additionally, the contract specified that all Eustis personnel involved in data acquisition processing were to receive training in the Enercon quality assurance program.

The work order specified that laboratory analysis be carried out in accordance with Eustis quality procedures. An Enercon qualification audit for the Eustis laboratory was conducted by Enercon on July 23-24, 2002. The audit report concluded that, although Eustis did not have a quality assurance program that met the requirements of the Enercon quality assurance program, adequate controls were in place to support adding Eustis to the Enercon qualified supplier list for material testing in support of the early site permit project.

The contract did not impose the reporting requirement of 10 CFR Part 21. Additionally, the applicant did not dedicate the work performed by this subcontractor to meet the requirements of 10 CFR Part 21. Since the results of the laboratory testing may be used for support of load-bearing structures and equipment, the lack of documentation regarding 10 CFR Part 21 requirements is identified as Open Item 052000009/2004001-02, "Applicability of Part 21 to Early Site Permit Application Process," pending NRC review and resolution.

Contract deliverables included maintenance of a scientific notebook and daily field reports for the cone penetrometer test investigations. Upon project completion, Eustis was to provide copies of the scientific notebook, calibration records or documentation cone penetrometer test logs, laboratory results, and a report documenting the scope of work, methodology, data, and results of investigations. These items were not available for review at the time of the inspection. A summary of results is reported in the early site permit application, Appendix E, “Cone Penetrometer Test Report,” and Appendix F, "Static Laboratory Report.”

The team found that the procurement document controls, with respect to Eustis, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(b) GEOVision

Under subcontract work order dated July 22, 2002, WLA contracted with GEOVision to conduct early site permit site activities related to geophysical surveys and pressure and shear wave suspension logging. The work was

specified to be accomplished in accordance with the Enercon Quality Assurance Program Manual and applicable project requirements, specified as those contained in Section 6.3 of Instruction ENT0002-PI-05, which is incorporated in the Enercon Early Site Permit Quality Assurance Project Planning Document.

The pressure and shear wave surveys conducted within the scope of the contract were identified as safety-related and, as such, required calibration of equipment and documentation of all work in a scientific notebook. The team noted that the GEOVision activities associated with this contract are summarized (site boring logs and classification logs) in Appendix C to Engineering Report ER-02. The team found that the required calibrations and work were appropriately documented.

The team found that the procurement document controls, with respect to GEOVision, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(c) University of Texas

Under subcontract work order dated August 7, 2002, contracted with Dr. Ken Stokey of the University of Texas to conduct laboratory testing services in support of the WLA seismic investigations. Testing included six dynamic triaxial tests and resonant column and torsional shear tests. The work was to be accomplished in accordance with the Enercon quality assurance program and applicable project requirements, specified as those contained in Sections 6.2 and 6.4 of Instruction ENT0002-PI-05, which is incorporated in the Enercon Early Site Permit Project Planning Document. The contract specified that the work was to be carried out under existing University of Texas procedures, which had been reviewed and approved for the project by the Enercon quality assurance manager. The approved procedure is included as Attachment 5 to Instruction ENTO002-PI-05.

The team found that the procurement document controls, with respect to the University of Texas, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(d) Jack Benjamin & Associates

This subcontract is for technical services provided by a designated individual. The scope of work, authorized on April 10, 2002, was for technical review of ground motion sensitivity analysis and development of rock ground motions. A subsequent work order, effective January 1, 2003, authorized additional technical reviews, which updated seismicity parameters for EPRI source zones, updated EPRI probabilistic seismic hazard assessment and median ground rock ground motion for site response analysis; preparation of calculation packages documenting these reviews; and preparation of early site permit Site Safety Analysis Report, Section 2.5.2.3, “Probabilistic Hazard Analysis,” and

Section 2.5.2.5, “Safe Shutdown Earthquake.” Although the contract did not impose any specific quality assurance requirements, on the basis of a discussion with the project managers, such contracts are common within the industry and they function like a staff augmentation program with the independent contractor working under the quality assurance program of the contracting organization. In this case, subcontractor work was performed under the Enercon quality assurance program, as stipulated in the Entergy contract with WLA. The calculations performed under this subcontract were not available for review.

