

June 3, 2009

Mr. Tim Davis, General Manager  
Nova Machine Products Inc.  
18001 Sheldon Road  
Middleburg Heights, Ohio

SUBJECT: NRC INSPECTION REPORT NO. 99901052/2009-201 AND NOTICE OF  
NONCONFORMANCE

Dear Mr. Davis

From April 28 to May 1, 2009, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Nova Machine Products Inc. (Nova) facility in Middleburg Heights, Ohio. The enclosed report presents the results of this inspection.

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

During this inspection, NRC inspectors found that implementation of your QA program failed to meet certain NRC requirements contractually imposed on you by your customers. The NRC inspectors noted three deficiencies for: 1) Failure of the nonconformance process to identify deviations; 2) Failure to supply its purchaser with certified material test reports as part of its commercial dedication process, and; 3) An inadequate supplier audit. The specific findings and references to the pertinent requirements are identified in the enclosures to this letter.

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

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

T. Davis

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If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

Anne T. Boland */RA/*  
Acting Division Director  
Division of Engineering  
Office of Nuclear Reactor Regulation

Docket No.: 99901052

Enclosure:   1. Notice of Nonconformance  
                  2. Inspection Report 99901052/2009-201

T. Davis

- 2 -

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Sincerely,

Anne T. Boland */RA/*  
Acting Division Director  
Division of Engineering  
Office of Nuclear Reactor Regulation

Docket No.: 99901052

Enclosure: 1. Notice of Nonconformance  
2. Inspection Report 99901052/2009-201

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## NOTICE OF NONCONFORMANCE

Nova Machine Products Inc.  
18001 Sheldon Road  
Middleburg Heights, Ohio

Docket Number 99901052  
Inspection Report No. 99901052/2009-201

Based on the results of a Nuclear Regulatory Commission (NRC) inspection conducted April 28 to May 1, 2009, of activities performed at Nova Machine Products Inc. (Nova), certain activities were not conducted in accordance with NRC requirements, which were contractually imposed upon Nova by NRC licensees.

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

Nova Quality Assurance Manual, Revision 0, dated September 10, 2008, Section 14, "Corrective and Preventive Action," states in part that, "this section establishes the method to eliminate the causes of actual or potential nonconformances by identifying and reporting to management conditions adverse to quality, and the initiation of corrective and preventive action to preclude recurrence."

Contrary to the above, as of May 1, 2009:

Nova failed to identify deviations as part of its non-conformance process. Specifically, Nova External Non-Conformance Reports (NCRs) EXT00000485, EXT00000488, EXT00000499 and EXT00000661 failed to identify deviations despite describing nonconformances that departed from the technical requirements included in the purchasers' procurement documents.

This issue has been identified as Nonconformance 99901052/2009-201-01.

- B. Criterion VII, "Control of Purchased Material, Equipment, and Services," of Appendix B to 10 CFR Part 50, states in part that "measures shall be established to assure that purchased material, equipment and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures shall include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery."

Nova Work Instruction, No. 7.3.20, "Commercial Grade Dedication", Revision 0, dated April 13, 2009, section titled, "Verification and Acceptance" states in part that, "Verification of the critical characteristics shall be in accordance with the applicable Dedication Plan for the [Commercial Grade Item.]"

Contrary to the above, as of May 1, 2009:

Nova failed to establish measures to assure that purchased material conformed to licensees' safety-related procurement documents. Specifically, Nova's certified material test reports supplied to the purchaser were generated from chemical test data provided by commercial vendors.

This issue has been identified as Nonconformance 99901052/2009-201-02.

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

Nova Quality Assurance Manual, Revision 1, dated March 10, 2009, Section 6, Paragraph entitled, "Nuclear Safety Related Audited Vendors," states in part that, "The audit/survey is performed to assure the vendor has a documented and implemented quality program, and assures the vendor has the capabilities to supply safety related materials, and is performed and evaluated prior to the issuance of the control document (Purchase Order, etc.)."

Contrary to the above, as of May 1, 2009:

Nova's audit of PMC Lone Star was inadequate in that the audit failed to verify compliance of the sub-supplier's quality assurance program with criteria of Appendix B to 10 CFR Part 50.

This issue has been identified as Nonconformance 99901052/2009-201-03.

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

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or Safeguards Information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must

specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated this 3<sup>rd</sup> day of June 2009.

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

Docket No.: 99901052

Report No.: 99901052/2009-201

Vendor: Nova Machine Products Inc.  
18001 Sheldon Road  
Middleburg Heights, Ohio

Vendor Contact: David Nenstiel,  
Quality Assurance Manager  
Phone: (216) 898-8017  
DNenstiel@curtisswright.com

Nuclear Industry: Nova, a subsidiary of Curtiss Wright, supplies fasteners and machined products to the commercial nuclear power industry. Nova is the exclusive U.S. provider of safety-related products such as Unistrut® and PlasmaBond® coating.

