

July 8, 2009

Mr. Richard Wilkerson, President  
The Steam Generating Team L.L.C.  
7207 IBM Drive  
Charlotte, North Carolina 28262

SUBJECT: NRC INSPECTION REPORT NO. 99901334/2009-201, NOTICE OF VIOLATION  
AND NOTICE OF NONCONFORMANCE

Dear Mr. Wilkerson

From May 19 to 22, 2009, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at The Steam Generating Team L.L.C. (SGT) facility in Charlotte, North Carolina. The enclosed report presents the results of this inspection.

This was a limited scope inspection, which focused on assessing your compliance with the provisions of Part 21 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 21) "Reporting of Defects and Noncompliance," and selected portions of Appendix B to 10 CFR Part 50, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or 10 CFR Part 21 programs.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because NRC inspectors identified that SGT failed to meet the requirements set forth in 10 CFR Part 21 for: 1) procedures to evaluate deviations within 60 days, and 2) failure to perform a 10 CFR Part 21 evaluation.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

During this inspection, NRC inspectors also found that implementation of your QA program failed to meet certain NRC requirements contractually imposed on you by your customers. The NRC inspectors noted deficiencies for: 1) failure to provide sufficient independence on deficiency reports; 2) failure to initiate corrective action to prevent recurrence of a significant condition adverse to quality, and; 3) failure to address audit findings and observations in a timely manner. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

Please provide a written explanation or statement within 30 days of this letter in accordance with the instructions specified in the enclosed Notice of Nonconformance.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

Patrick L. Hiland, Director     /RA/  
Division of Engineering  
Office of Nuclear Reactor Regulation

Docket No.: 99901334

Enclosures:   1. Notice of Violation  
                  2. Notice of Nonconformance  
                  3. Inspection Report 99901334/2009-201

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

Patrick L. Hiland, Director */RA/*  
 Division of Engineering  
 Office of Nuclear Reactor Regulation

Docket No.: 99901334

Enclosures: 1. Notice of Violation  
 2. Notice of Nonconformance  
 3. Inspection Report 99901334/2009-201

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## NOTICE OF VIOLATION

The Steam Generating Team L.L.C.  
7207 IBM Drive  
Charlotte, North Carolina 28262

Docket Number 99901334  
Inspection Report No. 99901334/2009-201

Based on the results of a U.S. Nuclear Regulatory Commission (NRC) inspection conducted May 19 - 22, 2009, of activities performed at The Steam Generating Team L.L.C. (SGT), two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR Part 21, Section 21.21(a)(1), "Notification of failure to comply or existence of a defect and its evaluation," requires in part that "each individual, corporation, partnership, dedicating entity, or other entity subject to the regulations in this part shall adopt appropriate procedures to evaluate deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards as soon as practicable, and, except as provided in paragraph (a)(2) of this section, in all cases within 60 days of discovery, in order to identify a reportable defect or failure to comply that could create a substantial safety hazard, were it to remain uncorrected."

Contrary to the above, as of May 22, 2009:

SGT's 10 CFR Part 21 Corporate Quality Procedure (CQP), CQP 01.01, "Reporting of Defects and Noncompliance," Revision 5, dated April 21, 2009, was not an appropriate procedure to evaluate deviations within 60 days of discovery. Specifically, the procedure allowed for 37 working days plus 60 calendar days from the point of discovery for an evaluation to be completed.

This issue has been identified as Violation 99901334/2009-201-01.

This is a Severity Level IV violation (Supplement VII).

- B. 10 CFR Part 21, Section 21.21(a)(1), "Notification of failure to comply or existence of a defect and its evaluation," requires in part that "each individual, corporation, partnership, dedicating entity, or other entity subject to the regulations in this part shall adopt appropriate procedures to evaluate deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards as soon as practicable, and, except as provided in paragraph (a)(2) of this section, in all cases within 60 days of discovery, in order to identify a reportable defect or failure to comply that could create a substantial safety hazard, were it to remain uncorrected."

Section 4.1.1 of SGT procedure CQP 01.01, states in part that "identified deviations are initially screened to determine whether or not the condition might meet the criteria for being potentially associated with the requirements of 10 CFR Part 21. Deviations identified at the Project level are initially screened by the PQM [Project Quality Manager]. This screening process, which includes discussions which may be required under paragraphs 4.1.3.1 or 4.1.3.2, will take place within five (5) working days of the date the deviation was originally identified."