The team found that the procurement document controls, with respect to Jack Benjamin and Associates, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(e) Pacific Engineering

This contract was for technical services performed by Pacific Engineering personnel. Work authorized April 10, 2002, was for technical advice for detailed site investigation and laboratory testing. Included within the scope of the contract interfacing with the individual designated in the Jack Benjamin & Associates contract, above, was the responsibility for ground motion sensitivity analysis. Work effective January 21, 2003, was authorized for the performance of the final site response analysis, development of safe shutdown earthquake site amplification factors, and preparation of a calculation package and Safety Analysis Report, Section 2.5.2.4, “Site Response Analysis.” The same comments with regard to quality assurance requirements, as noted under the Jack Benjamin & Associates contract, apply.

The team found that the procurement document controls, with respect to Pacific Engineering, were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

c. Conclusions

Pending resolution of the open item, the early site permit application quality assurance controls in the procurement document controls were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

2D. Supplier/Contractor Surveillance

a. Inspection Scope

The team reviewed project documentation and interviewed key project personnel with respect to activities conducted at the proposed early site permit site and material testing facilities to assess the adequacy of monitoring and control of early site permit-related activities performed by contractors and suppliers. In addition, surveillances conducted at the offices of WLA were reviewed. The scope of the review included identification

and resolution of deficiencies. These activities were performed to determine if site and material testing, and surveillances of contractor activities were equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

The term "surveillance" as used in this section conforms to the definition that a surveillance is a set of observations of limited scope performed by an individual. An audit, by comparison, is generally programmatic in scope, and is performed by a team of qualified auditors.

The team noted that the Enercon quality assurance manager performed two surveillances at the early site permit site, and one surveillance at University of Texas, where dynamic material testing was conducted. The quality assurance manager also conducted a qualification audit at the Eustis static material testing laboratory. The audit is reviewed elsewhere in this report.

William Lettis & Associates was the primary Entergy contractor for the conduct of regional and site investigations. The Enercon quality assurance program was contractually imposed on WLA for all early site permit safety-related activities because WLA did not have a quality assurance program meeting the requirements of Appendix B to 10 CFR Part 50. Enercon conducted no documented surveillances or audits at the offices of WLA to ensure that the Enercon program was adequately implemented. In lieu of oversight by Enercon, an independent contractor with quality assurance experience performed surveillances at the WLA offices in San Rafael and Walnut Creek, California. The review of these surveillances is discussed below.

(1) *Early Site Evaluation Activities*

Site and laboratory activities were conducted in accordance with Instruction ENTO002-PI-05, included as Attachment 6 to the Enercon Project Planning Document. This instruction requires maintenance of daily logs by the WLA geologist and/or WLA project manager. The instruction also specifies records that must be maintained in the WLA project file until dispositioned by the Enercon project manager. Documentation, such as, daily logs, WLA field notebooks and data sheets, and instrumentation calibration records were not available for the inspection team to review.

Site activities were conducted during the period from July 29 through August 19, 2002. The team noted that the procedure controlling site activities, Instruction ENTO002-PI-05, was revised on July 29, 2002, to change the instructions for core penetrometer sounding and mud rotary drilling. The project instruction was subsequently revised on August 15, 2002, to modify mud rotary drilling and sampling methods. In addition, changes were made near the close of activities to permit changes in boring locations, sampling intervals and pressure and shear wave logging. The procedure was revised on September 15, 2003, after completion of site activities, to replace procedures for seismic velocity logging.

The scope of physical work performed at the early site permit site included the drilling of three exploratory borings made in the general vicinity of the proposed facility. The purpose of the borings was to characterize subsurface geologic conditions, perform in-situ testing, perform borehole geophysical surveys, and obtain laboratory samples. The collected data from these activities was used to evaluate general geological conditions and site stratigraphy, potential geologic and earthquake hazards, site ground motion response, and an initial assessment of foundation conditions and properties. The principal contractor performing activities at the site, WLA, was responsible for managing and directing field activities, including operation of the drilling rig and site surveying under commercial contract.

