May 8, 2008

Dennis Tauber, Quality Assurance Director
Tioga Pipe Supply Company, Inc.
Philadelphia Regional Center
2450 Wheatsheaf Lane
Philadelphia, PA 19137

SUBJECT: NRC INSPECTION REPORT 99900879/2008201 AND NOTICE OF VIOLATION, AND NOTICES OF NONCONFORMANCE

Dear Mr. Tauber:

From March 3 - 7, 2008, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Tioga Pipe Supply Company, Inc. (Tioga) facilities in Philadelphia, PA and Easton, PA. The enclosed report presents the results of that inspection.

This was a limited scope inspection that focused on assessing Tioga's 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 Program Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." This NRC inspection report does not constitute NRC endorsement of Tioga's overall quality assurance (QA) or Part 21 programs.

During this inspection, it was found that the implementation of your quality assurance program failed to meet certain NRC requirements that are discussed in the enclosed Notice of Violation (NOV) and Notices of Nonconformance (NON) in the NRC Inspection Report. Specifically, You have not established appropriate control or procedures to assure that records are prepared and maintained as required by 10 CFR 21.51. Please note that you are required to respond to this letter and should follow the instructions in the enclosed NOV when preparing your response.

In addition, non-conformances were identified in the control of documentation; test control; handling of identified non-conformances; adherence to handling, shipping, and storage requirements; corrective action processes; and the overall handling of QA records. The NRC also noted examples where Tioga personnel used inadequate procedures and failed to closely adhere to procedural guidance.

All of these areas are addressed as requirements in Appendix B to 10 CFR Part 50. These non-conformances are cited in the enclosed NON, and the circumstances surrounding them are described in the enclosed report. You are requested to respond to the non-conformances and should follow the instructions specified in the enclosed NON, when you prepare your response.

In accordance with 10 CFR 2.390 of the NRC's "Public inspections, exemptions, requests for withholding," of 10 CFR Part 2, "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter, its enclosures and any associated correspondence will be placed in the NRC's Public Document Room (PDR) and in 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.

Sincerely,

/RA/

John A. Nakoski, Chief
Quality and Vendor Branch 2
Division of Construction Inspection & Operational Program
Office of New Reactors

Docket No.: 99900879

Enclosure: 1. Notice of Violation
2. Notice of Nonconformance
3. Inspection Report No. 99900879/2008-201

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John A. Nakoski, Chief
Quality and Vendor Branch 2
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NAME	MMorgan	RPascarelli	JNakoski
DATE	05/06/2008	05/08/2008	05/08/2008

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NOTICE OF VIOLATION

Tioga Pipe Supply
Philadelphia Regional Center
2450 Wheatsheaf Lane
Philadelphia, PA 19137

Docket Number 99900879
Inspection Report Number 2008/201

Based on the results of a Nuclear Regulatory Commission (NRC) inspection conducted March 3-7, 2008, of activities performed at Tioga Pipe Supply Inc. (Tioga), a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is provided below:

10 CFR Part 21, Section 21.51, “Maintenance of Records,” requires, in part, that, “Each individual, corporation, or other entity subject to this part shall prepare and maintain records necessary to accomplish the purposes of this part.”

10 CFR Part 21, Section 21.21, "Notification of failure to comply or existence of a defect and its evaluation," paragraph 21.21(a), requires, in part, each individual, corporation, partnership, or other entity subject to 10 CFR Part 21 shall adopt appropriate procedures to evaluate deviations and failures to comply associated with substantial safety hazards as soon as practicable.

Contrary to the above, as of March 7, 2008:

Tioga has not established appropriate controls or procedures to assure that records are prepared and maintained as required by 21.51.

This issue had been identified as Violation 99900879/2008-201-01.

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

Pursuant to the provisions of 10 CFR 2.201, "Notice of Violation," Tioga is hereby 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 Chief, Quality and Vendor Branch 1, Division of Construction Inspection and Operational Programs, Office of New Reactors, 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.

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 at Rockville, Maryland this 8th day of May 2008

NOTICES OF NONCONFORMANCE

Tioga Pipe Supply
Philadelphia Regional Center
2450 Wheatsheaf Lane
Philadelphia, PA 19137

Docket Number 99900879
Inspection Report Number 2008/201

On the basis of the results of a Nuclear Regulatory Commission (NRC) inspection conducted March 3 - 7, 2008, of activities performed at Tioga Pipe Supply Company, Incorporated (Tioga), it appears that certain activities were not conducted in accordance with NRC requirements

A. Criterion VI, "Document Control," of Appendix B to 10 CFR Part 50, requires, in part, that measures shall be established to: 1) control the issuance of documents that prescribe activities affecting quality; 2) assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel; and 3) assure that documents are distributed to and used at the location where the prescribed activity is performed.

Section 6.0, "Document Control," of the Tioga QSM, Revision 9, dated November 27, 2006, states that it is the responsibility of the Quality Assurance (QA) Manager to prepare the QSM and any revisions thereto. Tioga QSP-14, "Quality System & Quality Inspection Manual Control Procedure," Revision 7, dated October 10, 2003, describes Tioga's QSM revision and distribution process. Processing measures include the use of sequential, registered control numbers to manage controlled copies of the QSM. These measures also require the return of voided manual sections, by the manual holders, after a QSM revision, and performance of corrective actions for the failure of a manual holder to return the revised pages.

Contrary to the above:

1. On March 5, 2008, the NRC inspectors found instances where processes that Tioga had implemented for QSM distribution and revision control were not performed in accordance with QSP-14.

2. On March 6, 2008, the NRC inspectors found an inconsistency between Tioga's QSM and an associated QSP. Although QSP-21, "Auditor Training and Qualification Procedure", Revison 4, stated that the QA Manager will annually review Lead Auditor qualifications, Tioga's QSM stated that Lead Auditor certificates of qualification will be assessed annually by the QA Manager, the Executive Vice President, or another qualified Lead Auditor. Tioga failed to implement formal document control measures to assure uniformity between guidance provided in the QSM and guidance presented in their QSPs.

3. On March 7, 2008, the NRC inspectors found that although two copies of the Testing Instructions (TIs) were verbally identified as "controlled copies" by Tioga's QA manager, the TI Distribution Log did not specify that any of these copies were controlled. Also, the inspectors noted that the physical copies carried no formal identifiers, such as a control number or controlled copy stamping. The NRC inspectors were unable to identify any formal procedural measures for; 1) the control

and maintenance of controlled copies of the TIs, 2) revision of TIs, or 3) assurance that the TIs used at the various Tioga work and test sites were the latest revisions.

4. On March 7, 2008, the NRC inspectors reviewed TI-3, “Tension Testing,” Revision 1, and noted that each tension test performed shall be documented on Form TI-3.1. Although “Form TI-3.1” was listed as an attachment to TI-3, the form was not attached to the controlled copy of the TI found in Tioga’s Philadelphia office.

5. In accordance with Tioga’s QSM and QSP-14, "Quality System & Quality Inspection Manual Control Procedure," Revision 7, when a revision is made to Tioga’s QSM, “controlled QSM” manual holders are to receive a notification of the revision. The manual holders are then required to acknowledge receipt of the revision within a 15 work-day time period. On March 5, 2008, the NRC inspectors found that two receipt responses from employees at Tioga’s Tennessee facility, in regard to a December 2006 QSM revision, were recorded after the 15 work-day time period allowed by the QSP. Tioga personnel failed to take the required corrective actions that were called for in the QSP.

6. On March 4, 2008, the NRC inspectors found that Tioga QA department personnel retained acknowedgements of the receipt of revised Tioga procedures instead of destroying them as required by QSP-15, "Quality System Procedure Control Instruction," Revision 9.

These issues have been identified as Nonconformance 99900061/2007-201-01.

B. Criterion XI, “Test Control,” of Appendix B to 10 CFR Part 50 requires, in part, that test procedures shall include provisions for assuring that all prerequisites for the given test have been met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. Test results shall be documented and evaluated to assure that test requirements were satisfied.

Contrary to the above:

1. On March 6, 2008, the NRC inspectors found that Tioga personnel performing tension testing in accordance with Tioga Testing Instruction 3 (TI-3), “Tension Testing,” Revision 1, did not perform step 6.6.2, performed steps 7.1 through 7.3 out of sequence, and performed step 7.4 incorrectly.

2. On March 5, 2008, the NRC inspectors found an unanalyzed, “dirty water” supply was used for conducting hydrostatic test activities at Tioga’s Easton, PA facility. Exposing test piping to this environment could be detrimental to austenitic stainless steel piping material.

3. On March 5, 2008, the NRC inspectors found the acceptance criteria of TI-1, “Hydrostatic Testing,” Revision 1 required holding hydrostatic pressure between a minimum and maximum pressure for a specified minimum “hold time.” However, TI-1 does not require testing personnel to document maximum allowable test pressure or use an appropriate time measuring device to record the start and stop times of the test.

4. On March 5, 2008, the NRC inspectors found that QSP-36, "Ultrasonic Thickness Gauging," Revision 2, does not require a post-test calibration check of the ultrasonic thickness instrument to verify that the instrument does not drift outside its calibration range during testing. This calibration check is specified in the test equipment manufacturer's operating instructions.

These issues have been identified as Nonconformance 99900061/2007-201-02.

C. Criterion XIII, "Handling, Storage and Shipping, " of Appendix B to 10 CFR Part 50, requires that measures are established to control the handling, storage, shipping, cleaning, and preservation of material and equipment in accordance with work and inspection instructions in order to prevent damage or deterioration.

Tioga QSM, Section 13, "Control of Handling, Storage, Preservation and Shipping," Revision 6, dated November 27, 2006, states, "Austenitic stainless steel and nickel alloy steel materials are to be stored in a manner which prevents them from contacting carbon or low alloy material and any other material that could cause contamination of the austenitic stainless steel or nickel alloy steel material."

Contrary to the above,

1. On March 5, 2006, the NRC inspectors identified four examples of austenitic stainless steel coming in direct contact with non-stainless steel metal pins and unapproved and "unqualified" taping material at Tioga's Easton, PA facility.

2. QSP-10, "Final Material Inspection Procedure," Revision 10, describes Tioga's process for the shipping of material. On March 6, 2008, the NRC inspectors found that Tioga staff did not follow QSP-10 when a purchase order item was shipped to a customer with the wrong document package during the shipping of this item.

This issue has been identified as Nonconformance 99900061/2007-201-03.

D. Criterion XV, "Nonconforming Materials, Parts, or Components," of Appendix B to 10 CFR Part 50, states that measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. Criterion XVI, "Corrective Actions," of Appendix B to 10 CFR Part 50, states that measures shall be established to assure that conditions adverse to quality, such as non-conformances, are promptly identified and corrected.

Tioga QSM, Section 15, "Control of Non-conformances," Revision 15, dated October 10, 2003, states that "non-conformances are processed in accordance with an established written procedure covering the identification, documentation, segregation, and disposition."

Tioga QSM Section 16, "Corrective Action," Revision 16, dated October 10, 2003, requires that a request for corrective action be generated when conditions adverse to quality exist that reflect a possible programmatic failure, such as repetitive non-conformances, deviation from Tioga Pipe's Quality program, or a significant

nonconforming condition.

Tioga QSP-17, "Non-Conformance Procedure," Revision 7, dated December 12, 2006, Step 4.5 requires that "if material has shipped to a customer and later found to be or suspected to be non-conforming, the QA Department shall notify the customer by issuing and sending a Nonconformance Report for their review and disposition." QSP-17 Step 4.6 requires that "during the evaluation for required corrective action, the QA manager will evaluate and document on the Nonconformance Report whether a determination for reportability under 10CFR21 must be performed."

Tioga QSP-26, "Corrective Action Procedure," Revision 8, dated October 10, 2008, references a corrective action report form used to track corrective actions for identified non-conformances.

Contrary to the above:

1. Tioga did not adhere to the requirements of Step 4.5 of QSP-17, "Nonconformance Procedure," Revision 7; on March 5, 2008, in that, when notified of a nonconforming condition by a customer, Tioga's QA department failed to initiate a notice of nonconformance report and an associated corrective action report.

2. Even though Tioga had identified numerous, repetitive non-conformances over a three-year period by two different sub-suppliers, a corrective action report form was not initiated as required by Tioga QSP-26, "Corrective Action Procedure," Revision 8.

