

QUALITY CONTROL PROCEDURES

SUBJECT	DEPARTMENT	PROCEDURE NO.	EFFECTIVE DATE
10CFR21	NUCLEAR	QC-P21-09	8/22/85

TITLE 10, CODE OF FEDERAL REGULATIONS, PART 21 EXPLANATION AND REPORTING REQUIREMENTS

Section 206 of the Energy Reorganization Act of 1974, as amended, requires that directors and responsible officers of companies that construct, own, operate, or supply equipment or services for a facility licensed or otherwise regulated by the Nuclear Regulatory Commission (NRC), report to the NRC any information reasonably indicating that the facility or activity associated with that facility, or equipment delivered for use in the facility fails to comply with NRC regulatory requirements, or contains a defect, either of which could create a substantial safety hazard. These requirements have been promulgated under Title 10, Code of Federal Regulations, Part 21, and became effective August 10, 1977.

The Prescon Corporation has implemented procedures to ensure compliance with Part 21 and we request your cooperation in this regard.

10 CFR 21.21 requires that individuals and businesses subject to Part 21 must adopt appropriate procedures to ensure compliance with the Part. Such procedures must, among other things, provide for: (a) the evaluation of "deviations" [as such term is defined in 10 CFR 21.3(e)] or for (b) informing the licensee or purchaser of the deviation to permit its evaluation by such licensee or purchaser unless the deviation has been corrected.

The requirements of 10 CFR 21 apply to nuclear power plant equipment and/or services supplied under this purchase order. The applicable equipment and/or services are identified in the purchase order. Please utilize the procedures outlined below for informing The Prescon Corporation of deviations and noncompliances associated with the attached purchase order:

1. The contractor/supplier is required by the regulations to specify in its subcontracts/purchase orders that the requirements of 10 CFR 21 apply to these specified equipment and/or services unless the equipment or service is "commercial grade."

FOR INFORMATION ONLY

8511050140 851031
PDR GA999 EECPRESC
99901007 PDR



THE PRESCON CORP.

1338 NORTH W.W.WHITE RD.
P.O. BOX 20800
SAN ANTONIO, TX 78220-0800
PH.(512)662-8500, telex 767550

<i>H. Williams GA.</i>		
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2. With respect to an evaluated "defect" or "failure to comply" with the NRC regulatory requirements, the contractor/supplier has an obligation under the regulation to report directly to the NRC unless the contractor/supplier is assured that the necessary report to the NRC has been or is being provided by others. If the contractor/supplier makes a report to the NRC in connection with this agreement, a copy of such report shall be mailed to:

President and/or Director of Engineering
The Prescon Corporation
1338 North W.W. White Road
P. O. Box 20800
San Antonio, Texas 78220-0800
(512) 662-8500

3. If information is received which the contractor/supplier is unable to evaluate, the contractor/supplier should immediately report this information to individuals shown herein, Section 2. Any such report should contain complete details as specified in 21.21(b)(3), describing both the possible "defect" or "failure to comply" and the extent of the contractor's/supplier's examination which led to the conclusion that the item may be reportable under the provisions of 10 CFR 21. The Prescon Corporation will then conduct the evaluation and provide the required NRC notification.
4. Clarification of the requirements of 10 CFR 21 is provided in NUREG-0302, Revision 1.
5. A written report is required and shall include but need not be limited to the following information, to the extent known:

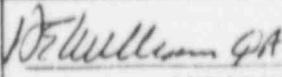
a) Name and address of the individual or individuals informing the Commission.

b) Identification of the facility, the activity, or the basic component supplied for such facility or such activity within the United States which fails to comply or contains a defect.



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- c) Identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect.
- d) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.
- e) The date on which the information of such defect or failure to comply was obtained.
- f) In the case of a basic component which contains a defect or fails to comply, the number and location of all such components in use at, supplied for, or being supplied for one or more facilities or activities subject to the regulations in this part.
- g) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.
- h) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.
- i) The director or responsible officer may authorize an individual to provide the notification required by this paragraph, provided that, this shall not relieve the director or responsible officer of his or her responsibility under this paragraph.

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William GA

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To comply with Federal Regulation 10 CFR 21, Prescon posts the following Section 206 of the Energy Reorganization Act of 1974 as amended.

