

**SAFETY AND COMPLIANCE INSPECTION**

1. LICENSEE/CERTIFICATE HOLDER  Transnuclear, Inc. 39300 Civic Center Drive, Suite 280 Fremont, CA 94538		2. REGIONAL OFFICE  USNRC Headquarters 11555 Rockville Pike Rockville, MD 20852	
3. DOCKET NUMBER(S)  07201029		4. LICENSE/CERTIFICATE NUMBER(S)  CoC 1029	5. DATE(S) OF INSPECTION  March 3-6, 2003

**LICENSEE/CERTIFICATE HOLDER:**  
The inspection was an examination of the activities conducted under your license/certificate as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license/certificate. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

1. Based on the inspection findings, no violations were identified

2. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, NUREG-1600, to exercise discretion, were satisfied

\_\_\_\_\_ non-cited violation(s) were discussed involving the following requirement(s):  
\_\_\_\_\_  
\_\_\_\_\_

3. During this inspection certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.

**STATEMENT OF CORRECTIVE ACTIONS**

I hereby state that, within 30 days, the actions described by me to the inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE/ CERTIFICATE HOLDER	William D. Gallo		03/06/03
NRC INSPECTOR	Robert R. Temps		03/06/03

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**INSPECTOR NOTES COVER SHEET**

Licensee/Certificate Holder (name and address)	Transnuclear, Inc. 39300 Civic Center Drive, Suite 280 Fremont, CA 94538
Licensee/Certificate Holder contact and phone number	William D. Gallo 914-261-3829
Docket No.	07201029
Inspection Report No.	2003201
Inspection Date(s)	March 3-6, 2003
Inspection Location(s)	San Onofre Nuclear Generating Station (SONGS)
Inspectors	Robert Temps      Jim Pearson Paul Narbut      Mary Jane Ross-Lee
Summary of Findings and Actions	This inspection involved a review of Transnuclear's (TN) fabricator, Southern California Edison (SCE), at the fabrication facility that SCE has established at SONGS.  Overall, SCE's fabrication activities and TN's oversight of the fabrication activities, were assessed to be good. No significant adverse findings were noted and no cited or non-cited violations were identified.
Lead Inspector Signature/Date	Robert R. Temps <i>Robert R. Temps</i> 03/28/03
Inspector Notes Approval Section Chief Signature/Date	Robert J. Lewis <i>RJL</i> 03/31/03

INSPECTOR NOTES: SECTIONS 02.01 THROUGH 02.03 OF IP 60853 WERE PERFORMED DURING THE INSPECTION WITH RESULTS DOCUMENTED BELOW:

**02.01a: Determine whether materials, components, and other equipment received by the fabricator meet DCSS design procurement specifications.**

TEMPS: The inspector reviewed procurement procedures, interviewed procurement QA personnel, reviewed various approved vendor audits/surveillances, and traced the procurement history of several components undergoing fabrication to verify that they were procured from qualified suppliers and met design specifications. The inspector also reviewed controls on calibrated equipment used for both QC receipt and fabrication activities.

The following procedures were reviewed:

SO123-XII-18.19, "Supplier Audits"  
SO123-XI-7, "Quality Affecting Procurement Document Development"  
SO123-XII-20.4, "Receiving Inspection"  
SO123-XXXII-2.1, "Quality Affecting Technical Evaluation/Procurement Classification and Acceptance Process"  
SO123-XV-1, "Calibration and Control of Measure and Test Equipment"

The Evaluated Supplier List was also reviewed.

The following components that were being used at the time in fabrication activities were reviewed for their procurement history:

Guide sleeve MO 02011288; piece # MO 02010923-071  
Shell assembly; shell plate A # 11093A2  
Spacer Disk; serial # 83719"E"  
Support rods; PO 6H242004  
Bottom forging; PO 6H2N1006  
DSC Neutron Absorber Panels

From this review, the inspector concluded that the procurement activities were being performed in accordance with the controlling procedures. Procurement personnel clearly understood the procurement process and the procedures used. Methods used to approve addition of suppliers to the Evaluated Supplier List (ESL) were appropriate. Audits and surveillances used to qualify supplier placement on the ESL were comprehensive and when issues were raised, documentation was provided in the files to show that the issues were satisfactorily addressed. In the case of one supplier, an issue was not responded in a manner satisfactory to SCE so the supplier had severe limitations placed on the services they could supply as noted in the ESL.

For the materials reviewed, the procurement history was readily retrieved for review. All material suppliers were listed on the ESL. Documentation of equipment receipt inspection was proper and CMTRs and other required test results were included in the procurement documentation were applicable. No concerns were identified.

The procedure and process for controlling calibrated M&TE equipment was reviewed and no concerns were identified.