3. On March 6, 2008, the NRC inspectors found that upon receiving a rejected "butt-welded elbow fitting" from a customer, Tioga personnel failed to follow steps 4.5 and 4.6 of QSP-17, "Nonconformance Procedure," Revision 7. Steps 4.5 and 4.6 required an issuance of a nonconformance report and initiation of a corrective action report.

These issues have been identified as Nonconformance 99900061/2007-201-04.

E. Criterion XVII, "Quality Assurance Records," of Appendix B to 10 CFR Part 50 requires records to be identifiable and retrievable and states, "requirements shall be established concerning record retention, such as duration and location." Basic Requirement 17 of NQA-1-1989 requires records to be protected against damage, deterioration, or loss.

Further, Section 4 of NQA-1-1989 supplement 17S-1 states that records "shall be stored in facilities constructed and maintained in a manner which minimizes the risk of damage or destruction from the following: natural disasters such as winds, floods, or fires."

Contrary to the above, Tioga's QSM Section 17.0, "Quality Assurance Records," and QSP-16, Records Maintenance Procedure, Revision 10 dated October 10, 2003, did not specify requirements for the storage and preservation of QA records. Additionally, some single copy QA records were stored in one-hour fire-rated cabinets while others were only stored in standard, non-fire rated metal file cabinets at Tioga's facilities in Easton, PA and Philadelphia, PA.

This issue has been identified as Nonconformance 99900061/2007-201-05.

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 Chief, Quality and Vendor Branch 2, Division of Construction Inspection and Operational Programs, Office of New Reactors, 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 noncompliances; 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), 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 8th day of May 2008

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
DIVISION OF CONSTRUCTION INSPECTION & OPERATIONAL PROGRAM
VENDOR INSPECTION REPORT

Report No:	99900879/2008-201
Organization:	Tioga Pipe Supply Company, Inc. Philadelphia Regional Center 2450 Wheatsheaf Lane Philadelphia, PA 19137
Vendor Contact:	Dennis Tauber, Quality Assurance Director Tioga Pipe Supply Company, Inc. Philadelphia Regional Center 2450 Wheatsheaf Lane Philadelphia, PA 19137 Tel: 215-831-0700 E-mail address: dtauber@tiogapipe.com
Nuclear Industry:	Tioga Pipe Supply Company, Inc. (Tioga) supplies safety-related and non-safety related piping and replacement piping to the nuclear power industry.
Inspection Dates:	March 3-7, 2008
Inspection Team Leader:	Michael J. Morgan, NRC/NRO/DCIP/CQVB
Inspector:	Francis X. Talbot, NRC/NRO/DCIP/CQVB
Inspector:	Sabrina D. Cleavenger, NRC/NRO/DCIP/CQVB
Inspector:	John A. Nakoski, NRC/NRO/DCIP/CQVB
Inspector:	Justin D. Fuller, NRC/R-II/DCI/CIB2
Inspector:	Kamal Naidu, NRC/NRO/DCIP/CQVB
Observer:	Wesley D. Deschaine, NRC/NRO/DCIP/CQVB

Approved By: ***/RA/*** 05/08/2008

John A. Nakoski
Quality & Vendor Branch 2
Division of Construction Inspection
& Operational Program (DCIP)
Office of New Reactors (NRO)

Date

1.0 INSPECTION SUMMARY

The purpose of this inspection was to review selected portions of the quality assurance (QA) and 10 CFR Part 21 (Part 21) controls that Tioga Pipe Supply Company, Inc. (Tioga) has established and implemented as an organization providing safety related materials to the commercial nuclear power industry. The inspection was conducted at Tioga's facilities in Philadelphia, PA and Easton, PA. The NRC inspection bases were:

- 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, and,
- 10 CFR Part 21, "Reporting of Defects and Noncompliance."
- NRC Inspection Procedure, 43002, "Routine Inspections of Nuclear Vendors"
- NRC Inspection Procedure, 36100, "Inspection of 10 CFR Part 21 and 10 CFR 50.55(E) Programs for Reporting Defects and Noncompliance"

1.1 NOTICE OF VIOLATION

- Notice of Violation 99900879/2008-201-01 was identified and is discussed in Section 3.16 of this report.

1.2 NOTICES OF NONCONFORMANCE

- Nonconformance 99900879/2008-201-01 was identified and is discussed in Section 3.3 of this report.
- Nonconformance 99900879/2008-201-02 was identified and is discussed in Section 3.7 of this report.
- Nonconformance 99900879/2008-201-03 was identified and is discussed in Section 3.9 of this report.
- Nonconformance 99900879/2008-201-04 was identified and is discussed in Section 3.10 and 3.16 of this report.
- Nonconformance 99900879/2008-201-05 was identified and is discussed in Section 3.11 of this report.

2.0 STATUS OF PREVIOUS INSPECTION FINDINGS

There were no previous NRC inspections performed at Tioga's facilities in Philadelphia, PA or Easton, PA, prior to this inspection.

3.0 INSPECTION FINDINGS AND OTHER COMMENTS

3.1 PROCUREMENT DOCUMENT CONTROL

a. Inspection Scope

The NRC inspectors reviewed procedural requirements and the implementation of Tioga's quality assurance (QA) processes governing procurement document control for adherence to the requirements of Criterion IV, "Procurement Document Control," of Appendix B to 10 CFR Part 50.

The NRC inspectors reviewed the following Tioga QA procedures used to implement polices and procedures that govern the control of Tioga's procurement document control program:

- Quality Systems Manual (QSM), "Quality Systems Program," Revision 10, dated November 27, 2006
- Quality Systems Procedure (QSP), QSP-1, "Sales Order Processing," Revision 13, dated February 1, 2008
- QSP-2, "Material Procurement" Revision 9, dated December 12, 2006
- QSP-3, Sub-Vendor's Certified Material Test Report (CMTR) Review Procedure, Revision 8, dated October 11, 2000
- QSP-4, "Documentation Review Procedure Checklist" Revision 7, dated October 11, 2000
- QSP-7, "Quality System Procedure Final Cleaning and Preservation Procedure," Revision 6, dated October 11, 2000
- QSP-9, "Material Packing and Shipping Procedure," Revision 6, dated October 11, 2000
- QSP-11, "Measurement Equipment Control," Revision 10, dated October 10, 2003, Quality Assurance Checklist Form

The NRC inspectors also evaluated the following sample of Customer Purchase Orders (PO) for safety related piping. This evaluation was performed in order to verify compliance with and adequate implementation of Tioga's procurement document control program:

- Duke Energy Carolinas PO 00000916000864, dated February 5, 2008
- Nuclear Management Company LLC (NMC) PO 00021275, dated December 12, 2007
- Florida Power and Light Company PO K120878, dated December 17, 2007

b. Observations and Findings

b.1 Procurement Document Control Process Items Reviewed

In accordance with the requirements of QSP-1, the NRC inspectors observed that all the relevant attributes and other appropriate information in the customers' PO were translated to the associated Tioga internal order. QSP-1 outlines the methods utilized by Tioga's QA staff to translate the requirements from a customer's sales order into a Purchase Order (PO). For each customer PO, the Tioga QA staff prepared a traveler and a Quality Assurance Checklist, in which the requirements of the customer's PO were listed and the relevant Tioga QSP procedure was referenced.

On the basis of the review completed by the NRC inspectors, the NRC found that 1) QSP-2 provides requirements that assure POs are only issued to vendors on Tioga's approved suppliers list and applicable requirements from its customer's POs are passed on to Tioga's suppliers and subsuppliers; 2) QSP-3 provides appropriate requirements for CMTRs; 3) reviews of POs are required to be conducted by Tioga's QA staff to assure the POs meet QSP-4 requirements, and 4) using the QA checklist in QSP-11, the Tioga QA staff verifies the following attributes:

- Tioga shop customer purchaser order
- Nondestructive Tests (NDT): Ultrasonic Tests (UT), Liquid Penetrant Tests (PT), Magnetic Particle Tests (MT), Radiograph Tests (RT) and Hydrostatic Tests
- If the vendor had to submit procedures for the above for approval
- Charpy 'V' notch tests, tensile flattening tests, destructive testing, etch tests, corrosion tests
- Cleaning to be performed to the latest revision of QSP-7
- Marking to be performed to the latest revision of QSP-8
- Packing to be performed to the latest revision of QSP-9
- Pipe end preparation
- If 10 CFR Part 21 applies

The checklist also lists the documents that are usually submitted to the customer with an instruction that each customer's PO list the quality control requirements on Tioga products. These requirements may include; 1) NDE, 2) destructive testing, 3) level of cleaning and packaging, 4) Customer PO stencil markings on the component, and 5) the following enclosed checklist of documents that are required to be with the specific PO:

- CMTR
- Tensile Test Reports
- Flatness Test Reports
- Hydrostatic Test Reports
- Any special statement on the certificate of conformance

- Nondestructive Test Reports such as UT, PT and MT Reports
- Spectrograph Chemical Test Reports
- Documentation sent to the customer

In the checklist, Tioga QA staff listed all the applicable QSPs that were required to be verified. For example, one checklist specified QSP-7, (for cleaning), or it would specify QSP-9, (for packaging). When the purchase order manufacturing process had been completed and the products were ready for shipment, the Tioga QA staff verified that the QA checklist requirements were satisfied and summarized the results.

b.2 Review of Purchase Orders (POs)

The NRC inspectors reviewed Tioga's control of the following PO documents for POs it received from licensees and for POs Tioga issued to its sub-suppliers purchase material, components, and services:

- Duke Energy Carolinas (DEC)

  PO 00000916000864, dated February 5, 2008, to Tioga for the supply of four, 1 inch diameter, 3000 lb. socket weld couplings, QA Level 1. The PO invoked 10 CFR Part 21, American Society of Mechanical Engineers (ASME) Section III, Subsection NB, required CMTR approval of deviations and changes, and documents to be shipped with the items.

- Nuclear Management Company, LLC (NMC), Wisconsin

  NMC issued, for the Prairie Island Nuclear Generating Plant, PO 00021275 dated December 12, 2007, for the supply of 21 feet of 1.5 inch, plain seamless schedule 80 (Sch. 80) carbon steel ASME-SA-106 Grade B pipe. The PO specified that substitution of items was not permitted, and that NMC was the only entity to authorize revisions to the PO for the supply of this pipe. Shipping containers were required to be clearly marked with NMC's PO Number. In addition, services and items were required to be provided in accordance with 10 CFR 50, Appendix B, or ANSI 452-1997 and 10 CFR Part 21. In accordance with the PO, Tioga was also required to report any nonconformance related to this pipe.

- Florida Power and Light Company

  Florida Power and Light issued, for the Duane Arnold Energy Center, PO K120878, dated December 17, 2007, for the supply of 100 linear feet of 2 inch diameter, SA 106, Grade B, Schedule 80, seamless pipe in accordance with the requirements of ASME Section III and Section XI, Subsection NB, Class 1 1971 Edition. In addition to specifying the ASME requirements, Florida Power and Light required Tioga to perform: 1) a UT examination of the pipe with the UT report, 2) no weld repair on the pipe, and 3) a 2500-psig hydrostatic test meeting the requirements of ASME Section III, NCA 3800, Subsection NC, Class 1, 2004 Edition. The PO also specified that tests would be performed on the pipe to verify chemical composition of the material and the physical properties, including ultimate strength, yield strength, elongation, and Rockwell B hardness.

In all the above reviewed POs, the NRC inspectors verified that the POs contained

elements required by Tioga's QA program. The NRC inspectors also verified that they contained elements consistent with Tioga's QSM and the applicable QSPs (See Subsection b.1). All of the reviewed, customer-generated, POs were completed in accordance with a QA program that was approved by Tioga.

c. Conclusions

The NRC inspectors concluded that Tioga's procurement control program is consistent with the regulatory requirements in Criterion IV of Appendix B to 10 CFR Part 50. Based upon the limited sample reviewed, the NRC inspectors also determined that Tioga's QAM and associated procurement control procedures were being effectively implemented. The NRC inspectors did not identify any issues in this area.