Contrary to the above, as of May 22, 2009:

**ENCLOSURE 1**

SGT failed to perform a Part 21 evaluation for Nonconformance Report (NCR) 0084, dated November 3, 2009, despite being identified by the Project Quality Manager as potentially associated with the requirements of 10 CFR Part 21.

This issue has been identified as Violation 99901334/2009-201-02.

This is a Severity Level IV violation (Supplement VII).

Pursuant to the provisions of 10 CFR 2.201, "Notice of Violation," you are required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with a copy to the Director, Division of Engineering, Office of Nuclear Reactor Regulation, within 30 days of the date of the letter transmitting this Notice of Violation. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agency-wide Documents Access and Management System (ADAMS), to the extent possible, it should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection, described in 10 CFR 73.21.

Dated this 8<sup>th</sup> day of July 2009.

## NOTICE OF NONCONFORMANCE

The Steam Generating Team L.L.C.  
7207 IBM Drive  
Charlotte, North Carolina 28262

Docket Number 99901334  
Inspection Report No. 99901334/2009-201

Based on the results of a Nuclear Regulatory Commission (NRC) inspection conducted September 9 - 12, 2009, of activities performed at SGT (SGT), certain activities were not conducted in accordance with NRC requirements which were contractually imposed upon SGT by NRC licensees.

- A. Criterion V, "Instructions, Procedures, and Drawings," of Appendix B to 10 CFR Part 50 states in part that "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Section 5.0, "Instructions, Procedures, and Drawings," of the SGT Quality Assurance Manual, "10CFR50 Appendix B and ASME NQA-1 Quality Assurance Program," Issue 2, Revision 9, dated July 16, 2007, states in part that "instructions, procedures, and drawings shall indicate inspections and checks that must be made, the records and data that must be kept, and where independent verifications of inspections or checks should be performed by specified personnel other than those performing the work."

Contrary to the above, as of May 22, 2009:

SGT Quality Execution Procedure (QEP), 12.02, "Conduct and Control of Inspection and Surveillance Activities," dated August 23, 2005, for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project failed to adequately indicate where independent verifications of inspections or checks should be performed by specified personnel other than those performing the work. As a result, SGT failed to provide sufficient independence for multiple Deficiency Reports (DRs). Of 30 DRs sampled:

1. The SGT Project Quality Manager (PQM) or Quality Assurance (QA) Supervisor signed both the "Quality Verified" and "Reviewed By" sections for 23 DRs.
2. The PQM initiated and approved the DR, approved the response, including corrective and preventative actions, and verified and reviewed the corrective action follow-up for 11 DRs.
3. The PQM completed all actions and reviews for three DRs
4. An individual who did not have adequate signature authority reviewed and signed off on one DR for the PQM.

This has been identified as Nonconformance 99901334/2009-201-03.

- B. Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50 states in part that "measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and

**ENCLOSURE 2**

nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.”

Section 16.0, “Corrective Action,” of the SGT Quality Assurance Manual, “10CFR50 Appendix B and ASME NQA-1 Quality Assurance Program,” Issue 2, Revision 9, dated July 16, 2007, states in part that “conditions adverse to quality shall be evaluated and the need for corrective actions determined in accordance with established procedures and instructions, which provide for prompt identification and correction of conditions adverse to quality. Repetitive or significant conditions adverse to quality and recommendations for corrective action are reported on the Corrective Action Request (CAR).”

Contrary to the above, as of May 22, 2009:

SGT failed to determine the cause of the repetitive procurement issues and preclude repetition of a significant condition adverse to quality. Specifically, SGT failed to initiate a CAR after repeatedly purchasing safety-related services from unapproved suppliers for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project.

This has been identified as Nonconformance 99901334/2009-201-04.

- C. Criterion XVIII, “Audits,” of Appendix B to 10 CFR Part 50 states in part that “a comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits shall be performed in accordance with the written procedures or check lists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audit results shall be documented and reviewed by management having responsibility in the area audited. Follow-up action, including reaudit of deficient areas, shall be taken where indicated.”

Section 18.5.2 of the SGT Quality Assurance Manual, “10CFR50 Appendix B and ASME NQA-1 Quality Assurance Program,” Issue 2, Revision 9, dated July 16, 2007, states in part that “follow-up action shall be taken to verify whether corrective action is accomplished as scheduled.”