**02.01b: Determine whether the procurement specifications conform to the design commitments and requirements contained in the SAR and, as applicable, the CoC or the site-specific license and technical specifications.**

NARBUT: The inspector verified that the ASME Code version committed to in the SAR was properly carried over into the fabrication specifications and implementing procedures.

TEMPS: See 02.01a above.

**02.02a: With regard to on-site DCSS fabrication activities, determine whether the fab specs are consistent with the design commitments and requirements documented in the SAR, and, as applicable, the CoC or the site-specific license and technical specifications.**

ROSS-LEE: The inspector reviewed the applicable design drawings, procurement drawings, and fabrication drawings, to ensure that the requirements of the design drawings were incorporated throughout. The inspector verified key requirements and critical dimensions and confirmed their implementation through spot checks of components in the fabrication shop. The design drawings reviewed were NUH-05-4010, Revision 2 (Part 71 drawing) and Revision 1 (Part 72 drawing). The procurement drawings reviewed were SCE-01-1001, Revision 2, SCE-01-1002, Revision 2, and SCE-01-1003, Revision 0. The inspector did not find any discrepancies between the fabrication drawings and the procurement drawings. Some minor differences between the design drawings and procurement drawings were identified, however, Transnuclear explained their process for capturing these differences and for ensuring they get added in the next license amendment.

**02.02b: With regard to on-site DCSS fabrication activities, determine whether the licensee, vendor, and fabricator personnel have established an effective method for tracking, evaluating, and dispositioning changes or modifications to the DCSS component design.**

ROSS-LEE: The inspector reviewed the following procedures to verify the processes that were in place to capture changes to the drawings:

SO1-XXVIII-5.49, "AQAM ASME Section III Fabrication Drawings"

SO1-XXVIII-6.3.4, "Customer Notification"

SO1-XXVIII-6.3.6, "ASME Order Entry Process"

SO1-XXVIII-5.3, "ASME Section III Work Activity Guidelines"

SO123-XX-1, "ISS2 Action Request/Maintenance Order Initiation and Processing"

No concerns were identified.

**02.02d: With regard to on-site DCSS fabrication activities, determine whether individuals performing quality-related activities are trained and certified where required.**

NARBUT: The inspector sampled certification records for welders, QC, and NDE personnel. The inspector verified welders were qualified for the processes they were using on the floor and met their currency requirements. The SCE welding supervisor personally kept track of the welders, processes and their currency. This was not as systematic as is ordinarily found in larger organizations, but was adequate and functioning adequately.

PEARSON: The inspectors reviewed the following procedures to determine SCE's Quality Assurance Program parameters and the requirements for the training and certification of personnel performing fabrication activities:

SO1-XXVIII-7, "ASME Section III Training Program"

SO123-XII-2.18, "Certification of Inspection, Examination and Test Personnel"

SO123-XII-2.19, "Qualification and Certification of Auditing Personnel"

The inspector reviewed training and certification records for several QA/QC personnel qualified in a variety of areas such as ASME Level II, Welding Level II, RT Level II, MT Level II, PT Level II, UT Level III, and Lead Auditor. The inspectors determined that these personnel were performing acceptably through review of records attesting to the performance of recent fabrication activities. The training and certification process was adequate based on the sampled items.

**02.02e: With regard to on-site DCSS fabrication activities, determine whether the on-site fabricator's personnel are familiar with the specified design, designated fab techniques, testing requirements, and quality controls associated with the construction of the DCSS.**

PEARSON: The inspectors questioned several personnel to determine their familiarity with specified design, fabrication techniques, testing requirements and quality controls. Familiarity with the required subject areas appeared to be adequate based on responses from the personnel questioned and the quality of the work performed as witnessed during the inspection.

NARBUT: The inspector found personnel to be knowledgeable in their required areas. Personnel were very motivated and had a very positive attitude regarding compliance (doing the job right) and priorities (compliance and safety before production).

Regarding fabrication activities themselves, the inspector observed welding activities on DSCs 5& 7, both fitup, tack weld, and welding using both manual and machine welding methods. The inspector also observed welding and weld inspection (direct and remote visual) of the fuel guide tubes. Through a review of records, the inspector verified that welders, weld procedures, and procedure qualification records met Code and were properly qualified. The inspector sampled weld material and base metal material and verified they met ASME Code and fabrication specification requirements. The inspector reviewed radiographic film from DSC 3 and verified the proper penetrometer wires were visible and that the film record did not show any unacceptable indications. The inspector chose DSC 3 because it originally had unacceptable indications which had been repaired. The inspector reviewed the before and after films and verified the ability to "see" defects and their removal. The inspector examined the radiographic facility at the Mesa area.

The inspector performed a walk through of the pressure and leak test equipment and procedure with the responsible engineer. No testing was performed during the inspection.