GEOVision performed geological surveys under WLA contract and direction. Descriptions of the pressure and shear wave survey methods are included as Attachment 4 of Instruction ENTO002-PI-05. These surveys were performed to obtain vertical compressional and shear wave velocity profiles of site bedrock and overburden materials. Approximately four cone penetrometer test soundings were made to obtain continuous logs of texture and mechanical properties of unconsolidated soils. The cone penetrometer testing was performed using standard commercial electronic friction cone, piezocone, and seismic cone equipment and procedures, and was in accordance with ASTM D5578-95, “Standard Test Method for Performing Electronic Friction on Cone and Piezocone Testing of Soils.”

The Enercon quality assurance manager conducted two surveillances while site activities were in progress. The first surveillance was conducted July 25-26, 2002, when mud rotary drilling had commenced at Borehole No. 1. The surveillance verified that the core barrel dimension and condition of bits and steel were recorded, as required. Based on observation of hammer sampling, the quality assurance manager concluded that equipment was in compliance with ASTM D1586-84, “Standard Test Method for Penetration Test and Split-barrel Sampling of Soils." Equipment for thin-wall sampling was checked and was determined to be in compliance with ASTM D1587-94, "Standard Practice for Thin-walled Geotechnical Sampling of Soils.” Two deficiencies, involving handling of soil samples, were dispositioned and closed during the surveillance.

A second surveillance was conducted July 31 through August 1, 2002. The surveillance verified that observed attributes met the requirements of ASTM D5778-95. One deficiency, involving field calibration of equipment, was dispositioned and closed during the surveillance.

The team found that these early site evaluation activities were controlled in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the requirements contained in Section 17.1.1 of Draft Review Standard 002.

(2) *Material Testing Laboratories*

The Enercon quality assurance manager conducted a surveillance of activities associated with resonant column and torsional shear testing at University of Texas on October 15, 2002. The surveillance examined test apparatus and configuration and calibration documentation. Based on observation of equipment setup and testing activities, the quality assurance manager concluded that testing was performed in

accordance with Instruction ENTO002-PI-05. Three deficiencies, associated with calibration dates on test equipment, were identified. Two were attributed to typographical errors; the third was attributed to an out-of-date calibration sticker. All deficiencies were dispositioned and closed during the surveillance.

A qualification audit, conducted at Eustis was conducted by Enercon quality assurance personnel on July 23-24, 2002. Review of this audit is covered in Section 2.G of this report.

The team found that the material testing activities were performed and controlled in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the requirements contained in Section 17.1.1 of Draft Review Standard 002.

(3) *William Lettis & Associates Offices*

The team reviewed three internal surveillance reports, documenting surveillances conducted at the WLA offices in San Rafael and Walnut Creek, California, during the period from July 2, 2002, through September 19, 2003.

The first surveillance was conducted on July 2, 2002, before any calculations had been performed. A checklist was used to verify that project requirements, such as a project file, resumes for project personnel, and project instructions, were in place.

The second surveillance was conducted on September 8, 2002, to verify that the records required by Instructions ENTO002-PI-03 and ENTO002-PI-05 were complete. This surveillance followed completion of site activities on August 19, 2002. The report identified a number of "Needed Actions." See Section 2E.b(2) for resolution of these items.

The third surveillance was conducted August 21-22, 2003, to verify completeness of project deliverables, Engineering Report ER-01 and ER-02, the preparation of which were controlled by Project Planning Documents PI-03 and PI-05, respectively. In addition, the surveillance reviewed project documentation for compliance with Enercon Procedure CSP 17.01, "Issuance of Project Deliverables."

With exception of six findings and two recommendations identified in the three surveillances, the reviewer concluded that WLA had satisfied the applicable requirements of the Project Planning Documents PI-03, and PI-05. Actions taken to close these eight items were documented in an e-mail to the contractor September 19, 2003. With exception of the recommendation to relocate Project Planning Document PI-03 records from the San Rafael office to the Walnut Creek office, all actions were closed by the contractor's letter dated September 22, 2003.