SGT QEP 18.01 “Quality Assurance Audits,” Revision 2, dated September 20, 2006, for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project states in part that “if responses are not received within five (5) days after the due date, the PQM notifies the responsible organization by telephone that responses are overdue. If responses become ten (10) days overdue, the PQM notifies the responsible organization by letter. Responses not received within twenty (20) days shall result in the issuance of a Form QEP 18.01-4, Corrective Action Request [CAR].”

Contrary to the above, as of May 22, 2009:

1. SGT failed to complete follow-up action for multiple audit findings and observations for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project.

2. SGT failed to notify the responsible organization of overdue audit findings and observations for multiple audits.
3. SGT failed to initiate a CAR for four audit findings from Audit Report 38241-P-08-02, dated October 7, 2008, which were over 20 days overdue.

This has been identified as Nonconformance 99901334/2009-201-05.

Please provide a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Director, Division of Engineering, within 30 days of the date of the letter transmitting this Notice of Nonconformance. This reply should be clearly marked as a "Reply to a Notice of Nonconformance" and should include for each noncompliance: (1) the reason for the noncompliance, or if contested, the basis for disputing the noncompliance; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid non-compliances; and (4) the date when your corrective action will be completed. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated this 8<sup>th</sup> day of July 2009.

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION  
DIVISION OF ENGINEERING  
VENDOR INSPECTION REPORT

Docket No.: 99901334

Report No.: 99901334/2009-201

Vendor: The Steam Generating Team L.L.C. (SGT)  
7207 IBM Drive  
Charlotte, North Carolina 28262

Vendor Contact: Bruce Kovacs,  
Quality Engineer  
Phone: (704) 805-2131  
bruce.kovacs@wgint.com

Nuclear Industry Activity: SGT provides heavy component replacement services for the U.S. commercial nuclear power industry. SGT has completed over 20 domestic steam generator replacements projects. SGT is a Limited Liability Corporation that is jointly owned by Areva NP and URS Corporation's Washington Division.

Inspection Dates: May 19 – May 22, 2009

Inspection Team Leader: Victor Hall, CQVP/DCIP/NRO

Inspectors: Sabrina Cleavenger, CQVB/DCIP/NRO  
Jonathan Ortega, CQVP/DCIP/NRO  
Robert Pettis, EQVB/DE/NRR

Approved by: Dale Thatcher, Chief  
Quality & Vendor Branch  
Division of Engineering  
Office of Nuclear Reactor Regulation

## EXECUTIVE SUMMARY

The Steam Generating Team L.L.C. (SGT)  
99901334/2009-201

The purpose of this inspection was to review selected portions of The Steam Generating Team L.L.C.'s (SGT's) quality assurance (QA) and 10 CFR Part 21 (Part 21) programs. The inspectors focused steam generator replacements performed by SGT for NRC-licensed facilities. The inspection was conducted at SGT's corporate headquarters in Charlotte, North Carolina.

The NRC inspection bases were:

- Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance;" and
- Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Part 50 of Title 10 of the *Code of Federal Regulations*

The results of this inspection are summarized below. There were no NRC inspections of SGT's facility in Charlotte, North Carolina in the previous five years.

### 10 CFR Part 21 Program

The inspectors identified two violations of Part 21. One example of Violation 99901334/2009-201-01 was cited for failure to adequately prescribe a procedure to evaluate deviations within 60 days of discovery per the requirements of Part 21. Violation 99901334/2009-201-02 was cited for failure to perform an evaluation as specified in Part 21. With the exception of the violations noted above, the inspectors concluded that SGT's Part 21 program was consistent with the regulatory requirements.

### Corrective Action

Based on the review of SGT's corrective action and nonconformance process, implementing procedures, and a sample of Corrective Action Requests (CARs) and Nonconformance Reports (NCRs), the inspectors determined that SGT's process met the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50 with the exception of the issues identified in Nonconformance 99901334/2009-201-03 and Nonconformance 99901334/2009-201-04.

### Audits

The inspectors identified Nonconformance 99901373/2009-201-05 for failure to conduct internal audits in accordance with the SGT QA program. With the exception of the above noted nonconformances, the inspectors concluded that SGT's audit program requirements and implementation were consistent with the regulatory requirements of Criterion XVIII, "Audits," of Appendix B to 10 CFR Part 50.