One weakness was identified regarding the procedure for dispositioning defects. Neither TN fab spec, nor drawings or SCE procedures currently describe accepting any scratches or gouges without engineering approval. The procedures require inspecting and recording defects on the shell UT record only, not later when fabrication and assembly are complete.

Usually there are acceptable defects described to the craft and those defects greater than acceptable are dispositioned and recorded for the customer. At SCE accepted defects are not marked with an AR number which makes it difficult to assess what is new versus what has been assessed and accepted. Again this would be difficult for a customer at the time of customer acceptance. This was a weakness not a violation, because nothing had been final accepted.

**02.03a: With regard to on-site DCSS fab QA activities, determine whether they are conducted under an NRC-approved QA program (10 CFR 72.140).**

PEARSON: A sample review of multiple documents occurred during the inspection which supported the implementation of the NRC Approved SCE ASME Section III Quality Assurance Manual and associated fabrication activities. Examples of the procedures that were reviewed follow:

- SO123-XII-2.18, "Certification of Inspection, Examination and Test Personnel"
- SO123-XII-2.19, "Qualification and Certification of Auditing Personnel"
- SO123-XXX-3.5, "Evaluation of Problems to the NRC Pursuant to 10CFR21"
- SO1-XXVIII-6.3.5, "ASME QA Audit Planning, Performance, and Documentation"
- SO1-XXVIII-6.3.10, "Manufacturing Nonconformance Control"
- SO1-XXVIII-7, "ASME Section III Training Program"
- SO123-XII-18.15, "Surveillance and Observation Program"
- SO1-XXVIII-6.3.1, "ASME Section III Program Procedure Matrix"
- SO123-XII-18.15, "Surveillance and Observation Program"
- SO123-XII-18.19, "Supplier Audits"
- SO123-XV-50, "Corrective Action Process"

The result of this review and the witness of ongoing activities during the inspection indicated the DCSS Fabrication was occurring according to the NRC approved program requirements.

**02.03b: With regard to on-site DCSS fab QA activities, determine whether DCSS components are being fabricated per approved QA and 10 CFR Part 21 implementing procedures and fabrication specifications.**

PEARSON: The inspectors performed a sample review of the implementing procedure, SO123-XXX-3.5, "Evaluation of Problems to the NRC Pursuant to 10CFR21." Quality assurance personnel were questioned as to the initiation of any Part 21 reports. Since none had been initiated the personnel were asked to describe the process steps if an initiation were to occur. The responses reflected that the requirements of the SCE procedure noted above were familiar to the employees and that the identification of deficient items and determination of those items in regard to Part 21 was being performed acceptably.

**02.03c: With regard to on-site DCSS fab QA activities, determine whether the fabricator's personnel are familiar with the reporting requirements of 10 CFR Part 21.**

PEARSON: The Part 21 process was discussed with SCE quality assurance personnel during the course of inspection activities. The interviews revealed that the personnel were aware of the reporting requirements of 10 CFR 21.

**02.03d: With regard to on-site DCSS fab QA activities, determine whether the fabricator has complied with 10 CFR 21.6, "Posting requirements."**

PEARSON: The inspector reviewed multiple postings located at various location at or near the fabrication facility for SCE. In each case the postings provided awareness of and requirements for the implementation 10 CFR Part 21 activities. Each posting was found to be legible, complete, and to be posted in a conspicuous location.

**02.03e: With regard to on-site DCSS fab QA activities, determine whether the fabricator has been audited by either the licensee or CoC holder.**

PEARSON: The inspector reviewed the following Transnuclear(CoC Holder) documentation:

Audit Report: SCE.0002, performed: 10/1-4/01  
Supplier Oversight Plan SCE-01.0080, dated 3/21/02  
Quality Source Surveillance Checklist SCE-01.0060.01  
Quality Source Surveillance Checklist SCE-01.0060.03  
Quality Source Surveillance Checklist SCE-01.0060.06  
Quality Source Surveillance Checklist SCE-01.0060.09  
Quality Source Surveillance Checklist SCE-01.0060.11  
Quality Source Surveillance Checklist SCE-01.0060.40  
Quality Source Surveillance Checklist SCE-01.0060.61  
Quality Source Surveillance Checklist SCE-01.0060.62  
Quality Source Surveillance Checklist SCE-01.0060.63

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The above documents cover a time frame from October 2001 thru December 2002, and provide audit and surveillance information on various portions of the fabrication process in addition to the associated specification, drawings and procedures.

The inspector performed a review of the following sample of SCE (Licensee) documentation:

Source Verification Report TNW-SV1-01  
Source Verification Report TNW-SV2-01  
Source Verification Report TNI-SV2-02

The above documents describe issues/concerns which continue to be tracked on the SCE Oversight Issues Matrix and appropriately corrected thru the existing corrective action process.

