PRECRITICAL VIBRATION MONITORING PROGRAM

PROJECT PROCEDURE

FOR

VISUAL INSPECTION

OF

REACTOR VESSEL INTERNALS

FOR

SOUTHERN CALIFORNIA EDISON COMPANY

SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 and 3

SPECIFICATION NO. 1370-RCE-413

CJ26 - RBP
NA05 - RBP

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This procedure together with the Standard Procedure 00000-RCE-413, Revision 00, constitute the Precritical Vibration Monitoring Program (PVMP) procedure for visual inspection of reactor vessel internals for the Southern California Edison Company's San Onofre Nuclear Generating Station -- Unit Number 2 and 3, located four miles south of San Clemente, California.

The requirements of the Standard Procedure apply, except as modified below:

Specification No. 00000-RCE-413	Modification by Specification No. 1370-RCE-413
page iii	Replace page iii of 00000-RCE-413 with page 3 of 6 through page 4 of 6 of 1370-RCE-413, attached.
page 17	Replace page 17 of 00000-RCE-413 with page 5 of 6 of 1370-RCE-413, attached
Section 7.0, Page 33	The "Visual Acuity Test" shall be a Jaeger Test, a Snellen Test and an Ishihara Color Examination.
Page 33A and Page 33B	Pages 33A and 33B shall be available at the time of the inspection to document the results of the inspector(s) visual acuity test and the inspector(s) experience and education; they shall be attached to the final inspection report.
Page 35	Replace page 35 of 00000-RCE-413 with page 6 of 6 of 1370-RCE-413, attached.
Throughout	The inspector(s) shall sign and date each page of data.

NRC Regulatory Guide 1.20, Revision 1 requires that the reactor internals components be subjected to at least 10^7 cycles of vibration for the purposes of the PVMP. Based on a calculated minimum natural frequency of 4.9 hertz (for the Core Support Barrel), 24 days of primary flow will be required during the pre-core hot functional tests for SONGS 2 and 3. To support the verification of accomplishment of the minimum cycles of vibration, the Owner (SCE) will record the individual and collective Reactor Coolant Pump running times during the pre-core hot functional testing, for both above 360°F and below 360°F operation, and will submit those times to C-E after completion of the testing.

PVMP PROCEDURE

FOR

VISUAL INSPECTION OF REACTOR VESSEL INTERNALS

FOR

SAN ONOFRE UNITS 2 and 3

The Precritical Vibration Monitoring Program (PVMP) for San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, will be performed in accordance with NRC Regulatory Guide 1.20, Revision 1. SONGS 2 and 3 have been designated Non-Prototype, Category 1, reactors for the purpose of the PVMP (The Maine Yankee and Fort Calhoun reactors are jointly designated as the valid prototype ; see SONGS 2 and 3 FSAR Section 3.9.2.4) and as such require a visual inspection of reactor internals. This procedure for visual inspection of reactor vessel internals is in accordance with NRC Regulatory Guide 1.20, Revision 1.

Visual examination of the internals will be performed in two stages, a baseline review and a post-hot functional (pre-core) test review. The components and areas to be inspected are defined in this procedure ; the inspections will be performed within the guidelines specified below:

(a) The visual examination shall be conducted to determine the general mechanical and structural conditions of components and their supports, such as the presence of loose parts, debris, or abnormal corrosion products, wear, erosion, corrosion and the loss of integrity at bolted or supporting elements.

(b) The visual examination will require, as applicable to determine structural integrity, the measurement of the clearances and the detection of physical displacement between supporting elements.

(c) For component supports and component interiors, the visual examination may be performed remotely with or without optical aids to verify the structural integrity of the component.

(d) Direct visual examination may be conducted when access is sufficient to place the eye within 24 in. (610 mm) of the surface to be examined and at an angle not less than 30 deg. to the surface. Mirrors may be used to improve the angle of vision. Lighting, natural or artificial, shall be sufficient to resolve a 1/32 in. (0.8 mm) black line on an 18% neutral gray card.