## REPORT DETAILS

### 1. 10 CFR Part 21 Program

#### a. Inspection Scope

The inspectors reviewed the SGT Quality Assurance Manual, "10CFR50 Appendix B and ASME NQA-1 Quality Assurance Program," Issue 2, Revision 9, dated July 16, 2007, and procedures that governed the Part 21 program to determine compliance with Part 21. Specifically, the inspectors focused on SGT's 10 CFR Part 21 Corporate Quality Procedure (CQP), CQP 01.01, "Reporting of Defects and Noncompliance," Revision 5, dated April 21, 2009.

In addition, the inspectors evaluated a sample of SGT's Part 21 evaluations from the past two years that resulted in the determination that problems were not reportable.

Finally, the inspectors reviewed Quality Execution Procedure (QEP) QEP 09.01 "Procurement," Revision 5, dated December 21, 2006," for projects completed in the previous two years, and a sample of safety-related Purchase Orders (POs) to determine whether SGT properly specified the applicability of Part 21 in procurement documents for safety-related services from sub-suppliers.

#### b. Observations and Findings

The inspectors noted that all of SGT's Nonconformance Reports (NCRs,) Audit Findings, and Corrective Action Requests (CARs) were screened for Part 21 applicability. SGT procedure CQP 01.01 described SGT's requirements for the screening, review, and evaluation of deviations, and for the reporting of defects. The inspectors noted that SGT provided a pointer to Part 21 for the definitions of key terms. The inspectors also found that Attachment 1 of CQP 01.01 included clear flowchart delineating SGT's Part 21 process.

However, the inspector determined that CQP 01.01 incorrectly allowed for 37 business days plus 60 calendar days from the point of discovery for a Part 21 evaluation to be completed. The inspectors noted that SGT's Part 21 procedure begins with an initial screening of deviations. Section 4.1.1 of CQP 01.01 stated:

"Identified deviations are initially screened to determine whether or not the condition might meet the criteria for being potentially associated with the requirements of 10 CFR Part 21. Deviations identified at the Project level are initially screened by the PQM [Project Quality Manager]. Deviations identified during a Corporate level audit are initially screened by the Lead Auditor. Other deviations identified at the Corporate level are initially screened by the QAD [Quality Assurance Director]. This screening process, which includes discussions which may be required under paragraphs 4.1.3.1 or 4.1.3.2, will take place within five (5) working days of the date the deviation was originally identified.

The flow chart further stated at the beginning of this process that "A 'Deviation' is identified." The inspectors noted that existence of these deviations would first be

documented through its corrective action system (e.g. through NCRs, Audit Findings, and CARs.) CQP 01.01 called for a screening, which could last 30 working days. This process was described in Section 4.1 "Initial Screening of Deviations," of CQP 01.01. The inspectors noted that the procedure then allowed for an additional seven working days for review, as described in Section 4.2 "Review of Potential Part 21-Related Conditions," of CQP 01.01.

The inspectors noted that Section 4.2.3.3 of CQP 01.01 incorrectly stated in part that, "If it is determined that the requirements of 10 CFR Part 21 do or might possibly apply, the QAD signs and dates the checklist and continues with Section 4.3 of this CQP. For reporting purposes, the date that the QAD signs Section B of the checklist is the 'Discovery Date'." This was also incorrectly reflected on the second page of the Part 21 flow-chart.

The inspectors noted that Section 4.3, "Evaluation," of CQP 01.01 provided procedures for evaluation of deviations in 60 calendar days. The inspectors determined that the overall process allowed for an additional 37 business days for the evaluation of a deviation. This issue was identified as Violation 99901334/2009-201-01.

The inspectors noted that SGT did not identify any Part 21 reportable conditions in the previous two years. However, the inspectors found that SGT failed to perform a Part 21 evaluation for NCR 0084, dated November 3, 2009, related to a missing weld coupon for a safety-related weld. On the NCR, the "Results of PQM screening for potential association with 10CFR21" box was checked as "Possible Potential," thus warranting evaluation by SGT. The inspectors noted that adequate corrective actions had been taken, and this issue would likely not constitute a substantial safety hazard. However SGT did not perform an evaluation for this NCR as required by Part 21. This issue was identified as Violation 99901334/2009-201-02.