Noncompliance

"Section 206. (a) Any individual director, or responsible officer of a firm constructing, owning, operating, or supplying the components of any facility or activity which is licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954, as amended, or pursuant to this Act, who obtains information reasonably indicating that such facility or activity or basic components supplied to such facility or activity--

- (1) Fails to comply with the Atomic Energy Act of 1954, as amended, or any applicable rule, regulation, order, or license of the Commission relating to substantial safety hazards, or
- (2) Contains a defect which could create a substantial safety hazard, as defined by regulations which the Commission shall promulgate, shall immediately notify the Commission of such failure to comply, or of such defect, unless such person has actual knowledge that the Commission has been adequately informed of such defect or failure to comply.
- (b) Any person who knowingly and consciously fails to provide the notice required by subsection (a) of this section shall be subject to a civil penalty in an amount equal to the amount provided by Section 234 of the Atomic Energy Act of 1954, as amended.
- (c) The requirements of this section shall be prominently posted on the premises of any facility licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954, as amended.
- (d) The Commission is authorized to conduct such reasonable inspections and other enforcement activities as needed to insure compliance with the provisions of this section."

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Initiator:

Name of:

Name _____

Facility _____

Address _____

Activity _____

Component _____

Constructor _____

Location _____

Supplier _____

Location _____

Date Deviation Noted: _____

Deviation Description:

Dwg. No. _____ Rev. _____

Corrective Action:

Effective Date: _____

By: _____

No. of Facilities Using Component: _____

Locations:

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Engineering Review: _____ Date _____

Quality Assurance: _____ Date _____

Conclusion:



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

RECEIVED

OCT 07 1985

J.S.

October 3, 1985

J. OIKNINE

Docket No. 99901007/85-01

The Prescon Corporation
ATTN: Mr. J. Oiknine
President
1338 North WW White Road
San Antonio, Texas 78220

Gentlemen:

This refers to the inspection conducted by K. R. Naidu and J. Harper of this office on June 10-12, 1985, of your facility at San Antonio, Texas and to the discussions of our findings with you and members of your staff at the conclusion of the inspection. We acknowledge the receipt of your letter dated July 23, 1985 informing us of the corrective action taken to correct certain adverse findings. A separate response to that letter will be sent to you.

The purpose of this inspection was to ascertain the adequacy of your Quality Assurance Program and verify its implementation.

Areas examined during the inspection and our findings are discussed in the enclosed report. Within these areas, the inspection consisted of an examination of procedures and representative records, interviews with personnel, and observations by the inspectors.

During the inspection it was found that the implementation of your QA program failed to meet certain NRC requirements. Specifically, you failed to develop and implement a program to evaluate and report defects in accordance with the requirements of 10 CFR Part 21.

The enclosed Notice of Violation is sent to you pursuant to the provisions of Section 206 of the Energy Reorganization Act of 1974. You are required to submit to this office within 30 days from the date of this letter a written statement containing: (1) a description of steps that have been or will be taken to correct these items; (2) a description of steps that have been or will be taken to prevent recurrence; and (3) the dates your corrective actions and preventive measures were or will be completed. Consideration may be given to extending your response time for good cause shown.

HowARD 10/30/85
Even though we already agreed all or most of these I still need to respond to this in writing

851007/85

24

October 3, 1985

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

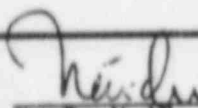



Gary G. Zech, Chief
Vendor Program Branch
Division of Quality Assurance, Vendor,
and Technical Training Center Programs
Office of Inspection and Enforcement

Enclosures:

1. Appendix A - Notice of Violation
2. Appendix B - Inspection Report No. 99901007/85-01

ORGANIZATION: PRESCON CORPORATION
SAN ANTONIO, TEXAS

REPORT NO.: 99901007/85-01	INSPECTION DATE(S): 6/10-12/1985	INSPECTION ON-SITE HOURS: 48
CORRESPONDENCE ADDRESS: The Prescon Corporation ATTN: Mr. J. Oiknine, President 1338 North WW White Road San Antonio, Texas 78220		
ORGANIZATIONAL CONTACT: Howard E. Williams TELEPHONE NUMBER: 512-662-8500		
PRINCIPAL PRODUCT: Post-Tensioning Components - Supply and Installation		
NUCLEAR INDUSTRY ACTIVITY: Prescon is currently installing a containment post-tensioning system at the South Texas Project, and intends to participate in tendon surveillances for nuclear power plants.		
ASSIGNED INSPECTOR:  K. R. Naidu, Reactive Inspection Section (RIS)		8/23/85 Date
OTHER INSPECTOR(S): T. F. Burns (BNL) J. Harper, BIS		
APPROVED BY:  E. W. Merschhoff, Chief, RIS, Vendor Program Branch		9/11/85 Date
INSPECTION BASES AND SCOPE: A. <u>BASES</u> : 10 CFR Part 21 and 10 CFR 50 Appendix B. B. <u>SCOPE</u> : Inspection of post-tensioning components for South Texas Project including verification of documentation and selective verification of QA program implementation.		
PLANT SITE APPLICABILITY: South Texas Project 50-498.		