3.2 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern instructions, procedures, and drawings to assess compliance with Criterion V, "Instructions, Procedures, and Drawings," of Appendix B to 10 CFR Part 50. The NRC inspectors reviewed the following sample of instructions, procedures, and drawings related to safety-related activities to verify compliance with program requirements and adequate implementation of those requirements:

- QSP-36, "Ultrasonic Thickness Gauging," Revision 2, dated October 11, 2000
- Testing Instruction 3 (TI-3), "Tension Testing," Revision 1, dated March 15, 1996
- PO 100066 - a 3.5" seamless, austenitic stainless steel pipe (ASME SA312 – TP304)

b. Observations and Findings

The NRC inspectors reviewed TI-3 and observed tension testing activities for PO 100066. The NRC inspectors observed that some procedural steps were not performed or were performed out of sequence. Specifically, Tioga personnel did not complete step 6.6.2, performed steps 7.1 through 7.3 out-of-sequence, and performed step 7.4 incorrectly. Step 6.6.2 requires Tioga testing personnel to verify that the V grips or flat grips are approximately ½" inside the crosshead once the test specimen is secured. Steps 7.1 through 7.4 direct proper testing setup and configuration of the tension testing machine.

On March 5, 2008, the NRC inspectors reviewed QSP-36 that describes Tioga's process for inspecting the wall thickness of metal pipe. The NRC inspectors also reviewed the manufacturers' operating instruction for the testing equipment. QSP-36 does not specify that a calibration check should be done after an inspection to verify that the test instrument provided accurate results since the last calibration check. This calibration check is specifically recommended by the manufacturer's operating instructions. The manufacturer acknowledges that the testing machine can drift out of calibration.

Criterion V, of Appendix B to 10 CFR Part 50, requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures, or drawings. The NRC inspectors identified that tension testing activities were not accomplished in accordance with quality related testing instructions, in that some procedural steps were not performed or were performed out of sequence. This issue has been identified as an example of the vendor failing to follow procedures for activities affecting quality and is included in Nonconformance 99900879/2008-201-01.

In addition, activities affecting quality were not adequately prescribed by documented procedures, in that QSP-36, Revision 2, did not adequately implement the manufacturer's operating instructions for equipment calibration. Tioga entered this issue in its corrective action program as Corrective Action Report (CAR) 282. This issue is an example of an inadequate quality procedure for activities affecting quality and is another example of Nonconformance 99900879/2008-201-02.

c. Conclusions

Except for the issues identified in Nonconformance 99900879/2008-201-01 and 99900879-201-02, the NRC inspectors concluded that Tioga's instructional, procedural, and drawing requirements are consistent with the regulatory requirements of Criterion V of Appendix B to 10 CFR Part 50. Based on the limited sample of documentation reviewed, the NRC inspectors also determined that Tioga's QSM and associated instructional, procedural, and drawing documents were effectively implemented.

3.3 DOCUMENT CONTROL

a. Inspection Scope

The NRC inspectors reviewed implementation of Tioga's processes for document control for the supply of materials subject to the regulations of 10 CFR Part 50, Appendix B. The inspectors reviewed policies and procedures governing Tioga's document control processes to verify the overall extent and effectiveness of its programs at meeting the requirements of Criterion VI, "Document Control," of Appendix B to 10 CFR Part 50. The inspectors verified that Tioga's quality-related documents were developed, reviewed, approved, issued, used, and revised under an established program.

The following procedures, documents, and records were within the scope of the inspection in this area:

- QSM, Section 6, "Document Control," Revision 9, dated November 27, 2006
- QSP-1, "Sales Order Processing Procedure'" Revision 13, dated February 1, 2008
- QSP-2, "Material Procurement Procedure," Revision 9, dated December 12, 2006
- QSP-4, "Documentation Review Procedure/Checklist," Revision 7, dated October 11, 2000
- QSP-15, "Quality System Procedure Control Instruction," Revision 9, dated October

10, 2003

- QSP-14, “Quality System & Quality Inspection Manual Control Procedure,” Revision 7, dated October 10, 2003

- QSP-21, "Auditor Training and Qualification Procedure," Revision 4, dated October 11, 2000

- QSP-29, “Control of In-House Testing,” Revision 5, dated October 11, 2000

- TI-3, “Tension Testing,” Revision 1, dated March 15, 1996

b. Observations and Findings

b.1 Policies and Procedures for Document Control

Criterion VI of Appendix B to 10 CFR Part 50 states that, “Measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality. These measures shall assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed. Changes to documents shall be reviewed and approved by the same organizations that performed the original review and approval unless the applicant designates another responsible organization.”

b.2 Inconsistencies Between QSM and QSPs

Section 6 of Tioga's QSM describes the processes in place to control the development, review, approval, issuance, use, and revision of documents. The documents described by the QSM include the QSM, customer orders, customer change orders, QSPs, vendor procedures, testing instructions (TIs), and manufacturing orders.

QSP-14 describes the process Tioga has implemented for control of the distribution of the QSM. The QSP states that the QA department will distribute copies of the controlled QSM and control this distribution with a sequential, registered control number. The distribution of controlled copies of the QSM is documented in a distribution log (Form QSP 14.1). In the event of a revision to the QSM, the manual holder is required to return the voided manual sections within 15 working days of receipt of the revised sections (applicable to Tioga copies only).

In the event that an owner of a controlled copy of the Tioga QSM fails to respond to a QSM revision transmittal within 15 working days, QSP-14 states that the QA manager will be notified and he will assign a member of the QA department to personally resolve the situation. However, according to Tioga's QSM, should an owner of a controlled copy of the Tioga QSM fail to respond to a revision transmittal within 15 days, the QA department shall perform a follow-up for corrective action. In addition, the QSM only requires return of the receipt acknowledgement, not the voided pages. These examples represent inconsistencies between guidance contained in the QSM and in QSP-14.

The NRC inspectors noted another inconsistency between the QSM and QSPs.

Specifically, QSP-21 states, in reference to lead auditor qualification, "the Quality Assurance Manager will annually review each Lead Auditor and may extend the qualification, require retraining, or requalification. This review will be documented in writing." However, the QSM states that "certificates of qualification for Lead Auditor will be assessed annually by the Quality Assurance Manager, the Executive Vice President, or another qualified Lead Auditor to determine the Lead Auditor has maintained proficiency."

On the basis of the review of the QSM and associated QSPs, the NRC inspectors determined that there are no formal document control measures in place to assure consistency between the guidance provided in the QSM and the QSPs. As such, contrary to the requirements of Criterion VI of Appendix B to 10 CFR Part 50, the NRC inspectors concluded that the process Tioga implemented for control of the distribution and the revision of the QSM were not accomplished in accordance with quality-related instructions. This issue is identified as an example of Tioga failing to establish measures that assure documents, including changes, are reviewed for adequacy and is an example of Nonconformance 99900879/2008-201-01.

b.3 Document Controls

QSP-15 provides guidance for control of the QSPs. The procedure provides instructions for distributing revisions of the QSPs and maintaining controlled and uncontrolled copies of the QSPs. QSP-15 also identifies Tioga's QA department as having responsibility for conceiving, distributing, revising, and implementing the QSPs. However, the inspectors determined that the procedure does not provide formal steps or guidelines for the QA department to follow to assure proper content, format, and timely revision of the QSPs.

As an example, each QSP has a banner header containing the Tioga logo, document type (QSP), Section (QSP number), page number, revision, and date. Each QSP is also signed by the QA Manager on the last page of the document to indicate approval of the procedure or revision. Step 2.1.6 of QSP-15 states that "all procedures will be signed by the QA Manager. No procedure is to be issued or used unless signed." The staff noted a number of QSPs in which the date found in the banner was earlier than the QA approval date. The Tioga QA manager indicated that the date referenced in the banner of the procedure is the date on which the revision was made, not the actual issue date of the procedure. There was no guidance provided in the QSM nor QSP-15 to indicate what the date in the QSP header truly means or to identify why it is different from the QA approval date.

QSP-15 also requires that revisions to existing procedures are to be prepared and distributed by Tioga's QA department. The NRC inspectors verified that 3 sets of the controlled copies of the QSPs were of the correct revision. However, the NRC inspectors also observed that there were no formal measures in place to control the issuance of the QSPs. Specifically, the NRC inspectors reviewed the QSP Revision Distribution Log (Form QSP-15.2) and found that procedure revisions were transmitted in various groups with varying and different revision dates. This could be interpreted to mean that the QSPs could be revised and approved without being issued and distributed promptly. For instance, one revision transmittal reviewed by the NRC inspectors contained revisions for 3 QSPs, the actual revision and approval dates of which spanned more than a 2 month period. Neither the QSM, nor QSP-15 provide specific controls for the revision, approval, and issuance of QSP. As such, the decision of when to issue and

distribute a change relies on the QA manager's judgement of the significance of the revision. The lack of formal controls for the revision, approval, and issuance of procedures could lead to inconsistencies between related procedures.

Document controls for TIs are described in the QSM and briefly in QSP-29. QSP-29 states that the QA manager will "generate specific testing instructions applicable to each testing operation unless the testing technique is detailed in the testing standard." The QSM assigns Tioga's QA department with the responsibility for the conception, distribution, and implementation of all TIs within the Quality System Program. The NRC inspectors were unable to identify any formal guidance, either in the QSM or QSPs, for development, issuance, or revision of TIs or for the control and maintenance of controlled copies of the TIs. The TI Distribution Log indicated, by signature, that a copy of each TI was distributed to the previous QA manager at Tioga's Philadelphia facility, and to an inspector at Tioga's Easton facility. These 2 copies were stated to be the "controlled copies" of the TIs by Tioga's current QA manager. However, the TI distribution log did not identify the copies as controlled, and the copies carried no formal identifier such as a control number or a "controlled copy" stamp. Additionally, the NRC inspectors found no formal procedural control measures in place to assure that the TIs in use at the work/testing stations were of the latest revision.

TI-3, states that "each tension test performed shall be documented on Form TI-3.1." Form TI-3.1 is listed as an attachment to TI-3; however, the "controlled" copy retained at Tioga's Philadelphia office did not have the form attached. The NRC inspectors verified that the copy at the Easton facility was complete and that both copies were of the correct revision.

On the basis of the examples cited above, the NRC inspectors determined that there are no formal document control measures in place to assure that procedures governing activities affecting quality (QSM, QSPs, and TIs) are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed. This is contrary to the requirements of Criterion VI of Appendix B to 10 CFR Part 50. The NRC inspectors concluded that this issue is an example of Tioga failing to establish measures that assure documents, including changes, are reviewed for adequacy and is another example of Nonconformance 99900879/2008-201-01.

b.4 Implementation of Document Control Programs

The NRC inspectors reviewed 5 controlled copies of the QSM to verify that they were being maintained in accordance with Tioga's document control program. The NRC inspectors observed that the copies were of the most recent revision and properly identified the effective date, registered control number, and owner. Tioga's QSM also requires that distribution of revisions to the QSM shall not be made until ASME acceptance has been received in writing. The QSM also requires that accepted revisions shall be implemented within 30 days of ASME acceptance. The NRC inspectors verified that these time requirements were met for the latest two (2) revisions to the QSM, Revisions 9 and 10.

As described above, Tioga employees that are holders of controlled copies of the QSM, are required to respond to the receipt of a manual revision within 15 working days. The NRC inspectors reviewed the QSM Distribution Log for Controlled Copies of the QSM

(Form QSP 14.1) and observed that Controlled Copies #7 and #8 were sent to employees at Tioga's Chattanooga, TN facility on December 20, 2006, and responses were not recorded until January 24, 2007. This period is beyond the 15 working days allowed by the QSM and QSP-14. However, no corrective action had been taken per the requirements of the QSM. The QSP requires the QA manager to be notified when a response is not received within 15 days and that the QA manager assign a member of the QA department to resolve the issue. In a discussion with Tioga's QA manager, he stated that he had not been made aware of the condition and had not assigned someone to remedy the situation. The QA manager discussed this issue with members of his staff. The QA manager suggested that the acknowledgement and voided pages may have been received earlier than the date recorded on the form and they may have been recorded in the log on the day the pages were destroyed rather than received. No evidence was furnished to support this explanation. On the basis of available records, this issue is an example of a failure to follow a document control procedure affecting quality and is identified as an example of Nonconformance 99900879/2008-201-01.

QSP-15 states that "after the receipt of acknowledgement of receipt of the revised procedures, the Quality Assurance representative will make the required log entry then destroy the acknowledgement." Contrary to this requirement, on March 4, 2008, the NRC inspectors found that Tioga's QA department was actually retaining the acknowledgements. This issue is another example of a failure to follow a document control procedure affecting quality and is part of Nonconformance 99900879/2008-201-01.