The inspectors determined that SGT's procedures for the control of purchased material, equipment, and services, adequately specified the applicability of Part 21. The inspectors did not identify any POs that failed to invoke Part 21 for safety-related services from sub-suppliers.

c. Conclusions

The inspectors identified two violations of Part 21. One example of Violation 99901334/2009-201-01 was cited for failure to adequately prescribe a procedure to evaluate deviations within 60 days of discovery per the requirements of Part 21. Violation 99901334/2009-201-02 was cited for failure to perform an evaluation as specified in Part 21. With the exception of the violations noted above, the inspectors concluded that SGT's Part 21 program was consistent with the regulatory requirements.

2. Corrective Action

a. Inspection Scope

The inspectors reviewed the SGT's QA manual and implementing procedures that govern corrective actions to verify compliance with the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50 and 10 CFR Part 21. The

inspectors also reviewed a sample of deficiency reports (DRs) and CARs to assess SGT's implementation of the corrective action program.

Additionally, the inspectors reviewed SGT's QA manual and implementing procedures that govern the control of nonconformances to verify compliance with the requirements of Criterion XV, "Nonconforming Material, Parts, or Components," of Appendix B to 10 CFR Part 50 and assessed implementation through the review of a sample of NCRs.

Specifically, the NRC inspectors reviewed the following policies and procedures established by SGT:

- SGT Quality Assurance Manual, "10CFR50 Appendix B and ASME NQA-1 Quality Assurance Program," Issue 2, Revision 9, dated July 16, 2007
- QEP 15.01, "Identification and Control of Deviations," dated June 29, 2005
- CQP 18.01, "Corrective Action Requests," dated March 18, 2008
- QEP 18.01 (Diablo Canyon Project), "Quality Assurance Audits," dated September 20, 2006
- QEP 12.02 (Diablo Canyon Project), "Conduct and Control of Inspection and Surveillance Activities," dated August 23, 2005

b. Observations and Findings

b1. Nonconformances

QEP 15.01 described SGT's process for the identification and resolution of deviations and programmatic conditions adverse to quality. Deviations were divided into two classifications: reject and nonconformance. QEP 15.01 identified a reject as a deviation that had not yet been offered to the client for acceptance and could be corrected through the performance of existing approved procedures or work instructions. Rejects were captured on the applicable process control documents, unless they involved programmatic issues that required longer term follow up, in which case they were documented using Form QEP 12.02-2, Deficiency Report. QEP 15.01 defined a nonconformance as a deviation that could not be classified as a reject (typically related to hardware and needing engineering disposition). Nonconformances were reported and dispositioned using Form QEP 15.01-1, which had blocks to indicate that Part 21 applicability had been considered.

QEP 15.01 provided guidance for the processing of NCRs, including the use of quality control (QC) hold tags or other precautions, as appropriate, to segregate nonconforming items until disposition had been achieved. The procedure also stated that the PQM must review the NCR, verify proper form completion, and perform a Part 21 screening.

QEP 12.02 for the Diablo Canyon Project provided responsibilities for the documentation, review, and verification of issues and corrective actions captured on deficiency reports. The procedure described the process carried out by SGT personnel

after a DR was initiated through completion of the condition description and signature by the initiating individual:

- The PQM signs the “Approved By” block of the DR Condition Description upon acceptable review of the condition description. The PQM also assigns a responsible individual and reply due date for that individual.
- The responsible individual then completes the response section of the DR and signs the “Response By” block on the form.
- The PQM then reviews the response provided and, if accepted, signs the “Approved By” block, and then forwards the DR to the QA/QC Supervisor for follow up verification.
- Upon completion of the corrective actions, a Quality Engineer (QE) or Quality Control Inspector (QCI) performs a corrective action follow up to verify adequate implementation of corrective actions and signs the “Verified By” block of the form.
- Finally, the completed DR will be reviewed by the PQM and, if acceptable, signs the “Reviewed by” block on the DR.

Upon review of a sample of DRs, the inspectors identified instances in which personnel performed both a review and verification function on the DR, which failed to provide a sufficient level of independence, as required by Section 5.0 of the SGT QA program manual. Of 30 DRs sampled, the PQM or QA Supervisor signed both the “Quality Verified” and “Reviewed By” sections of 23 DRs. The inspectors noted that final review of the DR disposition by the same person who verified the corrective action implementation did not provide independent review, and did not provide reasonable assurance that all corrective actions identified in the DR were adequately implemented to resolve the deficient conditions.