The team found that the activities of WLA were performed and controlled in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the requirements contained in Section 17.1.1 of Draft Review Standard 002.

c. Conclusions

The team did not identify performance-based deficiencies that could have affected the accuracy or completeness of results presented in the applicant's early site permit application. Based on the audits and surveillances that were actually performed, and the details of the technical instructions for activities undertaken, the team concluded that the surveillances were effective, performed and controlled in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50, and met the requirements contained in Section 17.1.1 of Draft Review Standard 002.

2E. Corrective Action

b. Inspection Scope

The team reviewed applicant and contractor procedures and instructions covering the identification and correction of the causes of significant deviations relating to site testing and evaluation, and other early site permit activities important to safety. The corrective action programs and the identified problems were reviewed for the identification and resolution of generic deviations and documentation of corrective actions. These activities were performed to determine if the corrective action program was developed and implemented in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the criteria contained in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

(1) *Enercon*

The Enercon Quality Assurance Program Manual provided for controls on the identification and correction of conditions adverse to quality. A corrective action report was used to document conditions adverse to quality. The team determined the guidance in Procedure CSP 16.01, "Corrective Action," Revision 3, was adequate for the conduct of a corrective action program. However, the team identified that neither the Quality Assurance Program Manual nor Procedure CSP 16.01 defined a condition adverse to quality. As discussed below, the team found that the threshold at which corrective action reports were documented and corrective action taken was appropriate for early site permit activities. The Enercon quality assurance manager generated Corrective Action Report ENTO002-CAR-04 to document the team's finding.

The team noted that Corrective Action Report ENTO002-CAR-01documented that no reference summary form was used for population data sources as required by Project Planning Documents PI-02 and PI-03. Initially, the population data were not considered safety-related. The applicant used the population data in at least one safety-related calculation. The calculation was for the projected dose to the public due to normal plant releases via the liquid or gaseous pathways, based on a worst-case release. The team found the corrective actions resulted in the appropriate information was added to the reference summary form.

The team noted that Corrective Action Report ENTO002-CAR-02 documented that the design verification checklists for calculations prepared by Omega were properly completed, but the reviewer sheet and verification page were not properly numbered, in accordance with Procedure CSP 3.01. The team considered this corrective action report to be administrative in nature.

The team noted that Corrective Action Report ENTO002-CAR-03 documented that a purchase order for Eustis laboratory analysis was not reviewed by the project manager, as required by Enercon's quality assurance program. Resolution of the corrective action report determined that the project manager was aware of the purchase order. However, this work was considered to have unique arrangements for completion of the work by WLA. William Lettis & Associates was contracted directly by Entergy Nuclear, to perform the seismic and geotechnical work required for the early site permit application. The team determined that, although Eustis worked to Enercon's Quality Assurance Program Manual, the subcontractor was contractually obligated to WLA, who was actually responsible for the work.

The team noted the low number of corrective action reports generated during the early site permit project and that only the Enercon quality assurance manager had documented deficiencies. The Enercon quality assurance manager documented these observations on Corrective Action Report ENTO002-CAR-04.

The team found that the Enercon corrective action program was equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(2) *William Lettis & Associates (WLA)*

As detailed in Section 2D. of this inspection report, WLA conducted an internal surveillance on September 6, 2002, to ensure WLA's compliance with applicable quality assurance requirements contained in the following instructions: ENTO002, "Project Planning Document," Revision 5; ENTO002-PI-03, "Compilation of Geosciences Database," Revision 2; and ENTO002-PI-05, "Geologic, Geotechnical, and Geophysical Field Exploration and Laboratory Testing," Revision 3. The individual that conducted the surveillance identified 15 items. The items were not placed in the Enercon corrective action process. The items were subsequently reviewed in a followup surveillance conducted on August 29, 2003, by the same individual. From this surveillance, there remained 6 items. William Lettis & Associates responded in an e-mail to the individual that conducted the surveillance, dated September 19, 2003, that the items had been addressed. The team conducted a followup of some items to ensure the items were adequately addressed and closed. Three of the items pertained to revising procedures. Two items involved WLA needing verification from subcontractors that tasks were completed. One item involved WLA documenting review of field logs. Although the items were not formally placed in Enercon's corrective action program, the items had been adequately addressed. The team's observation that the discrepancies noted in the surveillances were not entered into Enercon's corrective action process was documented by the Enercon quality assurance manager on Corrective Action Report ENTO002-CAR-04.

c. Conclusions

The team noted that the prime subcontractor followed the guidance in the governing procedures and documents and adequately implemented a corrective action program. The corrective action program was equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002. Standard 002.