QSP-15 requires that new holders of controlled copies of the QSPs return a written acknowledgement to the QA department and that the written acknowledgement be retained on file. The NRC inspectors verified this requirement was met for 2 employees designated as holders of controlled copies of the QSPs.

QSP-15 also requires a QA representative to record the revised revision level in the "Table of Contents" on the QSP Revision Distribution Log for each transmittal. The NRC inspectors observed that this information was missing for three transmittals. The QA manager added the information to the log in pen and initialed the changes. This issue is an example of a failure to follow a document control procedure affecting quality and is another example of Nonconformance 99900879/2008-201-01.

The QSM and QSP-1 require that sales orders be forwarded to QA for review and the addition of any applicable QA requirements. This review is denoted by initial and date. The NRC inspectors reviewed: 1) a sales order (#612559) for the sale of seamless carbon pipe to Velan, Inc; 2) a sales order (#424467) for the sale of standard bore flanges to Nuclear Management Company, LLC, Palisades Nuclear Plant; and 3) a sales order (#32347) for the sale of Schedule 80 butt welding pipets to Bechtel. The inspectors verified that these 3 sales orders had all received QA review, as indicated by QA personnel initials and dates.

QSP-2 requires that purchase change orders of quality and regulatory purchase orders for other than non-quality changes be reviewed by QA prior to distribution. The NRC inspectors reviewed the Change Order for Tioga's Purchase Order #833558 to WFI International, Inc. and the Change Order for Tioga's Purchase Order #830153. The inspectors verified that both had been reviewed by QA as indicated by initials and dates.

The NRC inspectors reviewed Tioga PO #73733 for purchase of 1 ½ " seamless carbon pipe from Quanex Corp. QSP-4 requires that sub-vendor CMTRs contain a QA acceptance stamp and date for the review performed by QA. The NRC inspectors found that the date contained on page 1 of the CMTR, November 7, 1997, differed from that contained on page 2, November 7, 1994. After identification of the inconsistency to the QA team, the date on page 2 was corrected by pen and ink change to the proper date, November 7, 1997.

c. Conclusions

In the areas of 1) assuring procedures are adequately reviewed and controlled and 2) implementing document control procedural requirements the NRC inspectors concluded that Tioga's document control program was not in compliance with the requirements of Criterion VI of Appendix B to 10 CFR Part 50, as identified in Nonconformance 99900879/2008-201-01. No other areas of nonconformance were identified. The remaining document control program requirements are consistent with the regulatory requirements of Criterion VI of Appendix B to 10 CFR Part 50.

3.4 CONTROL OF PURCHASED, MATERIALS, EQUIPMENT, AND SERVICES

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern the purchase of services to assess compliance with the requirements of Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50. The NRC inspectors also evaluated a limited sample of vendor survey reports to verify compliance with and adequate implementation of the program requirements.

The following procedures, documents, and records were within the scope of the inspection in this area:

- QSP-32, "Control of Services," Revision 4, dated October 11, 2000
- Tioga's PO 06433, dated September 7, 2007
- Tioga's PO 06327, dated June 11, 2007
- Tioga's PO 06326, dated June 8, 2007

b. Observations and Findings

The inspectors reviewed the following three Tioga POs to one of its qualified subcontractors, Laboratory Testing Incorporated (LTI), that provides nondestructive testing and other testing services.

- Tioga's PO 06433 to its subcontractor required the subcontractor to perform magnetic particle tests on four pieces of 6-inch nominal pipe size (NPS), Schedule 80, butt weld "tees", Material SA 234, wrought product, Grade B (WPB), identified with heat code 448. The subcontractor performed the tests and provided a test report

indicating that it used its Magnetic Particle Procedure MP-111-1, Revision 15, dated September 25, 2006, inspected four pieces of 6-inch NPS butt weld "tees," and rejected two of them due to oversize linear indications on the outside diameter.

- Tioga's PO 06327 to its subcontractor required the subcontractor to perform elongation tests on four specimens of 0.25 inch NPS (0.088-inch wall thickness) ASTM A 312-956, ASME SA 312, 1898 Edition, no addenda, Grade TP 316/36L, heat number OPW 677. The subcontractor's test report, dated June 21, 2007, indicates that the results of the tensile and yield strengths and elongation exceeded the minimum values required for type 316-316L type stainless steel.

- Tioga's PO 06326 to its subcontractor required the subcontractor to perform a UT on 4" NPS (0.0337-inch wall thickness) Type SA 106, Grade B pipe with heat number 63CB3359. The subcontractor provided a test certificate that its Level II inspector performed UT utilizing Procedure UT-111-1, Revision 9, dated May 4, 2006, on six lengths of pipe totaling 117 feet 3 inches. All pieces were acceptable.

In all its POs, Tioga invoked the requirements of 10 CFR Part 21. The inspector verified that the PO required the subcontractor to certify that the material was handled in accordance with a QA program that was approved by Tioga. Further, the subcontractor was required to provide certifications referencing the material shown on its POs including the heat number, lot size, serial number, and all applicable specifications. Tioga's POs required that the certificates provided by the subcontractor were signed by authorized personnel and that all material provided under the POs was tagged with the referenced PO.

The NRC inspectors reviewed "material verification reports" that were prepared to meet the requirements of QSP-32 and attached to the Tioga POs. The NRC inspectors observed that the purpose of QSP-32 was to outline requirements to control materials supplied to contractors providing destructive and nondestructive examinations. The NRC inspectors also observed that traceability was continuously maintained.

The NRC inspectors reviewed two of Tioga's POs to its subcontractor for calibration services. The equipment to be calibrated was listed with unique Tioga identification numbers. Attachment 1 to the PO indicated additional intervals at which the pressure gauges had to be calibrated. For example, for a 1000 psi gauge, the subcontractor was to verify the calibration at 250 and 670 psi. Attachment "SCS-1," Subcontracted Calibration Services," required the subcontractor to identify:

- The specific procedure number and its revision that was used for calibration

- The standards used to perform calibration

- Traceability to the National Institute of Standards and Test (NIST)

- Date of calibration

- Equipment serial number or Tioga identification number

The NRC inspectors reviewed two of Tioga's POs issued to Tinius Olsen, Horsham, Pennsylvania to perform the calibration of Universal Testing Machines and

Extensometers. The requirements of 10 CFR Part 21 applied. The calibration was performed on the testing machines located at Tioga's Easton Facility, and all the Universal Testing Machines were in good condition and did not need any adjustments.

c. Conclusions

The NRC inspectors concluded that Tioga's program for the control of purchased equipment, material, and services is consistent with the regulatory requirements of Criterion VII of Appendix B to 10 CFR Part 50. Based on the limited sample reviewed, the NRC inspectors also determined that Tioga's QSM and associated procurement control procedures were being effectively implemented. The NRC inspectors did not identify any issues in this area.

3.5 CONTROL OF SPECIAL PROCESSES

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the control of special processes to assess compliance with the requirements of Criterion IX, "Control of Special Process," of Appendix B to 10 CFR Part 50. The NRC inspectors also reviewed the written practice for Tioga subcontractors who perform activities that are considered special processes. The NRC inspectors reviewed the following sections of Tioga's QSM:

- QSM Section 7, "Control of Purchased Materials and Services"
- QSM Section 9.4, "NDE Procedure Qualifications"
- QSM Section 9.5, "NDE Personnel Qualifications"
- QSM Section 9.6, "Control of Heat Treating"
- QSM Section 11.2.2, "Control of Examination and Testing"

b. Observations and Findings

The NRC inspectors reviewed Tioga's quality assurance program as it relates to the control of special processes. The NRC inspectors noted that Tioga does not perform any activities that qualify as special process, such as nondestructive testing, heat treating, or welding. All special processes, if required, are performed by a subcontractor that is qualified in accordance with Tioga's QSM, Section 7, "Control of Purchased Materials and Services." The inspectors reviewed the QSM to assure Tioga maintained a quality assurance program capable of qualifying its subcontractors for any work that is considered a special process.

c. Conclusions

The NRC inspectors concluded that Tioga has established adequate measures to assure that subcontracted special processes, including nondestructive testing and heat

treating, are properly controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements as applicable. The NRC inspectors determined that Tioga's program, procedures, and activities adequately implemented the requirements of Criterion IX of Appendix B to 10 CFR Part 50. The NRC inspectors did not identify any issues in this area.

3.6 INSPECTIONS

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the inspection of activities affecting quality to assess compliance with the requirements of Criterion X, "Inspections," of Appendix B to 10 CFR Part 50. The NRC inspectors observed a sample of in-process inspections and reviewed a sample of completed inspection records. The NRC inspectors also reviewed a sample of purchase order documents to verify that specified design requirements were properly translated into inspection requirements and appropriate acceptance criteria.

The NRC inspectors reviewed the following sections of the Tioga QSM and QSPs:

- QSM Section 10.0, "Control of Inspection, Examination and Testing," Revision 6
- QSM Section 1.13, "Inspection Personnel," Revision 9
- QSM Section 2.4.1, "Qualification of Tioga Quality Assurance Inspection and Testing Personnel," Revision 9
- QSM Section 8.2AB, "Warehouse Receiving," Revision 8
- QSM Sections 9.1.11, 9.1.12, and 9.1.13, "Customer Order Control," Revision 9
- QSM Section 9.12.E, "Inspection and Test Plan(s)," Revision 9
- QSP-13, "Training and Qualification of Inspection and Test Personnel," Revision 7, dated October 11, 2000
- QSP-10, "Final Material Inspection Procedure," Revision 10, dated October 11, 2000
- QSP-5, "Material Receiving Inspection Procedure," Revision 11, dated December 12, 2006

b. Observations and Findings

The NRC inspectors reviewed sections of the Tioga QSM and associated implementing QSPs to verify that Tioga maintains a program that effectively controls examinations and measurements that were used to verify whether an item or activity conformed to specified requirements.

The NRC inspectors observed receipt inspection activities for POs 147476 and 115719. The NRC inspectors verified that the material was inspected in accordance with requirements specified in QSP-5. Inspectors also observed the final inspection of PO 91600843 and verified that the material was properly inspected in accordance with requirements specified in QSP-10. The NRC inspectors noted that characteristics to be inspected and inspection methods were correctly specified and that inspection results were properly documented.

The NRC inspectors also reviewed a sample of PO packages to determine that inspections were completed as required by Tioga's QA program. The NRC inspectors reviewed the completed final inspection checklist, lab memo, and the certificate of conformance for PO 91600708 (a 2.5 inch seamless carbon steel pipe) and for PO 91600803 (a 0.5 inch carbon steel socket weld coupling). The inspector noted that the inspections were completed as required by Tioga's QA program.

c. Conclusions

The NRC inspectors concluded that Tioga's inspection program requirements are consistent with the regulatory requirements of Criterion X of Appendix B to 10 CFR Part 50. Based on the limited sample of records reviewed and activities observed the NRC inspectors also determined that Tioga's QAM and associated inspection procedures were effectively implemented. The NRC inspectors did not identify any issues in this area.

3.7 TEST CONTROL

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the control of test programs that are performed to demonstrate that the applicable item will perform satisfactorily in service to assess compliance with the requirements of Criterion XI, "Test Control," of Appendix B to 10 CFR Part 50. The NRC inspectors observed in-process testing activities such as hydrostatic pressure testing, spectrograph analysis, and tension testing. The NRC inspectors also reviewed a sample of completed test records and compared them to the requirements of the applicable purchase order and material specification.

The following procedures, documents, and records were within the scope of the inspection in this area:

- QSM, Section 11, "Control of Examination and Testing," Revision 7
- QSP-29, "Control of In House Testing," Revision 5, dated October 11, 2000
- PO 91600708 for a 2.5-inch seamless carbon steel pipe
- PO 91600803 for a 0.5-inch carbon steel socket weld coupling

- PO 100066 for a 3.5-inch seamless, austenitic stainless steel pipe (ASME SA312 – TP304)

- TI-1, “Hydrostatic Pressure Testing,” Revision 1

b. Observations and Findings

QSP-29 and Section 11 of Tioga’s QSM provide the requirements for test control under Tioga’s QA program. Based on the review of a sample of PO packages, the NRC inspectors determined that completed tests were accomplished in accordance with material and customer design specifications. The NRC inspectors also found that POs 91600708 and 91600803 were complete with the required documentation (completed final inspection checklist, laboratory memo, and the certificate of conformance).