The activity and documents reviewed in regard to audits, surveillance and work monitoring by both the Licensee and the CoC holder indicate an adequate level of oversight and cognizance

by both parties. All audit and surveillance activity reviewed, indicated well timed, thoroughly planned and executed activities.

**02.03f: With regard to on-site DCSS fab QA activities, determine whether for selected audits and inspection findings from QA audit or surveillance and or inspection reports issued in the previous 2 yrs. the findings were appropriately handled with CAs implemented in a time frame commensurate with their safety significance.**

PEARSON: Sample documents reviewed to determine appropriate handling and timeliness of corrective actions:

Transnuclear Audit SCE.0002, TNW CAR 01.038  
Subject: Issuance and Control of M&TE  
Issue Date: 10/31/01  
Closure Date:12/12/02  
Verification of implementation:12/12/02

Transnuclear Source Verification Report TNW-SV1  
SCE CAR S-1755  
Subject: Control of Purchased Material, Equipment, and Services  
Issue Date: 11/08/01  
Closure Date: 03/08/02  
Verification of implementation: 03/08/02

Southern California Edison(SCE) Audit # TNW-1-01  
CAR S-1723  
Subject: Corrective Action  
Issue Date: 04/02/01  
Closure Date: 10/09/01  
Verification of implementation: 10/09/01  
(CAR S-1723 was associated with a earlier NRC Inspection weakness identified in 72-1004/00-201 and reviewed specifically to determine the outcome of the corrective action process on this issue)

The review of the CARs noted above in addition to the review of procedure SO123-XV-50, "Corrective Action Process," indicated that the Corrective action process is effectively implemented and is providing acceptable handling and timely completion of CARs.

**02.03g: With regard to on-site DCSS fab QA activities, determine whether supervision and quality control/assurance personnel perform appropriate oversight during fabrication activities.**

NARBUT: The inspector observed a sample of QC activities including measurements of the guide tubes, using ordinary micrometers and calipers, and use of the Faro Coordinate Measuring Machine (CMM), a complex measuring device using optical technology. The QC personnel were expert in their application knowledge and the QC supervisor was a certified trainer for the CMM. The QC personnel were precise in their duties and had very positive attitudes regarding the quality of the product. The inspector also observed that the SCE



fabrication travelers required supervisory certification of important verifications, before QC inspection. This practice was effective in that it was very evident that the craft had a strong sense of ownership, responsibility, and pride. The inspector observed heavy supervisory involvement in the fit up and tack welding activities for the bottom forging to shell weld. Similarly, the first use of the dummy fuel element, a go/no-go gage, was widely overseen by supervision and shop management. Although the test was a no-go, due to a gage dimension problem, the degree of oversight was strong.

PEARSON: To help determine if appropriate oversight had been applied to fabrication activities the inspectors performed reviews of the following documents:

ASME QA Program Audit Report AQAA-02-001  
ASME QA Program Audit Report AQAA-02-002  
ASME QA Program Surveillance Report AQAS 02-001  
ASME QA Program Surveillance Report AQAS 02-002  
ASME QA Program Surveillance Report AQAS 03-001Plan  
SO1-XXVIII-6.3.5, "ASME QA Audit Planning, Performance, and Documentation"  
SO123-XII-18.15, "Surveillance and Observation Program"

In addition, audit scheduling activities were discussed with the SCE Team Leader and the audit schedules were reviewed for 2002 and 2003.

Document review and discussion with quality inspectors/auditors and quality supervision in addition to the documents reviewed indicate that sufficient levels and quantities of oversight have been performed.

In addition to the SCE fabrication group oversight by their supervision and the oversight of the fabrication quality group the following Factory Mutual Insurance Company QA/QC Monitoring Reports were reviewed: SCE-2002-002 through SCE-2002-006. The monitoring described on these reports covered 5 separate sections of the QA program governing fabrication activities. In all cases findings were provided to the appropriate levels of SCE management.

**02.03h: With regard to on-site DCSS fab QA activities, determine whether nonconformance reports documenting the deficiencies have been initiated and resolved and CAs for identified fab deficiencies have been implemented in a time frame commensurate with their significance.**

PEARSON: The inspector reviewed a listing of 44 Manufacturing Nonconformance Reports (MNRs). A sample of MNRs were chosen and reviewed in additional detail to determine timely and acceptable resolution in regard to the significance of the nonconforming condition. MNRs reviewed were: MNR 020300511, MNR 020900373, MNR 021200664, MNR 021201373, and MNR 030201073. Each MNR reviewed was acceptably closed in a time frame reasonable for the significance of the MNR deficiency subject area.