2F. Quality Assurance Record Control

a. Inspection Scope

For each organization with quality assurance/quality control responsibilities, the team conducted reviews to verify that procedures and instructions for the generation, control, and use of all quality assurance/quality control records addressed appropriate attributes of quality assurance record control.

The quality assurance attributes inspected included: 1) types of records required for various levels of management reviews; 2) types of records required at project level for each activity; 3) standards for content and quality of design and procurement document technical and quality verification records; 4) assignment of responsibility for records; and 5) protection and preservation of records.

Audit reports were reviewed for issues and corrective actions related to records. Procedures for turnover of contractor documents to the applicant were reviewed.

b. Observations and Findings

Enercon's Quality Assurance Program Manual states that elements of the quality assurance program (as identified above) are required to be used to ensure quality in the early site permit project. Section 17 of the Quality Assurance Program Manual, which addresses quality assurance records, states that requirements and responsibilities for records transmittal, retention, and maintenance were documented in the Corporate Standard Procedures.

During the review of test records produced by WLA and Eustis, audit and surveillances of the Enercon subcontractors, and surveillances performed at WLA, the team noted that all of the records were maintained in accordance with the Quality Assurance Program Manual.

c. Conclusions

The control of records was equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

2G. Audits

a. Inspection Scope

The team verified that the applicant (and each contractor with quality assurance/quality control responsibilities) had detailed procedures/instructions covering the preparations for, and the conduct of, audits. The team reviewed completed audits to verify that these controls for the performance of audits have been adequately implemented. These activities were performed to determine if audits were performed in a manner equivalent in substance with the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

b. Observations and Findings

(1) *Enercon*

Enercon's Quality Assurance Program Manual, Section 18.0, outlined the conduct of audits. There were no specific procedures. Section 18.0 delineated auditor qualifications, audit planning, performance, reporting and followup action. The audits were conducted using applicable portions of the Enercon quality assurance checklist. The Enercon quality assurance checklist was modeled on the Nuclear Utilities Procurement Issues Committee (NUPIC) audit checklist. There were two audits conducted that were related to early site permit activities. Both audits were conducted by the same Enercon individual. The team reviewed the resume and qualification and training records of the individual. The individual was adequately qualified and trained to conduct audits.

Audit No. Eustis-AUD-01, conducted July 23-24, 2002, was performed and intended to verify the implementation of applicable quality assurance controls at Eustis for the Grand Gulf Nuclear Station early site permit project. Eustis conducted the retrieval of soil samples for testing. The soil samples were tested at the Eustis materials testing laboratory. The purpose of the audit was to establish a basis for placing Eustis on the Enercon qualified supplier list. Eustis was conditionally approved for early site permit geotechnical testing. The audit determined that, although Eustis did not implement a quality assurance program that met all requirements of Appendix B to 10 CFR Part 50, sufficient controls were in place to warrant conditional approval of Eustis as a supplier of materials testing for the early site permit project. This was primarily based on the evidence of existing controls, as reviewed by the team in the Enercon quality assurance checklist document, that were judged by Enercon to be adequate for the work Eustis conducted. This was supplemented by the results of recent accreditation evaluations conducted by the Corps of Engineers and American Association of State Highway and Transportation Officials. The evaluations measured compliance by Eustis to applicable ASTM standards.

There were no audit findings or corrective action reports issued as a result of the audit. The team found the audit provided evidence that Eustis implemented adequate controls for work conducted on the Grand Gulf Nuclear Station early site permit project.

Audit No. ENTO002-AUD-01, conducted August 18-22, 2003, was intended to verify the implementation of applicable quality assurance controls by Enercon Atlanta and Oklahoma City offices as applicable to the Grand Gulf Nuclear Station early site permit project. The auditor utilized applicable portions of the Enercon quality assurance checklist. The audit determined that, with the exception of three corrective action reports issued for minor infractions, all work performed on the early site permit project was completed in accordance with Enercon's quality assurance requirements.