25-498-296

7/1/85

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A. INSPECTION ISSUES

The Prescon Corporation (Prescon) is currently installing the post-tensioning system at the South Texas Nuclear Power Plant (STP). The purpose of this inspection was to ascertain whether the implementation of Prescon's QA program relative to the fabrication of post-tensioning components meets the requirements of 10 CFR 50 Appendix B and STP's technical specifications.

B. BACKGROUND INFORMATION

Prescon, a division of Compenon Bernard Group (France) and a member of the Freyssinet International Group, specializes in the application of prestressed technology. Prescon has furnished engineering services and specialized construction systems and post-tensioning systems for major construction projects including nuclear power plants in the U.S. and other countries.

Prescon fabricated post-tensioning components to technical specification 2C239CS003 issued by Brown & Root, the then Architect Engineer (AE) for STP. In October 1981, Bechtel Energy Corporation (BEC) assumed the AE responsibilities and issued a revised specification 2C239CS0003, Revision 0, on 9/24/82. Due to delays in construction, the first batch of tendons was fabricated and stored for an extended period of time. This material was scrapped due to excessive rust. A second batch was fabricated and stored under controlled atmospheric conditions.

Recently, problems have been identified with the post-tensioning equipment supplied and installed by Inryco at the J. M. Farley nuclear power plant in Alabama. Although these problems were ultimately found to be caused by a hydrogen embrittlement mechanism not associated with fabrication, a followup inspection at Inryco revealed several deficiencies in the implementation of their quality assurance program. The purpose of this inspection was to ensure that similar quality assurance problems do not exist with regard to the implementation of Prescon's quality assurance program.

C. INSPECTION FINDINGS

1. Violations

- a. Contrary to section 21.21 of 10 CFR Part 21, Prescon did not develop a procedure to review and evaluate deviations for reportability (85-01-01).

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D. INSPECTOR OBSERVATIONS AND OTHER COMMENTS

1. Shop Tour

The inspectors toured the shop area and observed post-tensioning components being prepared for shipment to the job site. Shop anchor heads were being prepared with tendons cut to specified lengths and button heads were being formed. A designated area was assigned to segregate and store nonconforming material. Calibrated measuring devices were being used during the fabrication and inspection process. No nonconformances were noted during this portion of the inspection.

2. Review of Test Documentation

The inspectors reviewed the documentation on the dynamic and static tests performed by Prescon and determined the following:

a. Static Testing

Prescon tested a tendon system consisting of 186 1/4" diameter wires at their Simpsonville, South Carolina facility on August 29, 1974. The purpose of the test was to demonstrate that the tendon to be used to post tension Arkansas Nuclear One, Unit 2, would conform to the technical specification. The acceptance criteria was:

- (1) The tendon will reach a minimum of 100% of the guaranteed ultimate tensile strength with no more than 2% of the wires failing during the test.
- (2) The percent elongation of the tendon under maximum load shall not be less than 3%.

The conclusion of the test was that the test tendon reached a capacity of 2298 kips (104% of the guaranteed ultimate tensile strength) and achieved an elongation of 3.04% prior to the fourth wire break. The tendon performed in accordance with the specifications.

b. Dynamic Testing

A test program was conducted to fulfill specified requirements related to the fatigue life of unbonded button headed wire tendons used for post-tensioning concrete structures. During

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the test, one 20 wire tendon was loaded between 40% and 80% of the guaranteed ultimate tensile strength (GUTS) for 80 cycles. Two 20 wire tendons were loaded between 60 and 66% of the GUTS for 427,000 and 505,000 cycles respectively. Trinity Testing Laboratories, an independent testing laboratory, witnessed the test once a day between September 23, 1977 and January 17, 1978. The random inspection was to determine that at those times witnessed, the test apparatus was performing according to the specifications.

The test concluded that the specified requirements had been met. The tests indicated that alignment of the specimen in the test frame, effects of side loading and the fretting that resulted must be considered. With a stress range between 60 and 66 percent of the tendon capacity and adequate control over these factors, the tendons should be capable of consistently withstanding cyclic loading in excess of 500,000 cycles without failure.