The NRC inspectors observed Tioga personnel performing a hydrostatic pressure test, a spectrograph chemical analysis test, and a tension test for PO 100066. The piping material for this PO was procured as ASME Section III, nuclear grade. The NRC inspectors identified that the vendor maintained proper test control over the conduct of tension testing and spectrograph analysis activities; however, the NRC inspectors identified the following issues with the test control program for hydrostatic pressure testing.

b.1 Water Used For Hydrostatic Pressure Test

During the hydrostatic pressure test, the NRC inspectors observed that the water used to pressurize the pipe was supplied by two uncontrolled and unanalyzed sources. One source of the water was from the potable city water system and the other source came from a tank of recycled water that appeared to be contaminated with oils and solid debris. Tioga had never analyzed this water to ensure that austenitic stainless steel material is not exposed to contaminants that may lead to stress corrosion cracking. The NRC inspectors noted that PO 100066 references an ASME Section III customer design specification that strictly prohibits austenitic stainless steel materials from coming into contact with elements such as chlorides, fluorides, cadmium, tin, antimony, bismuth, sulfur, copper, aluminum, mercury, lead, zinc and any low melting alloys. The guidance specified in Regulatory Guide (RG) 1.44, “Control of the Use of Sensitized Stainless Steel,” dated May 1973, recommends that all cleaning solutions, processing compounds, degreasing agents, and other foreign materials should be completely removed at any stage of processing prior to any elevated temperature treatment and prior to a hydrostatic test.

Criterion XI of Appendix B to 10 CFR Part 50 requires, in part, that the test be performed under suitable environmental conditions. The NRC inspectors identified that the use of this unanalyzed water supply for the conduct of hydrostatic testing activities at Tioga is contrary to the above requirements. The environmental conditions of the hydrostatic test may have been detrimental to the piping material, in that austenitic stainless steel pipe may be more susceptible to stress corrosion cracking after the inside diameter was exposed to prohibited contaminants. Upon the NRC’s identification of this issue, the vendor immediately suspended all hydrostatic testing activities and entered the issue in its corrective action program as CAR 279. The vendor has taken action to analyze the

water and determine if the austenitic stainless steel piping was exposed to prohibited elements. This issue is identified as Nonconformance 99900879/2008-201-02.

b.2 Maximum Pressure And Minimum Hold Time For Hydrostatic Pressure Test

The NRC inspectors noted that the hydrostatic testing procedure, TI-1, required the calculation of the maximum allowable pressure and a minimum holding time within the allowable pressure range for hydrostatic testing activities.

Criterion XI of Appendix B to 10 CFR Part 50 requires in part that "test procedures shall include provisions for assuring that all prerequisites for the given test have been met, and that adequate test instrumentation is available and used." Additionally, Criterion XI requires that, "test results shall be documented and evaluated to assure that test requirements have been satisfied." Contrary to the above, TI-1, Revision 1, did not adequately control hydrostatic pressure testing activities, in that the hydrostatic testing inspector was not required to document the maximum allowable test pressure or use an appropriate time measuring device to record the start and stop time of the test. The test control for hydrostatic testing does not require the test inspector to record the calculated maximum pressure. Exceeding this pressure would be reason to declare the test specimen nonconforming. Additionally, the acceptance criteria for the hydrostatic test requires that the static pressure be maintained for a minimum amount of time, but test controls did not provide for the use of a timing instrument such as a stop watch or timer.

Maximum and minimum test pressures may vary with pipe materials and different wall thicknesses, and the minimum hold time may vary depending on purchase order requirements. Holding the hydrostatic pressure between the minimum and maximum pressure for the specified minimum hold time is part of the formal acceptance criteria of a successful hydrostatic test. This issue is identified as another example of an inadequate test control program as described in Nonconformance 99900879/2008-201-02.

c. Conclusions

Except for the issues identified in Nonconformance 99900061/2007-201-02, the NRC inspectors concluded that Tioga's test control program requirements are consistent with the regulatory requirements of Criterion XI of Appendix B to 10 CFR Part 50. Based on the limited sample of test control documents and activities reviewed, the NRC inspectors also determined that Tioga's QSM and associated test control procedures were effectively implemented.

3.8 MEASUREMENT AND TESTING EQUIPMENT

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern the control of the measurement and testing equipment (M&TE) process to assess compliance with Criterion XII, "Control of Measuring and Test Equipment," of Appendix B to 10 CFR Part 50. The NRC inspectors also evaluated a limited sample of calibration records and reviewed the controls established within the vendor's calibration laboratory. Additionally, the NRC inspectors observed a sample of testing activities

performed by Tioga to verify compliance with test program requirements and adequate implementation of those requirements.

The NRC inspectors reviewed the following Tioga documents used to implement policies and procedures that govern the control of Tioga's M&TE:

- QSP-28, "Calibration of Test Equipment Procedure," Revision 6, dated April 30, 2004
- QSP-29, "Quality System Procedure Control of In-House Testing," Revision 5, dated October 11, 2000

The NRC inspectors reviewed limited samples of calibration records for Tioga's sub-contractors, LTI and Tinius Olsen Testing Machine Incorporated (Tinius). Within these records, the NRC inspectors reviewed LTI calibration certificates for 1) pressure gauges, 2) a temperature indicator, 3) a hygrometer or humidity monitor, 4) a dial caliper, 5) length gauges, 6) calibrators, 7) strain sensors, and 8) extension testing machine with recorders. The NRC inspectors also reviewed M&TE controls established within Tioga's facilities for hydrostatic pressure testing, flatness testing, and tension testing:

- Laboratory Testing Incorporated (LTI) Calibration Certificate TPS001-07-01-00311-6, dated January 5, 2007
- LTI Calibration Certificate TPS001-07-08-22472-1/2, dated August 6, 2007
- LTI Calibration Certificate TPS001-06-01-00874-9, dated January 16, 2006
- LTI Calibration Certificate TPS001-04-12-31595-19, dated December 23, 2004
- LTI Calibration Certificate TPS001-04-05-13495-7, dated June 1, 2004
- LTI Calibration Certificate TPS001-03-05-11748-5, dated May 23, 2003
- LTI Calibration Certificate TPS001-06-03-08991-1, dated April 21, 2006
- LTI Calibration Certificate TPS001-06-03-08991-2, dated April 21, 2006
- LTI Calibration Certificate TPS001-07-03-08807-17, dated April 3, 2007
- Tioga Pipe Supply Inc Hydrostatic Test Reports
- Tioga Pipe Supply Inc Tension Test Reports
- Tinius Olsen Testing Machine Incorporated; Instrument Verification Reports & Certificate Specifications per ASTM E 83, Extension Testing Machine with Recorders, S/N 88550-S-1000-2A, dated March 19, 2007

b. Observation and Findings

b.1 M&TE Items

In accordance with QSP-28 and QSP-29, the NRC inspectors observed controls on M&TE used to complete a hydrostatic pressure test and a tension test on nuclear grade stainless steel piping. The NRC inspectors observed a sample of testing activities performed by Tioga to verify compliance with test program requirements and adequate implementation of those requirements. The NRC inspectors also observed use of 1) calibrated instruments and pressure gauges while Tioga performed a hydrostatic pressure test on a stainless steel pipe, 2) a calibrated chemical spectrograph used to perform chemical analysis on a stainless steel pipe sample, and 3) calibrated extension measuring devices (a force gauge, recorders and a tension testing machine) used to perform tension tests on a stainless steel pipe sample.

During the hydrostatic pressure test, the NRC inspectors observed that one of two water sources used to pressure test the stainless steel pipe appeared to be contaminated. The NRC inspectors questioned the test engineer concerning this issue. The test engineer proceeded with the hydrostatic pressure test. For additional details, see Section 3.7 of this inspection report.

For the sample of LTI pressure gauge calibration certificates reviewed, the NRC inspectors found that pressure gauge stickers and the calibration certificates contained control numbers, the last calibration date, calibration due dates, pressure gauge range (0-5000 psig), and gauge adjustments. The NRC inspectors did not find any gauges that were past their calibration due dates based on the calibration frequency requirements (12 months) and calibration testing history on the certificates over the past 5 years.

The NRC inspectors chose to review a number of pressure gauge calibration certificates for Pressure Gauge 89 because the test engineer indicated that the gauge appeared to have drift problems. The NRC inspectors found that the Tioga Test Engineer identified one pressure gauge (Instrument Serial Number 1240098, Pressure Gauge 89) that was sent to LTI for recalibration due to overpressure and underpressure drift indications outside its normal delta pressure range (plus or minus 50 psig). This gauge was compared to other pressure gauges used in parallel on the hydrostatic pipe pressure testing station. The test engineer did not write a non-conformance on this issue since the pressure gauge had not fallen outside its allowable delta pressure rating. However, the test engineer suspected wear in the gauge and a potential failure in the near future to outside its allowable range. Therefore, he tagged and segregated the instrument and sent it back to LTI for adjustment, repair, and recalibration.

The subcontracted calibration laboratory, LTI, completed adjustments, a post adjustment calibration test data, and the calibration certificate on the gauge and sent it back to the Tioga test engineer. The engineer then placed the gauge back into service on the hydrostatic pipe pressure testing station. The NRC inspectors determined that this was a proactive approach to repairing the instrument before the pressure gauge fell outside its calibrated range.

The NRC inspectors also reviewed spectrograph calibration certificates, a LTI calibration certificate on a temperature indicator in the spectrograph lab, and a LTI calibration certificate on a hygrometer used as a humidity monitor in the lab. The NRC inspectors also reviewed two LTI calibration certificates provided to Tioga Pipe Supply for the temperature indicator and the humidity monitor. These certificates indicated that these devices were calibrated to standards traceable to National Institute of Standards and Technology (NIST).

The NRC inspectors reviewed a sample of calibration records and did not identify any issues associated with 1) calibration data ("as found" and "as left" data), 2) measurement uncertainty, and 3) past due dates for these instruments. The NRC inspectors did not find any out of calibration M&TE devices. Therefore, it was not necessary to review and evaluate previous inspection and test results of pipe testing that were affected.

c. Conclusions

The NRC inspectors concluded that Tioga's M&TE program requirements are consistent with the regulatory requirements of Criterion XII of Appendix B to 10 CFR Part 50. Based on the limited sample of calibration records reviewed, evaluation of controls established within the vendor's calibration laboratory, and observation of a sample of testing activities performed by the vendor, the NRC inspectors also determined that Tioga's QSM and associated M&TE procedures were being effectively implemented. The NRC inspectors did not identify any issues in this area.

3.9 IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the identification and control of purchased items to assess compliance with the requirements of Criterion VIII, "Identification and Control of Materials, Parts, and Components," of Appendix B to 10 CFR Part 50. The NRC inspectors observed a sample of receipt inspections performed and verified that only specified and accepted items were received into inventory at Tioga. The NRC inspectors reviewed a sample of Certified Material Test Reports and verified that markings are maintained on the item or in documents traceable to the item.

The NRC inspectors reviewed sections of the Tioga QSM and associated QSPs to verify that Tioga maintains a program that effectively identifies and controls purchased materials. The NRC inspectors reviewed the following sections of the Tioga QSM and QSPs:

- QSM Section 8.0, "Identification and Control of Materials," Revision 8, dated 10-10-03
- QSP-5, "Material Receiving Inspection Procedure," Revision 11, dated 12-12-06
- QSP-8, "Material Identification and Marking Procedure," Revision 8, dated 10-11-00

In addition, the NRC inspectors reviewed the following POs that were checked and verified to be in accordance with the material and the CMTR on file for each material:

- Purchase Order Number 617413, Manufacturer: Taylor Forge Stainless Inc, (TF), Heat Number: MNHS-1
- Purchase Order Number 129376, Manufacturer: Alloy Stainless Products Company Inc, (ASP), Heat Number: XJM

- Purchase Order Number 115719, Manufacturer: Western of Texas Forge & Flange, Heat Number: B5476

b. Observation and Findings

The NRC inspectors observed the receipt inspection activities for PO 147476 and PO 115719. The NRC inspectors verified that the material was inspected in accordance with the requirements specified in QSP-5. For each PO, the material received was verified to be the material specified on the PO, that it was acceptable, and that the materials were identified and marked in accordance with the requirements specified in QSP-8. Specifically, the NRC inspectors observed that identification markings (Manufacturer and Heat Number), were verified and recorded on the appropriate Tioga inspection report in accordance with QSP-5 and that the identification was applied to the materials in a manner that provided a clear, legible identification that did not adversely affect the function or service life of the item. Physical identification was used to the maximum extent possible for both receipt inspections that were observed.