In 11 of the 30 DRs sampled, the PQM initiated and approved the DR, approved the DR response (corrective and preventative actions), and both verified and reviewed the corrective action follow-up.

In three of the DRs, the PQM completed all signatures on the DR. The inspectors noted that allowing a single individual to characterize a deficient condition, identify corrective actions, and verify the implementation of these actions failed to establish an adequate level of independent review for safety-related activities.

The inspectors also identified one example in which a person other than the PQM signed the “Reviewed By” line of the DR (which is specified for PQM signature) and did not have signature delegation authority, which violated the responsibilities identified in QEP 12.02.

These issues have been identified as Nonconformance 99901334/2009-201-03.

b2. Corrective Actions

CQP 18.01 provided instructions for identifying, documenting, and dispositioning significant conditions adverse to quality (SCAQs) that were identified at the corporate level; QEP 18.01 provided instructions for processing CARs for SCAQs on a project level. SGT issued CARs to address significant conditions adverse to quality, which, according to CQP 18.01, may include recurring quality problems, procedures which are found to be inadequate or not fully implemented, conflicts between quality program documents, and failures to correct deficiencies documented on NCRs or audit reports in a timely manner.

CQP 18.01 and QEP 18.01 required that the due date for the responsible manager to respond to a CAR be within 10 working days following CAR initiation and that a Part 21 applicability review be completed within 5 working days of CAR issuance. The procedures also required that the QA Director (for corporate CARs) or the PQM (for project based CARs) follow up to assure that corrective actions have been implemented and achieved the desired results, as indicated by signature of the "Verified by" line for corrective action completion and follow-up, within 30 days of the scheduled implementation date. Of the six CARs issued since 2006 however, one CAR (CAR 08-01 for inadequate work package implementation) did not meet the timeliness requirements for Part 21 applicability review. Instead of being completed within 5 working days, the review was not signed off until 6 weeks after CAR initiation. The inspectors noted that the CAR was screened as not Part 21 applicable, and that this was an isolated administrative oversight.

The inspectors determined that SGT failed to determine the cause of the repetitive procurement issues and preclude repetition of a significant condition adverse to quality. Specifically, SGT failed to initiate a CAR after repeatedly purchasing safety-related services from un-approved suppliers for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project. The inspectors noted that the following DRs described a recurring condition adverse to quality:

- DR 38241-0043, dated January 28, 2009, was initiated because machining work performed on safety-related items by Precision Machine was not performed in accordance with SGT procedures, as required through an attachment to the Work Authorization issued to Precision from SGT. As such, SGT quality personnel were not notified prior to the transfer of material identification numbers on safety related items and were hence unable to oversee and validate material accountability. The DR identified the cause of this deficiency as follows: "Instead of the shims being shipped through the warehouse with proper paperwork (shipping orders and chain of custody forms), the shims were sent directly from the field with drawings delivered by a teamster." This resulted in a lack of knowledge on the part of Precision Machine as to how to maintain adequate traceability for the shims.
- DR 38241-034, dated September 24, 2008, was issued because no objective evidence existed to document that Valley Industrial X-Ray and Inspection Services (Valley), E.H. Wachs Co. (Wachs), or Wachs' subcontractor, Conam Inspection and Industrial Services (Conam), performed radiography and film review of SGT welder performance qualification coupon welds in accordance with SGT procedures, as required in the purchase order. Because Valley, Wachs,

and Conam were not listed on SGT's approved suppliers list (ASL), SGT requirements called for oversight of any safety-related work performed under SGT's Quality Assurance Manual by contractors. The DR identified the cause of this deficiency to be a failure by responsible management and supervision to ensure execution of procedure implementation for welder qualifications. As a result of this deficiency, NCR 38241-2084 was opened to validate welder qualifications and the quality of welds performed.

- DR 38241-0042, dated January 19, 2009, was issued because the service agreement with Harmony Machine and Fabrication (Harmony), a non-safety related supplier, was modified to receive safety-related material and fabricate three separate safety-related items (blocks, rollers, and pins) without specifying the appropriate level of SGT oversight. The condition description stated that the use of Harmony, who was not on SGT's ASL, for safety related work is permissible with SGT oversight. SGT proceeded to issue NCR 38241-0042, dated January 19, 2009, for the loss of material traceability because no SGT oversight was performed for fabrication of blocks, rollers, and pins.