3. Review of Audits Performed on Prescon

The inspectors reviewed the following audits performed on Prescon:

- a. Bechtel Power Corporation, San Francisco, September 14-15, 1983
- b. Bechtel Power Corporation, San Francisco, February 26-28, 1985.
- c. Florida Power & Light Company, March 28, 1985
- d. Duke Power Company, May 28-29, 1985

The review indicated that Bechtel identified one programmatic deficiency relative to inadequate provisions in the manual to control obsolete drawings. Bechtel reaudited Prescon on April 21, 1985 and verified that the corrective actions taken by Prescon to revise and implement the procedure were adequate. No unacceptable findings were identified by the other audits. No nonconformances were noted during this portion of the inspection.

4. Review of Grease Filler Cap Gasket Certification

A gasket is used to retain the grease in the filler cap assembly. The inspector reviewed the certification on this gasket to ascertain whether the gasket will meet the service conditions.

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Prescon's purchase order 6032 dated December 22, 1978 to Corpus Christi Gasket Company, Corpus Christi, Texas ordered 1050 filler gap gaskets made of Nitrile Base Rubber Compound and drawing TP-1002 which provided technical details. The Corpus Christi Gasket Company provided test results for the gasket and certified that the gaskets will withstand the service conditions and environment involved in the required application for a period of 50 years.

No nonconformances were noted during this portion of the inspection.

5. Review of Part 21 Requirements

Bechtel Energy Corporation (BEC), who assumed the AE responsibilities in 1981 from Brown and Root, issued Technical Specification 2C239CS0003 Revision 0 on 9/24/82, including the requirements of general contract 14926-C-0067. Paragraph GC-8 on page A-3 of this contract imposes 10 CFR Part 21 requirements on Prescon.

Prescon had not developed a Part 21 procedure establishing the steps to be taken to identify, evaluate and report a significant nonconforming condition. The inspectors informed Prescon that failure to develop and post 10 CFR Part 21 Reporting Procedures was a violation of NRC rules and regulations (Violation 85-01-01 identified in section C of this report).

6. Review of Personnel Training

A review of training activities indicated that Prescon established and implemented a training program for quality control inspection personnel. Section 2.4 and 2.5 of the Prescon QA manual addresses basic indoctrination and on-the-job training for new employees and engineering personnel, however, there was no objective evidence to verify this activity. The inspectors informed Prescon that the training program should include personnel affecting quality, such as individuals in procurement, engineering, and production since they should be able to recognize the customer's quality requirements and the appropriate provisions of the Prescon quality assurance manual. In a letter dated July 23, 1985, Prescon stated that they will develop a program with input from the Shop Manager and Director of Engineering and that the QA program will be revised to reflect this requirement. Files will be kept on individuals to reflect 1985 training received. Corrective action is expected to be completed by August 22, 1985.

No nonconformances were noted in the above area.

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7. Review of Procurement Activities

a. The inspectors reviewed Purchase Order (PO) 5394 dated 10-17-77 to National Flame and Forge for the supply of 999 pieces of 186 wire stressing washers (also referred to as anchors). The applicability of 10 CFR Part 21 requirements was not referenced in the PO. Prescon personnel acknowledged the finding and agreed to issue an amendment to cover future shipments. Subsequent to the inspection, Prescon issued an amendment to P05396 to National Flame and Forge imposing the requirements of 10 CFR 50 Appendix B and 10 CFR Part 21.

b. The Prescon QA manual addresses the selection and qualification of vendors in Section 7.1 and the performance of audits in Section 18.2. These sections will not prevent a vendor being placed on the Approved Vendors List (AVL) prior to an audit being performed. Subsequent to the inspection, Prescon informed this office that they revised Sections 4.2 and 7.1 of their QA manual to state that purchase orders will not be issued prior to performing an audit on the vendor and placement of the vendor on the AVL.

c. Prescon did not, in all cases, have the original Certified Material Test Reports (CMTR). Presently, the CMTRs provided are actually from the fabricator of the washer and the data therein have been transposed from the manufacturer's CMTR. This was an item of concern since it was stated that the mill (manufacturer) performed the heat treatment and not the fabricator. Prescon in their letter dated July 23, 1985, stated that they received the original CMTRs on July 11, 1985.

No nonconformances were noted in the above area.

E. Exit Meeting

The inspectors met with representatives from Prescon identified in Section F and discussed the scope and findings of the inspection.

F. Persons Contacted

Prescon Corporation

*J. Oiknine, President
*H. E. Williams, QC Manager
*J. Kelly, QC Supervisor

ORGANIZATION: PRESCON CORPORATION
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Bechtel Energy Corporation

N. A. Joonejo, Civil/Structural Engineering Supervisor
B. Bitner, Engineer

*Denotes those individuals who participated in the exit meeting
conducted on June 12, 1985 at the conclusion of the inspection.