The three corrective action reports detailed the following conditions: failure to utilize reference forms for demographic data determined by the auditor to be safety-related; failure to properly number the pages for calculation design verification checklists; and failure to obtain explicit approval by the project manager for a purchase order issued by a subcontractor. The team's determination of adequate corrective actions for the corrective action reports are detailed in Section 2E. of this inspection report.

The team noted that the Quality Assurance Project Planning Document, in Section VIII., stated that:

> "Audits and inspections of project activities will be conducted by Enercon as directed by the Enercon QA Manager. This may include surveillance of field activities that are done in accordance with this PPD [Project Planning Document], surveillance of laboratory testing activities and activities conducted at the various offices, and detailed audits of project activities at Enercon and WLA [William Lettis Associates] offices. In lieu of, or in addition to, scheduled audits, 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."

The team identified that Enercon did not conduct an audit or an inspection of WLA. A representative of Entergy Nuclear stated that an audit of WLA would be conducted in the future.

The team reviewed NUPIC Audit SA01-006, conducted May 14-18, 2001, in order to re-qualify Enercon on Entergy Nuclear's qualified supplier list as a supplier of safety-related design engineering services. The audit was performed and reported in accordance with applicable Entergy Nuclear, procedures utilizing the NUPIC audit checklist. There were no findings identified during the audit and no followup actions were required. The scope of the NUPIC audit was not specific to the early site permit project. However, the NUPIC audit satisfactorily covered the general scope of technical services provided by Enercon to the Grand Gulf Nuclear Station early site permit project.

The team found that audits had been performed by Enercon that were equivalent in substance to the requirements of Appendix B to 10 CFR Part 50 and met the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

(2) *Electric Power Research Institute (EPRI)*

Audit 2001-05-846/7-02, conducted October 28 through November 16, 2001, by NUPIC was performed to assess EPRI's implementation of its quality assurance program. The NUPIC audit team concluded that EPRI adequately implemented its quality assurance program. As stated above, the scope of the NUPIC audit was not specific to the early site permit project. However, the NUPIC audit satisfactorily covered the software quality assurance program, which was in the scope of services provided by EPRI to the Grand Gulf Nuclear Station early site permit project.

c. Conclusions

The team concluded that the internal audits were conducted by a qualified individual in accordance with Enercon's quality assurance checklist document. The audits were of adequate scope and depth to be equivalent in substance to the requirements of Appendix B to 10 CFR Part 50 and meet the acceptance criteria contained in Section 17.1.1 of Draft Review Standard 002.

Management Meetings

Exit Meeting Summary

The team presented the inspection results to Mr. R. Hutchinson, Senior Vice President, members of the applicant's management, and representatives of Enercon at the conclusion of the inspection on February 13, 2004. The applicant's representatives acknowledged the findings presented.

Documents containing proprietary materials were reviewed during the inspection. The team returned these materials to the applicant at the completion of the inspection. No proprietary information is included in the report.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Applicant

K. Huey, Manager Business Development
R. Hutchinson, Senior Vice President
G. Zinke, Project Manager Early Site Permit

Enercon Services, Inc.

R. Bryan, Director Atlanta Operations
J. Cesare, Consulting Engineer
C. Noland, Vice President Engineering
A. Schneider, Early Site Permit Project Manager
D. Whitson, Quality Assurance Manager

William Lettis & Associates

J. Hengesh, RG, Senior Geologist
W. Lettis, President
J. Young, Quality Assurance Consultant

LIST OF ITEMS OPENED

Opened

52-009/2004001-01	OI	Validation Requirements for Website Data used in License Applications (Section 2B.b.(9))
52-009/2004001-02	OI	Applicability of Part 21 to Early Site Permit Application Process (Section 2C.b.(4)(a))

DOCUMENTS REVIEWED

NUMBER	TITLE	REVISION/ DATE
	Checklist for PI-05 Deliverable WLA Internal Surveillance, Attachments A and B	September 22, 2003
	Enercon Quality Assurance Program Manual	8, 10
	ENTO002 Project: QA Surveillance of WLA PI-03 Work	July 2, 2002
	EPRI audit to evaluate the EQHAZARD Software Upgrade Project for the PSHA	August 8, 2003