The NRC inspectors also reviewed the CMTRs for POs 617413, 129376, and 115719 and verified that markings, specifically Manufacturer and Heat Number, were maintained on the item and in documents traceable to the item.

c. Conclusions

The NRC inspectors concluded that Tioga's procedures and processes for the identification and control of materials, parts, and components are consistent with the regulatory requirements of Criterion VIII of Appendix B to 10 CFR Part 50. Based on the limited sample of CMTRs and POs reviewed, the NRC inspectors also determined that Tioga's QSM and associated QSPs for identification and control of materials, parts, and components were being effectively implemented. The NRC inspectors did not identify any issues in this area.

3.10 HANDLING, STORAGE, AND SHIPPING

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the identification and control of purchased items to assess compliance with the requirements of Criterion XIII, "Handling, Storage and Shipping," of Appendix B to 10 CFR Part 50. The NRC inspectors reviewed sections of the Tioga QSM and associated QSPs to verify that Tioga maintains a program that effectively controls the handling, storage and shipping of materials to prevent damage or deterioration. The NRC inspectors reviewed the following sections of the Tioga QSM and QSPs:

- QSM Section 13.0, "Control of Handling, Storage, Preservation and Shipping," Revision 6, dated November 27, 2006

- QSP-10, "Final Material Inspection Procedure," Revision 10, dated October 10, 2003

- QSP-9, “Material Packaging and Shipping Procedure,” Revision 6, dated October 11, 2000

- QSP-6, “Handling and Storage Procedure,” Revision 5, dated October 11, 2000

- QSP-24, “Cleaning and Preservation Procedure,” Revision 3, dated October 11, 2000

- QSP-7, “Final Cleaning and Preservation Procedure,” Revision 6, dated October 11, 2000

b. Observations and Findings

Tioga’s QSM, Section 13, Subsection 13.3.2A-C states, “austenitic stainless steel and nickel alloy steel material is to be stored in a manner which prevent their coming in contact with carbon or low alloy material and any other material that could cause contamination of the austenitic stainless steel or nickel alloy steel material”. The NRC inspectors inspected the storage area for nuclear grade stainless steel material. During the inspection, the NRC inspectors identified four examples of austenitic stainless steel coming in direct contact with non-stainless steel metal pins and unqualified tape. All four of the following items had both the non-stainless steel metal pins and the unqualified tape in direct contact with austenitic stainless steel.

- Manufacturer: ASTRO, Heat # M2882BG, Description: ½” Outside Diameter (O.D.) X 0.049 316L SML

- Manufacturer: Sandvik, Heat # 473849, Description: ¾” O.D. X 0.083 304 SML

- Manufacturer: ASTRO, Heat # 102683, Description: 3/8” O.D. X 0.035 304/L SML

- Manufacturer: ASTRO, Heat # 3708H, Description: 3/8” O.D. X 0.065 CL1 304/L SML

After discussions with Tioga, the NRC inspectors discovered that the pins were “probably carbon material” and used for inventory purposes by Tioga. The tape remained unidentified, but did not match the physical appearance of Tioga’s “Approved for Nuclear Material use” tape. These two materials do not comply with Tioga’s policies and procedures. This is also contrary to Criteria XIII of Appendix B to 10 CFR Part 50, in that measures are to be established to control the handling, storage, shipping, cleaning and preservation of material and equipment in accordance with work/inspection instructions in order to prevent damage or deterioration. This issue is identified as Nonconformance 99900879/2008-201-03.

The NRC inspectors reviewed a sample of three items that were ready to be shipped to verify that procedures were implemented and all documentation was complete. The three POs reviewed were PO 147476, PO 916847, and PO 100138. The NRC inspectors verified that PO 147476 and PO 100138 had the correct material and associated paperwork and that all Tioga procedures had been followed and met. However, during the inspection, the NRC inspectors discovered that PO 916847 was shipped to Tioga’s customer with the wrong document package. QSP-10, Section 6.0

describes Tioga's process for shipping material. Tioga did not follow its policies and procedures during shipping of the item. This issue is an example of a failure to follow a shipping procedure affecting quality and is included as an example of Nonconformance 99900879/2008-201-03.

c. Conclusions

Except for the issues identified in Nonconformance 99900061/2007-201-03, the NRC inspectors concluded that Tioga's handling, storage, and shipping controls are consistent with the regulatory requirements of Criterion XIII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents and activities reviewed, the NRC inspectors determined that Tioga's QSM and associated handling, storage, and shipping procedures were effectively implemented.

3.11 CORRECTIVE ACTIONS AND NON-CONFORMANCES

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern the corrective action process. The NRC inspectors also evaluated a limited sample of Tioga's nonconformance reports (NCRs) and CARs initiated during the past 36 months to verify compliance with the program requirements and adequate implementation of those requirements. The inspections were conducted to assess compliance with Criterion XV, "Nonconforming Materials, Parts, or Components," and Criterion XVI, "Corrective Actions," of Appendix B to 10 CFR Part 50.

The following procedures, documents, and records were within the scope of the inspection in this area:

- QSM Section 15, "Control of Nonconformance," Revision 6, dated October 10, 2003
- QSM Section 16, "Corrective Action," Revision 7, dated October 10, 2003
- QSP-17, "Nonconformance Procedure," Revision 7, dated December 12, 2007
- QSP-26, "Corrective Action Procedure," Revision 8, dated October 10, 2003

b. Observations and Findings

b.1 Control of Non-Conformances

QSM Section 15 defines the methods used by Tioga's QA personnel to control identified material non-conformances. The NRC inspectors found that QSM Section 15 appears to apply only to QA department personnel's identification of nonconforming materials or documentation. The NRC inspectors noted that the document contained very little guidance with respect to the identification and reporting of nonconformances by others within Tioga's organization. The NRC inspectors also noted that QSM Section 15 describes activities such as repair, rework, "use-as-is" nonconformance, corrective action, and use of nonconformance reports by QA personnel upon discovery of a

nonconformance. This was applicable to non-conformances found during receipt, in process, or final inspection.

QSP-17 outlines the method of documentation and resolution of non-conformances. The NRC inspectors noted that, as with QSM Section 15, QSP-17 appears to be mainly applicable to the QA department's identification and resolution of nonconforming materials or documentation. The NRC inspectors also noted that the NCRs were used by Tioga's QA personnel for reporting nonconformances found during receipt and in-process inspections associated with material provided to the nuclear industry under Tioga's QA program. The NRC inspectors found that the NCRs provided the mechanism to document review of deviations identified during the receipt, in process, and shipping processes.

b.2 Initiation of Nonconformance Reports

Tioga's process for identifying and documenting non-conformances was implemented via NCRs. The NRC inspectors reviewed Tioga's log of NCRs for 2005, 2006, 2007 and 2008 and sampled several NCRs concerning subcontractors that supplied materials to Tioga for subsequent distribution to various nuclear industry customers. The NRC inspectors noted that the majority of the NCRs produced by the Tioga involved receipt of wrong materials or packaging/shipping defects. The NRC inspectors verified that the NCRs included the appropriate review and signoff and, when applicable, verified that corrective actions were identified and signed as completed, as required by QSP 17.

During the review of corrective actions, the NRC inspectors determined that during the last 3 years, only one identified NCR had an associated CAR. The NRC inspectors concluded that the low number of CARs produced associated with an NCR was based on the guidance contained in QSP-17. QSP-17 provides the QA manager with the sole discretion to determine whether an identified NCR will result in a CAR. The NRC inspectors found that the QA manager would routinely determine that a CAR was not necessary because the supplier of the material had already initiated its own corrective action. As such, Tioga found no real need to initiate its own corrective actions. For example, Tioga failed to fully adhere to the requirements of QSP-17, in that upon notification by a customer of a problem with a product provided by Tioga, it failed to initiate an NCR and an associated CAR, as required by Step 4.5 of QSP-17 (see Section 3.16.b.2 of this report for more information). Tioga determined that since the customer had initiated its own corrective actions, an NCR and associated CAR were not required to be initiated by Tioga.

Criterion XV of Appendix B to 10 CFR Part 50, states, in part, that measures shall be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation. Contrary to this requirement, the NRC inspectors determined that an NCR was not initiated by Tioga and, therefore, measures to prevent an inadvertent use of identified defective parts were not fully implemented by Tioga. This issue is identified as an example of Tioga failing to initiate its established nonconforming material controls upon discovery of defective parts and is included in Nonconformance 99900879/2008-201-04.

b.3 Initiation of Corrective Action Program Reports

QSM Section 16 defines the methods used by Tioga QA personnel to control identified corrective actions. Similar to the requirements associated with NCRs, the NRC inspectors found that the requirements associated with the development, issuance, and resolution of CARs appeared to apply only to Tioga's QA department personnel. The NRC inspectors found that QSM Section 16 contained very little guidance with respect to the identification of conditions adverse to quality and subsequently reporting these conditions for corrective actions by any other personnel within Tioga's organization.

QSP-26 stated that its purpose was to assure that issues affecting quality are promptly identified and corrected to preclude recurrence. All corrective and preventive actions in this procedure pertained to Tioga's sub-suppliers and customers, as well as personnel conducting in-process operations within Tioga. Guidance within QSP-26 further stated that a request for action would be generated when conditions adverse to quality were identified. The QSP further stated that the following were examples of issues that should generate requests for action:

- Repetitive non-conformances
- Deviations from Tioga's quality program
- A significant nonconformance that reflects a possible programmatic failure or an evaluation under the rules of 10 CFR Part 21

The NRC inspectors concluded that guidance for the corrective action program - QSM Section 16 and QSP-26 – was focused toward Tioga's QA department personnel and that they were mainly responsible for the identification of any need to initiation corrective actions. As with Tioga's process for determining a need for an NCR, both the QSM, Section 16 and QSP-26 relied on the QA manager's final decision for any initiation of formal corrective actions.

During the review of Tioga's corrective action records, the NRC inspectors found that the corrective action form used to track corrective actions, as referenced in QSP-26, had rarely been used at Tioga. Further, the NRC inspector noted that two sub-suppliers had numerous repetitive non-conformances documented by Tioga over the last three years. However, only one CAR had been generated by Tioga personnel.

Criterion XVI of Appendix B to 10 CFR Part 50, states that measures shall be established to assure that conditions adverse to quality, such as nonconformances, are promptly identified and corrected. Contrary to this requirement, the NRC inspectors identified that although Tioga had identified repetitive nonconformances at two different sub-suppliers, Tioga's corrective action program was not used to promptly identify and correct these identified nonconformances. This issue is an example of Tioga failing to initiate its corrective action program upon discovery of repetitive nonconformances and is another example of Nonconformance 99900879/2008-201-04.

c. Conclusions

In the area of promptly identifying and resolving nonconformances or conditions adverse to quality, the guidance provided in Tioga's QSM and associated QSPs was not in compliance with the requirements of Criteria XV and XVI of Appendix B to 10 CFR Part 50. Further, implementation of specific requirements in Tioga's QSM and associated QSPs for documenting non-conformances or conditions adverse to quality were not

satisfied. These issues are identified in Nonconformance 99900061/2007-201-04. Based on the limited sample reviewed, no other issues were identified with the guidance provided in Tioga's QSM, QSP-17, and QSP-26 or its implementation regarding compliance with Criteria XV and XVI of Appendix B to 10 CFR Part 50.

3.12 QUALITY ASSURANCE RECORDS AND RECORDS CONTROL

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and applicable implementing policies and procedures for the maintenance of records that furnish evidence of the quality of items and/or activities affecting quality to assess compliance with Criterion XVII, "Quality Assurance Records," of Appendix B to 10 CFR Part 50.

The following procedures, documents, and records were within the scope of the inspection in this area:

- QSM Section 17, "Quality Assurance Records," Revision 8
- QSP-16, "Record Maintenance Procedure," Revision 10, dated November 27, 2006

b. Observations and Findings

The NRC inspectors compared QSM Section 17 and QSP-16 to the requirements of Criterion XVII of Appendix B to 10 CFR Part 50 and NQA-1-1989 Basic Requirement 17 and Supplement 17S-1. Criterion XVII of 10 CFR Part 50 Appendix B, states, in part, "requirements shall be established concerning record retention, such as duration and location." Basic Requirement 17 of NQA-1-1989 states that records shall be protected against damage, deterioration, or loss. Additionally, Section 4 of NQA-1-1989 supplement 17S-1, "Storage, Preservation, and Safekeeping," states that records shall be stored in facilities constructed and maintained in a manner in which minimizes the risk of damage or destruction from the following: natural disasters such as winds, floods, or fires. The NRC inspectors noted that the vendor's procedure regarding QA records did not specify any requirements for the storage and preservation of records.