As a result of PG&E Audit Finding Report (AFR) SGT 2009-01, SGT performed an audit of SGT procurement documents for the Diablo Canyon Unit 2 Project to determine if any safety-related services were procured or performed in violation of SGT's Quality Assurance Program beyond those identified to date. The audit identified one additional deficiency: DR 38241-0057, dated April 8, 2009, was written because a service agreement issued to TEAM Industrial Services to provide QA, QC, and Non-Destructive Examination outage personnel was improperly classified as non-safety-related and failed to invoke the regulatory requirements of Appendix B to 10 CFR Part 50 and Part 21. SGT modified the service agreement to show the safety-related classification and also issued an Issue Identification and Resolution Plan (IIRP) to ensure the deficiency received an evaluation and disposition that would be shared with other SGT projects.

Although SGT performed an audit of procurement documents for the Diablo Canyon Unit 2 Project in response to the PG&E audit finding, no evaluation of SGT procurement activities for other projects was initiated. In addition, despite repeated examples of supplier oversight inadequacies, SGT failed to open a CAR to evaluate the extent of condition, determine the cause, and formulate effective corrective actions. This issue has been identified as Nonconformance 99901334/2009-201-04.

c. Conclusion

Based on the review of SGT's corrective action and nonconformance process, implementing procedures, and a sample of CARs and NCRs, the inspectors determined that SGT's process met the requirements of Criterion XVI, "Corrective Action," of Appendix B to 10 CFR Part 50 with the exception of the issues identified in Nonconformance 99901334/2009-201-03 and Nonconformance 99901334/2009-201-04.

3. Audits

a. Inspection Scope

The inspectors reviewed Section 18.0, "Audits," of the SGT Quality Assurance Manual and implementing policies and procedures that govern the process for internal and

external audits process to verify compliance with the requirements of Criterion XVIII, "Audits," of Appendix B to 10 CFR Part 50. The NRC inspectors evaluated a sample of internal and external audit reports and qualification records to verify compliance with program requirements and adequate implementation of those requirements.

b. Observations and Findings

b1. External Audits

The NRC inspectors noted that Section 18.0, "Audits," of the SGT Quality Assurance Manual provided a description of the process and requirements for performing internal and external audits. Implementing procedure, QEP 18.01 "Quality Assurance Audits," Revision 2, dated September 20, 2006, for the Diablo Canyon Nuclear Power Plant Steam Generator Replacement Project provided responsibilities and methods for planning, scheduling, and performing audits of quality program implementation for project level activities and for audits of suppliers of nuclear safety-related material, items, and services.

The inspectors noted that SGT's allowed for audits of suppliers to be performed by independent entities provided that audit procedures were accepted by SGT. For example, the inspectors noted that audits of potential suppliers were performed in accordance with URS – Washington Division procedures which were accepted by SGT.

The inspectors selected a sample from the SGT's Approved Supplier List (ASL) to review audit report and verified that the audits of the suppliers selected as part of the sample met the requirements of Criterion XVIII of Appendix B to 10 CFR Part 50. The inspectors' review of external audits did not identify any findings of significance

b2. Internal Audits

The inspectors reviewed procedures and documents associated with internal audits that were conducted by SGT staff to provide coverage and coordination with ongoing quality assurance program activities. The inspectors noted that the SGT audits sampled were scheduled at a frequency commensurate with the status and importance of the activity. The audit schedule was reviewed periodically and revised as necessary to assure that coverage was maintained current. Regularly scheduled audits were supplemented by additional audits of specific subjects when necessary to provide adequate coverage.

Each of the elements addressed in the 18 Sections of SGT QAP, for which there is work activity, was audited at least annually or at least once within the life of an activity pertaining to an element, whichever is shorter.

The inspectors noted multiple examples of completed Quality Audit Reports (QAR), where the Audit Finding Reports forms provided objective evidence that the corrective actions were not completed in a timely manner. The inspectors further noted that the SGT failed to implement the process to complete and implement the proper corrective actions as result of the findings and observations documented in the QAR.