NUMBER	TITLE	REVISION/ DATE
	Early Site Permit Application SSAR Website References	February 10, 2004
	Eustis Engineering Quality Assurance Program Overview	
	GGNS Early Site Permit Project Activity Matrix	0
	Internal QA Surveillance of ENTO002 Project	September 6, 2002
	Jay Young -Software Certification for EQPARAM & CEUS_CALC.FOR	January 31, 2004
	WLA Subcontract to Eustis Engineering Co, Inc.	August 7, 2002
	WLA Subcontract to GEOVision	July 22, 2002
	WLA Subcontract to Omega Technical Services	July 25, 2002
	WLA Internal Surveillance, Attachment C	September 6, 2002
2001-05-846/7-02	Nine Mile Point Nuclear Station L.L.C. Audit	January 21, 2002
CNRO-2002-00046	Quality Processes for Preparing the Entergy Early Site Permit Application	August 15, 2002
CSP 2.03	Enercon - QA Training Requirements	1
CSP 3.01	Enercon - Preparation and Review of Calculations	4
CSP 3.02	Enercon - Control of Computer Software	5
ENTO002	Enercon Services QA Project Planning Document	5
ENTO002 Tab 7.0	WLA subcontract to Eustis EngineeringCompany, Inc.	August 7, 2002
ENTO002 Tab 11	Geovision -Analysis of P-S Suspension Log Data	September 30, 2003
ENTO002 Tab 11	University of Texas-Computer Program Certification-TSTEST	August 19, 2003

NUMBER	TITLE	REVISION/ DATE
ENTO002 Tab 11	Entergy to EPRI QA Purchase Order PO ENPC03-01	April 24, 2003
ENTO002 Tab 11	University of Texas-Computer Program Certification-RCTEST	August 19, 2003
ENTO002- AUD-01	Internal Audit of Atlanta Office, Entergy, Grand Gulf, Early Site Permitting Project, ENTO-002	September 29, 2003
ENTO002-CAR-001	No Reference Summary Forms were Observed for Population Data Sources Because Data was not Considered Safety-Related	September 29, 2003
ENTO002-CAR-002	Design Verification Checklist for Calculations Prepared by Omega Technical Services did not have Reviewer Sheet and Verification Page Properly Numbered	September 29, 2003
ENTO002-CAR-003	Eustis Procurement for Lab Analysis did not go through the Enercon QA Program Review and Approval Cycle	September 29, 2003
ENTO002-CAR-004	During an NRC Inspection Several Items Were Noted by the NRC Inspectors Relating to Corrective Action	February 12, 2004
ENTO002-PI-01	Preparation and Control of Project Instructions	0
ENTO002-PI-02	Hydrologic and Meteorilogical Data Management	2
ENTO002-PI-03	Compilation of Geosciences Database & Development of Seismic Source Model	2
ENTO002-PI-05	Geological, Geotechnical, and Geophysical Field Exploration and Laboratory Testing & Attachments 1 thru 5	3
ENTO002-PI-06	Analysis of Site Response and Development of Safe Shutdown Earthquake Ground motions	0
ENTO002-SUR-001	QA Surveillance, July 25-25, 2002	July 29, 2002
ENTO002-SUR-002	QA Surveillance, July 31 - August 1, 2002	August 5, 2002

NUMBER	TITLE	REVISION/ DATE
ENTO002-SUR-003	QA Surveillance, October 15, 2002	October 16, 2002
Eustis-AUD-01	Qualification Audit of Eustis Engineering Company for Material Testing Services in Support of Early Site Permit (ESP) Project ENTO-002	August 15, 2001
JCY SURV-002	WLA Internal Surveillance ENTO-002 Project, San Rafael & Walnut Creek Offices	September 6, 2002
JCY SURV-003	Closure of August 2003 Surveillance Findings	September 22, 2003
SA01-006	NUPIC/Entergy Audit of Enercon Services, Inc.	June 29, 2001