The NRC inspectors toured the areas where QA records were stored and held discussion with the QA manager. The NRC inspectors observed that some single copy QA records were stored in 1-hour fire-rated cabinets, and other single copy QA records were only stored in regular metal file cabinets.

The NRC inspectors determined that Tioga had failed to meet the requirements for QA record storage and maintenance as required by 10 CFR Appendix B and NQA-1-1989, since single copies of QA records were not stored in the appropriate fire-rated cabinets. Additionally, the vendor was unable to retrieve some calibration and certification records for ultrasonic testing equipment used for QA related material thickness inspections when requested by the NRC inspectors. The requirements for QA record storage were not appropriately specified in the vendor's QSM or associated QSPs. The vendor entered this issue in its corrective action program as CAR 280. This issue has been identified as Nonconformance 99900879/2008-201-05.

c. Conclusions

Except for the issue identified in Nonconformance 99900061/2007-201-05, the NRC inspectors concluded that Tioga's control of QA records are consistent with the regulatory requirements of Criterion XVII of Appendix B to 10 CFR Part 50. Based on the limited sample of documents and activities reviewed, the NRC inspectors determined that Tioga's QAM and associated quality assurance records and records control procedures were effectively implemented.

3.13 AUDITS

a. Inspection Scope

The NRC inspectors reviewed Tioga's QAM and implementing policies and procedures that govern the audit process. The NRC inspectors also evaluated a limited sample of internal audit reports and audit training and qualification records to verify compliance with the program requirements and adequate implementation of those requirements.

The NRC inspectors reviewed the following Tioga audit-related documents used to implement policies and procedures that govern the Tioga audit process:

- QSM-1, Revision 10, dated November 27, 2006
- QSP-19, "Internal Audit Procedure," Revision 7, dated November 27, 2006
- QSM-1, "Quality System Program," Revision 10, dated November 27, 2006
- QSP-21, "Auditor Training and Qualification Procedure," Revision 4, dated October 11, 2000
- QSP-26, "Corrective Action Procedure," Revision 8, dated October 10, 2003

The NRC inspectors also evaluated the following limited sample of internal audits and CARs:

- Tioga ASME QA Survey of IBF, SpA dated October 23, 2007
- Management System Analysis, Inc Internal Annual QA Audit Report of Tioga Pipe Supply, Inc QA Program, dated November 19, 2007
- Management System Analysis, Inc Internal Annual QA Audit Report of Tioga Pipe Supply, Inc QA Program, dated November 9, 2006
- Tioga ASME QA Survey of IBF, SpA dated October 23, 2007
- Tioga CAR Number 272, dated November 10, 2006
- Tioga CAR Number 273, dated November 10, 2006

- Tioga CAR Number 274, dated November 10, 2006
- Tioga CAR Number 277, dated April 20, 2007
- Tioga CAR Number 278, dated November 19, 2007

The NRC inspectors also reviewed audit training and qualification records to verify compliance with audit program requirements. For additional details on training records, see Section 3.15, "Training and Qualification," of this report.

b. Observations and Findings

b.1 Procedures and Policies Governing the Audit Process

QSP-19 governs the Tioga process for conducting internal audits of Tioga's QA program. QSP-21 governs training of Tioga audit staff and independent audits by Management System Analysis (MSA) staff of the Tioga QA program. The NRC inspectors determined that the QSP-19 adequately covered audit plans, performance of audits using audit checklists, frequency of audits, and evaluation of audit results. Corrective actions taken to address the audit findings identified by the Tioga QA manager were found in the Tioga QA program and audit records.

b.2 Tioga Audit of IBF, SpA in Milan, Italy

The NRC inspectors reviewed Tioga Pipe Supply QA survey of IBF, SpA in Milan, Italy. On September 18-20, 2007, Tioga performed an ASME QA survey of IBF, SPA, to verify compliance with ASME Section III, NCA-3800, "Quality Assurance," and 10 CFR Part 50, Appendix B for all ASME Code Class piping. This was the first ASME QA survey of IBF, SpA.

The NRC inspectors found that the QA requirement for the frequency of re-qualification of IBF is every three years or annually, depending on the results of Tioga's QA audit. Based on the audit, the Tioga auditors recommended a number of improvements to IBF's processes in the control of suppliers, internal test lab, inspection abilities, and procedures. One recommended procedural improvement to the IBF QA program included adding 10 CFR Part 21 reporting requirements to the nonconforming material procedures and the corrective action program. Tioga found that the IBF QA program met ASME Section III, NCA-3800 and 10 CFR Part 50, Appendix B requirements. Tioga plans to perform QA audits of this sub-supplier on an annual basis to verify that IBF continues to comply with the requirements in ASME Section III, NCA-3800, 10 CFR Part 21, and 10 CFR Part 50, Appendix B.

b.3 Management Systems Analysis (MSA) Independent Audit of Tioga QA Program

Tioga uses MSA Inc as an independent contractor to perform internal audits of Tioga's QA program. On August 20-22, 2007, MSA performed an independent audit of Tioga's QA program against the QA standards in ASME Section III, 2004 edition with 2006 Addenda; 10 CFR50, Appendix B; NQA-1-1989; and ANSI N45.2-1977.

The objectives of the MSA QA audit was to verify that Tioga's manufacturing, procurement, and quality functions comply with the requirements specified in Tioga's QSM. The MSA QA audit covered activities relating to general administration, QA program, procurement, document control, control of special processes, inspections, tests, calibrations, non-conformances, corrective action, records, training, and audits.

QSP-26, Revision 8, requires a response to corrective action requests within 30 days for CARs for which the corrective action may be extended for 90 days. MSA also found that CAR No. 277 to Sandvik, dated April 20, 2007 covered numerous non-conformances with due dates past the 90 days with no responses received from Sandvik. Sandvik is a sub-supplier of tubing to Tioga.

The Sandvik QA manager responded to the seven non-conformances where minimum wall thicknesses were found; the wrong material, 304/304L steel, was shipped versus 316/316L steel ordered; ordered nuclear but shipped commercial; and material that was not marked with SA213 steel. The Tioga QA manager called Sandvik, the tube sub-supplier for Tioga, to provide corrective action for these non-conformances. On September 28, 2007, Tioga documented acceptance of Sandvik response and closure of CAR 277. On November 20, 2007, Tioga also documented CAR 278 that implemented internal training to remind Tioga staff to follow QSP-26 on time constraints for sub-supplier responses for closing nonconformances.

On August 15-17, 2006, MSA found three audit findings related to storage of nuclear piping in storage racks at the Easton, PA Tioga Forks facility. On November 9, 2006, MSA issued this QA audit report and sent it to Tioga. The audit contained three findings related to handling and storage issues:

- Audit Finding No 2: Materials placed in the hold area at the Fork's facility were not identified by a hold tag, an I.D. of the materials, a reason for hold, and the name and date, as required.

- Audit Finding No 3: Tioga's auditors toured the nuclear storage racks in Tioga's Easton, PA facility. There are numerous places where stainless steel is in direct contact with sources of contamination including carbon steel materials, painted rack surfaces, dunnage, and wood with less than adequate cleanliness, and banding materials. Stainless steel and carbon steel materials were not segregated in the storage racks, which could cause cross contamination. Some carbon steel nuclear pipe was observed in direct contact with the ground, whether in storage or in a temporary location.

- Audit Finding No 4: Carbon steel materials are coated with lacquer and stored outdoors and indoors on pipe racks. Plate materials were being stored indoors in vertical racks. Stainless steel pipe and tube was being stored in pipe racks, but required improvement based on a finding 12.1.b, "Instructions or procedures established to prevent damage loss of identification and deterioration of materials (NCA-3857.4, 10CFR50 B-III, b. storage)."

The NRC inspectors found that Tioga completed three CARs, 272, 273 and 274, associated with resolving these issues. The causes for these issues were; 1) new personnel were not aware of the requirements to tag material placed in the designated hold areas; 2) some personnel were not aware of the requirements to prevent

contamination of stainless and nickel steel; 3) material handling personnel were not aware of the need to keep carbon steel materials from direct contact with the ground.

On January 23, 2007, Tioga stated that these CARs were resolved. On March 5 and 6, 2008, the NRC inspectors visually examined nuclear and stainless steel and carbon steel piping storage rack and found that, except for the tape contamination and "non-stainless steel pin" issues, Tioga resolved the storage rack issues noted above. For additional details on tape contamination and "non-stainless steel pin" issues, see Section 3.10 of this report.

c. Conclusions

The NRC inspectors concluded that Tioga's audit program requirements are consistent with the regulatory requirements of Criterion XVIII of Appendix B to 10 CFR Part 50. Based on the limited sample reviewed, the NRC inspectors also determined that Tioga's QSM and associated audit procedures were effectively implemented. The NRC inspectors did not identify any issues in this area.

3.14 COMMERCIAL GRADE DEDICATION

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern its commercial grade dedication process. The NRC inspectors also evaluated Tioga's commercial grade dedication program and procedures to verify compliance with program requirements and adequate implementation of those requirements.

The inspectors reviewed the following documents and procedures related to Tioga's commercial grade dedication program:

- QSP-27, "Qualification/Dedication Procedure for Category A-E Materials," dated January 15, 2008
- Tioga Pipe Supply Company, Inc. Commercial Grade Dedication Packages

b. Observations and Findings

The NRC inspectors questioned Tioga staff on the percentage of carbon steel and stainless steel piping that originated as commercial grade items (CGI) that were upgraded to basic components used in nuclear applications. Tioga staff stated that for 100 CGI pipes that are stored in Tioga Forks Distribution Center, about 25% were upgraded to either ASME Section III, NCA-3800, or 10 CFR Part 50, Appendix B. Roughly, 90% were upgraded to ASME Section III, while 10% were upgraded to 10 CFR 50, Appendix B.

The NRC inspectors questioned Tioga on the critical characteristics that Tioga verifies in its dedication process. In accordance with QSP-27, Tioga uses Method 1, Inspections and Tests, to identify critical characteristics for CGI piping being upgraded to basic components used in nuclear applications. The Tioga QA manager stated that Tioga

performs 100% inspections and tests of CGI piping being upgraded to nuclear applications and that if any critical characteristics are not met, the items are rejected and sent back to inventory in the Tioga storage racks. The NRC inspectors noted that QSP-27 could be updated to state that Tioga performs a 100% sample of critical characteristics for all CGI piping upgraded to nuclear applications.

The NRC inspectors sampled four dedication packages provided by Tioga for CGI piping upgraded to basic components for use in nuclear applications. Tioga identified hydrostatic, chemical, tensile, and flatness tests of piping material and inspection of piping dimensions as critical characteristics that Tioga verifies to upgrade CGI piping to basic components used in nuclear applications. The NRC inspectors found that the sample of CGI dedication packages identified the critical characteristics needed to dedicate the items; therefore, the dedication packages were acceptable.

c. Conclusions

The NRC inspectors concluded that Tioga's commercial dedication program requirements are consistent with regulatory requirements. Based on the limited sample of documents reviewed, the NRC inspectors also determined that Tioga's commercial grade dedication procedures were effectively implemented. The NRC inspectors did not identify any issues in this area.