The inspector(s) shall be qualified in accordance with Section 7.0, "Inspector Qualification Requirements", of this procedure. In addition, at least one inspector shall be qualified and certified as a Level 2 visual inspector in accordance with the intent of Regulatory Guide 1.58, Revision 0; C-E Procedure No. 9976-NLE-040, Revision 1, "Standard Operating Procedure for Certifying Visual Examination Personnel for Preservice/Inservice Examinations", shall be used to certify the qualification of the Level 2 visual inspector. A copy of the Level 2 inspector's certification records shall be available at the time of the PVMP inspections, and shall be attached to the final inspection report.

Verification of performance of the inspections to this procedure shall be assured by the signature of a qualified auditor following each inspection series (see Enclosure (1),"QA Auditor's Check Off List"); certification of the auditor's qualifications shall be in accordance with C-E's Group Quality Assurance Manual, Revision A. Documentation of that certification (page 17a/35a of this procedure) shall be available at the time of the audit, and shall be attached to the final inspection report.

The inspection report shall include a copy of this procedure with completed data sheets and a summary of the significant findings of the engineering evaluations. If the inspection of the reactor internals reveals 1) defects, evidence of unacceptable motion, excessive or undue wear, or 2) the results from the analysis (previously performed for SONGS 2 and 3), measurement (previously performed for the valid prototype(s)), or inspection (of the valid prototype(s) and SONGS 2 and 3) programs are inconsistent, the report shall also include an evaluation and description of the modifications or actions planned in order to justify the structural adequacy of the reactor internals. Specifically, the inspection report will contain the following items as a minimum:

a. Identification of the reactor plant;
b. Date of the inspection;
c. A copy of the procedure used;
d. Names and qualifications of personnel performing the inspection;
e. Signature of the auditor;
f. A qualification record of the auditor;
g. Data sheets with component descriptions and photographs per the procedure;
h. Photographs of the inspected components, taken during each inspection;
i. A detailed comparison of the component's wear characteristics, as observed during the baseline and post-hot functional test inspections;
j. A summary of the significant findings of the engineering evaluations.

ENCLOSURE (1)

Q.A. AUDITOR'S C''ECK OFF LIST

Reactor Vessel Internals Pre-Critical Vibration Visual Monitoring Program

Ref. (a): Project Procedure for Visual Inspection of Reactor Vessel Internals for SONGS 2 and 3, C-E Specification No. 1370-RCE-413

(b): CE-GQC Surveillance Trip Report dated _____.

The following items are to be considered during each evaluation of the subject program. This sheet shall be completed, signed, and attached to the data being attained by the inspector. Details of verification of (1) through (7) below shall be recorded in Reference (b).

1. Has the inspector obtained certification of his visual ability in accordance with Reference (a)?

2. Has the inspector been certified to be technically qualified in accordance with Reference (a)?

3. Is the inspector making adequate notations of the internals condition?

4. Is the inspector adequately completing the data form in accordance with Reference (a)?

5. Is the inspector utilizing the current revision of Reference (a)?

6. Is the inspector carrying out the examination in accordance with the requirements of lighting, distance, and angle specified in Reference (a)?

7. Is the inspector verifying that he has adequate resolution in accordance with the requirements of Reference (a)?

_____
Signature/Date

ENCLOSURE (1)

Q.A. AUDITOR'S CHECK OFF LIST

Reactor Vessel Internals Pre-Critical Vibration Visual Monitoring Program

Ref. (a): Project Procedure for Visual Inspection of Reactor Vessel Internals for SONGS 2 and 3, C-E Specification No. 1370-RCE-413

(b): CE-GQC Surveillance Trip Report dated _____.

The following items are to be considered during each evaluation of the subject program. This sheet shall be completed, signed, and attached to the data being attained by the inspector. Details of verification of (1) through (7) below shall be recorded in Reference (b).

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7. Is the inspector verifying that he has adequate resolution in accordance with the requirements of Reference (a)?

_____
Signature/Date