Section 18.5.2 of the SGT Quality Assurance Manual stated in part that "follow-up actions shall be taken to verify whether corrective actions are accomplished as schedule." Section 5.3.2 of QEP 18.01 also stated in part that, "if responses are not

received within 5 days after the due date, the Project Quality Manager (PQM) notifies the responsible organization by telephone that responses are overdue. If responses become 10 days overdue, the PQM notifies the responsible organization by letter. Responses not received within 20 days result in the issuance of a Form QEP 18.01-4, Corrective Action Request.”

Contrary to the above the inspectors noted multiple examples where corrective actions initiated for audit findings and observations were not completed in a timely manner. In these instances, the inspectors noted that SGT did not follow the guidance established in QEP 18.01 .

The inspectors identified instances where SGT failed to generate a CAR for four audit findings from Audit Report 38241-P-08-02, dated October 7, 2008, which were over 20 days overdue, contrary to QEP 18.01.

The inspectors identified multiple examples of SGT internal audits that were not conducted in accordance with SGT’s procedures. This issue was identified as Nonconformance 99901334/2009-201-05.

c. Conclusion

The inspectors identified Nonconformance 99901373/2009-201-05 for failure to conduct internal audits in accordance with the SGT QA program. With the exception of the above noted nonconformances, the inspectors concluded that SGT’s audit program requirements and implementation were consistent with the regulatory requirements of Criterion XVIII “Audits,” of Appendix B to 10 CFR Part 50.

4. Exit Meeting

On May 22, 2009, the inspectors presented the inspection scope and findings during an exit meeting with SGT President, Richard Wilkerson, and other SGT personnel.

## ATTACHMENT

### 1. PERSONS CONTACTED

R. Wilkerson, President, SGT  
A. Burkhart, Diablo Canyon Project Engineering Manager, SGT  
L. Davis, Vice President of Engineering, SGT  
M. Gilman, Vice President of Quality Assurance, URS - Washington Division  
P. Helton, Waterford 3 Project Quality Manager, SGT  
D. Keen, Waterford 3 Project Engineering Manager, SGT  
B. Kovacs, Quality Engineer, SGT  
G. Lemon, Waterford 3 Project Manager, SGT  
S. McDowell, Sequoyah 2 Project Manager, SGT  
T. Mudge, Nuclear Quality Manager, URS - Washington Division  
G. Wilde, Chief Financial Officer, SGT  
K. Willingham, Vice President of Operations, SGT  
J. Winewarden, Sequoyah 2 Project Manager, SGT

### 2. INSPECTION PROCEDURES USED

IP 36100, "Inspection of 10 CFR Parts 21 and 50.55(e) Programs for Reporting Defects and Noncompliance"

### 3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

There were no NRC inspections of SGT's facility in Charlotte, North Carolina in the previous five years.

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
99901334/2009-201-01	Opened	NOV	21.21 Evaluations
99901334/2009-201-02	Opened	NOV	21.21 Evaluations
99901334/2009-201-03	Opened	NON	Criterion V
99901334/2009-201-04	Opened	NON	Criterion XVI
99901334/2009-201-05	Opened	NON	Criterion XVIII

### 4. LIST OF ACRONYMS USED

AFR            Audit Finding Report  
CAR            Corrective Action Request  
CFR            Code of Federal Regulations  
CQP            Corporate Quality Procedure  
CQVB          Quality and Vendor Branch 2  
CQVP          Quality and Vendor Branch 1  
DE             Division of Engineering  
DCIP          Division of Construction, Inspection, & Operational Programs  
DR             Deficiency Report  
EQVB          Quality and Vendor Branch

SGT	The Steam Generating Team, L.L.C.
IIRP	Issue Identification and Resolution Plan
IP	Inspection Procedure
NCR	Nonconformance Report
NDE	Non-Destructive Examination
NRC	Nuclear Regulatory Commission
NRO	Office of New Reactors
NRR	Office of Nuclear Reactor Regulation
NON	Notice of Nonconformance
PO	Purchase Order
PQM	Project Quality Manager
QA	Quality Assurance
QAM	Quality Assurance Manual
QAR	Quality Audit Reports
QC	Quality Control
QCI	Quality Control Inspector
QE	Quality Engineer
QEP	Quality Execution Procedure
SGT	The Steam Generating Team L.L.C.
URS	URS – Washington Division