3.15 TRAINING AND QUALIFICATIONS

a. Inspection Scope

The NRC inspectors reviewed Tioga's policies and procedures for the indoctrination and training of personnel performing activities affecting quality to assess compliance with the requirements of Criterion II, "Quality Assurance Program," of Appendix B to 10 CFR Part 50 and to assure that proficiency was achieved and maintained. Specifically, The NRC inspectors reviewed the following controls Tioga has in place for the training and qualification of QA inspection, test, and audit personnel at Tioga's facilities:

- QSP-13, "Training and Qualification of Inspection and Test Personnel," Revision 7, dated October 11, 2000
- QSP-21, "Auditor Training and Qualification Procedure," Revision 4, dated October 11, 2000

b. Observations and Findings

b.1 Inspection and Test Personnel

QSP-13 defines the guidelines for training, education, and experience for QA inspection and test personnel. The procedure qualifies personnel to three levels of functionality: levels I, II, and III. Level I personnel are capable of performing and documenting inspection and tests in accordance with documented procedures and acceptance standards. Level II personnel can perform Level I functions in addition to; 1) evaluating and accepting inspection and test activities, 2) performing surveillance over inspections and tests, and 3) supervising and certifying lower level personnel. Level III personnel

can perform the functions of Level II personnel and are able to evaluate the adequacy of programs used to train and qualify inspection and test personnel. Qualification levels are based on a combination of experience, education, and training. The QSP also identifies suggested minimum training requirements for 15 activities, such as; 1) receipt inspection, 2) CMTR acceptance, 3) performance of a shop order review, 4) performance of tension testing, 5) performance of hydrostatic testing, and 6) evaluation of test results. These qualifications are captured on Form QSP 13.3. Education and experience for inspection and test personnel is documented on Tioga Form QSP 13.2, and training records are captured on Form QSP 13.1.

The NRC inspectors reviewed eight files for QA inspection and test personnel with a broad range of qualifications (Levels I, II, and III; different qualification activities) and found that the records included; 1) the employer's name, 2) identification of the person being certified, 3) activities certified to be performed, 4) basis for certification, 5) results of periodic evaluation, 6) results of physical examinations, as required, 7) signature of approving authority, 8) examination results, and 9) date of certification and certification expiration. The NRC inspectors observed that inspection and test personnel qualifications were verified annually to ensure that personnel maintain involvement and proficiency in the areas to which they are qualified.

The NRC inspectors also reviewed the qualifications of the QA manager to ascertain if he met the qualification criteria identified in NUREG 0800, "US NRC Standard Review Plan," dated March 2007. The NRC inspectors verified that the QA manager, who is responsible for managing and implementing the QA plan, had at least a baccalaureate in engineering or related science, at least four years of experience, management and supervisory skills, and at least one year of experience performing quality verification activities.

b.2 Internal Audit Personnel

QSP-21 outlines the requirements for the indoctrination, training, qualification, and certification of QA Auditors. The procedure recommends a minimum of two years of QA experience, successful completion of a written examination (80%), and participation in at least one audit under the direction of a Lead Auditor.

For the lead auditor qualification, QSP-21 recommends a minimum of five years of QA experience, a score of 90% on a written examination, and participation in at least five audits within three years preceding the date of qualification, one of which must be a nuclear audit occurring within one year prior to qualification. Tioga also requires candidates for lead auditor to have a minimum of ten credits accumulated on the lead auditor credit scoring system, which assigns credits based on previous experience, education, and credentials. Additionally, the QSP sets forth requirements for Lead Auditors to maintain their qualifications and asserts that the QA manager will perform an annual review of each Lead Auditor.

The NRC inspectors reviewed the QA records for Tioga auditors and lead auditors. At the time of the inspection, Tioga had only one qualified Lead Auditor and no auditors, although additional qualification activities were underway. The NRC inspectors reviewed the qualifications of Tioga's lead auditor and observed that; 1) the qualifications were in accordance with the QSP and NQA-1, 2) the annual reviews were performed and documented, and 3) the certification documented the required information (i.e.,

employer's name, auditor's name, date of certification, basis of qualification, and signature of approving authority).

The NRC inspectors noted two (2) procedural issues associated with training and qualification that were addressed under the discussion in Section 3.2 of this report regarding compliance with Criterion V of 10 CFR 50, Appendix B, Criterion V.

b.3 External Audit Personnel

Tioga QSP-21 includes provisions for the use of subcontracted audit personnel as long as the source is approved by the QA manager. Tioga requires subcontracted audit personnel to; 1) meet the requirements of QSP-21, 2) pass an examination (or furnish evidence of the equivalent level of proficiency), and 3) use a checklist approved by the QA manager. The QA manager must also review and approve the qualifications of subcontracted audit personnel and place them on the Approved Vendors List.

The NRC inspectors reviewed Tioga's subcontracted audit personnel, which was limited to one lead auditor from Management Systems Analysis, Inc., and verified that the party had passed an examination, met the procedural requirements of QSP-21, and was included on the Approved Vendors List. The NRC inspectors also observed that QA acceptance of the individual was documented in writing, and the individual's qualifications were reviewed annually by the QA manager.

c. Conclusions

The NRC inspectors concluded that Tioga's training and qualification program elements are consistent with regulatory requirements. Based on the limited sample reviewed, the NRC inspectors also determined that Tioga's QSM and associated training and qualification procedures were effectively implemented. The NRC inspectors did not identify and issues in this area.

3.16 10 CFR PART 21 PROGRAM

a. Inspection Scope

The NRC inspectors reviewed Tioga's QSM and implementing policies and procedures that govern the 10 CFR Part 21 process. The NRC inspectors also evaluated a limited sample of the vendor's Part 21 program implementation activities to verify compliance with the program requirements and adequate implementation of those requirements.

The NRC inspectors reviewed the following Tioga documents used to implement the policies and procedures that govern their 10 CFR Part 21 process.

- QSM, Section 17, Quality Assurance Records, Revision 8, dated October 17, 2005
- QSP-16, , "Records Maintenance Procedure, Revision 10, dated November 27, 2006
- QSP-17, "Nonconformance Procedure," Revision 7, dated December 12, 2006
- QSP-20, "10 CFR Part 21," Revision 5, dated October 11, 2000

- QSP-27, “Qualification/Dedication Procedure for Category A-E Materials,” Revision 9, dated January 15, 2008

- Tioga Pipe Supply Company, Inc. Commercial Grade Dedication Packages

- Arizona Public Service (APS) Company’s Vendor Corrective Action Report (VCAR) #VC-TAS1-07-025, dated May 17, 2007

- Taylor Forge Stainless Steel, Inc Corrective Action Report No: N150, dated September 28, 2007

b. Observations and Findings

b.1 10 CFR Part 21 Specific Procedural Items

The NRC inspectors found that QSP-20 contains proper definitions for defects, deviations, substantial safety hazards, proper reporting responsibilities of Tioga officers, and reporting requirements. In response to a third-party audit, Tioga added step 4.6 of QSP-17, “Non-Conformances,” Revision 7. This step provided guidance on identifying non-conformances that should be evaluated under the requirements in 10 CFR Part 21 for potential corrective actions.

In accordance with 10 CFR 21.21, the NRC inspectors requested copies of 10 CFR Part 21 records of evaluations and reports that Tioga had completed and sent to the industry and the NRC. Tioga had not issued any evaluations or deviations from technical requirements or reports of defects or deviations from technical requirements associated with substantial safety hazard (SSH) in 14 years.

The NRC inspectors reviewed Tioga’s record control procedures (QSM Section 17.0, QSP 16 and QSP-20) and found that they did not describe the retention requirements for records in 10 CFR 21.51, “Maintenance and Inspection of Records.” This issue is identified as an example of the vendor’s procedures being inadequate for 10 CFR Part 21 records control activities and is cited as Violation 99900879/2008-201-01.

The NRC inspectors also found that QSP-27, Tioga’s commercial grade dedication procedure, did not describe the following terms used to define an adequate commercial grade dedication program in accordance with 10 CFR 21.3, “Definitions.” :

- Basic Component
- Dedicating Entity
- Commercial Grade Item (CGI)
- Dedication
- Critical Characteristics

While not explicitly required, the NRC inspectors consider that defining these terms in QSP-27 could be a contributing factor to the effectiveness of Tioga‘s commercial grade dedication program for dedicating CGIs as basic components used in nuclear applications.

b.2 10 CFR Part 21 Implementation

The NRC inspectors reviewed the 10 CFR Part 21 posting at Tioga's facilities to verify compliance with 10 CFR 21.6. The postings contained a copy of the NRC Part 21 requirements from the NRC web page and Section 206 of the Energy Reorganization Act on one bulletin board at the Philadelphia facility and two bulletin boards at the Easton, PA facility. All bulletin boards were located in conspicuous locations at each facility. The 10 CFR Part 21 postings also contained the names of QA contact personnel and a note that stated, "The Tioga Pipe Supply Incorporated implementing procedure, QSP-20, is available for review in the Tioga Pipe Supply QSM."

The NRC inspectors reviewed a number of Tioga purchase orders (PO) and Tioga customer PO certificate of conformances to verify compliance with 10 CFR 21.31. The NRC inspectors found that these documents invoked PO specifications stating that 10 CFR 21 applied to pipes, pipe supports, tubing and pipe fittings, and other equipment supplied from Tioga Pipe Supply Inc.

The NRC inspectors reviewed Arizona Public Services (APS) Vendor Corrective Action Report VC-TAS1-07-025 dated May 17, 2007. The inspectors found that Tioga supplied two butt-weld elbow fittings (meeting ASME SA 403, WP-304S) to Arizona Public Service (APS) for use at Palo Verde in May 2007. APS identified that one of the two 3" butt weld elbows provided by Tioga was below minimal wall thickness on the elbow's back wall. This condition constitutes a deviation from technical requirements. APS verified that the elbow was under minimum wall thickness using ultrasonic testing (UT). APS rejected the elbow and sent the item back to Tioga. Tioga, along with Taylor Forge Stainless (the sub-supplier that forged the elbows), confirmed that the subject elbow was below minimum wall thickness after it was returned to Tioga. Neither Tioga, nor Taylor Forge Stainless, could find any other elbows with the same problem. In September 2007, Taylor Forge Stainless issued CAR N150 in which it was determined that the elbow minimum wall thickness issue was an isolated event; therefore, Tioga was not required to perform a 10 CFR Part 21 evaluation.

The NRC inspectors determined that Tioga did not follow QSP-17, Steps 4.5 and 4.6 that required Tioga to issue a non-conformance report and initiate corrective action to prevent recurrence of deviations from technical requirements. This is an example of a failure to follow procedures contrary to the requirements of Criterion XV and XVI of Appendix B to 10 CFR Part 50 and is another example of Nonconformance 99900879/2008-201-04.

c. Conclusions

The NRC inspectors found that the Tioga's postings of Part 21 requirements met the requirements in 10 CFR 21.6(b) and that QSP-20 adequately incorporated the requirements of 10 CFR 21.21 and 21.31. However, the NRC inspectors found that QSM Section 17.0, QSP-16 and QSP-20 did not adequately incorporate the requirements of 10 CFR 21.51. This is identified as Violation 99900879/2008-201-01.

As noted above, the NRC inspectors also found that Tioga did not follow procedure QSP-17, Steps 4.5 and 4.6, that required Tioga to document a nonconformance and take corrective action on a 3" butt weld elbow sent to APS at Palo Verde that was later rejected by APS due to a failure to meet minimum wall thickness requirements.

Consistent with the procedural requirement in step 4.6, Tioga should have performed an evaluation as required by 10 CFR Part 21. This is identified as an example of Nonconformance 99900879/2008-201-04.

Except for the issues identified above, the NRC inspectors concluded that Tioga's 10 CFR Part 21 program is consistent with the regulatory requirements.

4.0 MANAGEMENT MEETINGS AND PERSONNEL CONTACTED

4.1 ENTRANCE AND EXIT MEETINGS

In the entrance meeting on March 3, 2008, The NRC inspectors discussed the scope of the inspection, outlined the areas to be inspected, and established interfaces with Tioga's Quality Assurance Manager and several staff personnel. During the exit meeting on March 7, 2008, The NRC inspectors discussed the inspection findings and observations with Tioga's Quality Assurance Manager and staff.

4.2 PERSONNEL CONTACTED

Andrew Keiser	Owner, Tioga
Dennis Keiser	Owner, Tioga
Bob Cahill	Chief Financial Officer, Tioga
Dennis Tauber	Quality Assurance Director, Tioga
Jeff Ruser	Human Resources Director, Tioga
Steve DiMauro	Quality Assurance Manager, Tioga
Louise Lorman	Quality Assurance Representative, Tioga
Mary Ellen Perry	Quality Assurance Representative, Tioga
Jeff Shaw	Technical Sales Manager, Tioga
Robert B. Tidy	Technical Sales, Tioga
Lisa Jones	Technical Sales, Tioga
Joe McNelis	Sales Manager, Tioga
Kristy Costello	Technical Sales Representative, Tioga
Gerald D. Gruver	Laboratory Technologist, Tioga
Richard Crowley	Operations Manager, Tioga
Nicholas Tambakis	Quality Control Supervisor, Tioga
Tom Densler	Receipt Inspector, Tioga