Inspection Dates: April 28 to May 1, 2009

Inspection Team Leader: Carla Roquecruz, DE/NRR

Inspectors: Paul Prescott, DE/NRR  
Victor Hall, DCIP/NRO  
Aaron Armstrong, DE/NRR

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

ENCLOSURE 2

## EXECUTIVE SUMMARY

Nova Machine Products Inc.  
99901052/2009-201

The purpose of this inspection was to review selected portions of Nova Machine Products Inc.'s (Nova's) quality assurance (QA) and 10 CFR Part 21 (Part 21) programs. The inspectors focused on Nova's products and services supplied as basic components to NRC-licensed facilities. The inspection was conducted at Nova's manufacturing facility in Middleburg Heights, Ohio.

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."

There were no previous NRC inspections of Nova's facility in Middleburg Heights, Ohio in the previous five years. The results of this inspection are summarized below.

### 10 CFR Part 21 Program

Based on the review of Nova's Part 21 process and implementing procedures the NRC inspectors concluded that Nova's Part 21 program was consistent with the regulatory requirements.

### Corrective Action

The inspectors identified one nonconformance to 10 CFR Part 50, Appendix B. Nonconformance 99901052/2009-201-01 was cited for failure of the nonconformance process to identify deviations. With the exception of the above nonconformance, the inspectors determined that Nova's corrective action program and implementation met the requirements of Criterion XVI of Appendix B to 10 CFR Part 50.

### Commercial-Grade Dedication

The inspectors identified one nonconformance to 10 CFR Part 50, Appendix B. Nonconformance 99901052/2009-201-02 was cited for Nova's failure to supply its purchaser with certified material test reports as part of its commercial-grade dedication process. With the exception of the nonconformance noted above, the inspectors concluded that Nova was implementing a commercial-grade dedication process in compliance with regulatory requirements and industry guidance.

### Audits

The inspectors identified one nonconformance to 10 CFR Part 50, Appendix B. Nonconformance 99901052/2009-201-03 was cited for failure to conduct an adequate audit of a supplier. With the exception of the nonconformance noted above, the inspectors concluded that

Nova's audit program requirements and implementation were consistent with the regulatory requirements of Criterion XVIII of Appendix B to 10 CFR Part 50.

## REPORT DETAILS

### 1. 10 CFR Part 21 Program

#### a. Inspection Scope

The inspectors reviewed Nova's Quality Assurance Manual (QAM), Revision 1, dated March 10, 2009, and procedures that govern the Part 21 program to determine compliance with Part 21. Specifically, the inspectors focused on portions of Nova's QAM and implementing procedure, Work Instruction (WI) 8.3.1, "10CFR21," Revision 9, dated April 13, 2009.

The inspectors discussed the Part 21 process with members of Nova's management and technical staff to evaluate Nova's Part 21 program. Nova had not performed any Part 21 evaluations for the inspector's review.

#### b. Observations and Findings

The inspectors verified that Nova's WI 8.3.1 met the requirements of 10 CFR Part 21. The inspectors noted that WI 8.3.1 outlined the process used by Nova for the identification and reporting of defects; training of employees; postings; and responsibilities of employees, managers, and the Quality Assurance (QA) Manager with respect to Part 21.

WI 8.3.1 stated in part that, "Suspected defects, which can be found in our products (fasteners, bar stock, etc) or documents (purchase orders, test/inspection results, etc.) are to be brought to the immediate attention of the QA Manager, VP of Operations, General Manager, Technical Director, QC Manager or VP of Sales. Notification can be verbal or written." This procedure further stated in part that, "Nonconformance Reports (both internal and external) and Corrective Action Reports shall be reviewed by the QA Manager to determine if further evaluation for a potential defect is required to be performed." In addition, the procedure described the minimum information required for an evaluation and for a Part 21 written report to the NRC.

The inspectors discussed the procedure with Nova's QA manager and identified that while the procedure was adequate with respect to Part 21 requirements, Nova personnel did not appear to have a thorough understanding of this regulation. The inspectors noted that Nova's QA manager believed that if a failure was isolated or not generic, it was not a deviation. Furthermore, after reviewing several Non-Conformance Reports (NCRs), the inspectors found examples where it was concluded that Nova did not understand what constitutes a deviation. Although the NCR section titled, "Evaluation of NCR for Reporting under 10 CFR Part 21," prompted them to answer the question: "Does the Non-conformance represent a Defect, Deviation or Failure to Comply as defined within 10 CFR Part 21?," Nova personnel had always responded "No" for all NCRs.

A related nonconformance to Criterion XVI to 10 CFR Part 50, Appendix B. was cited for failure of the nonconformance process to identify deviations. Details on the nonconformance are in Section 2.b. of this inspection report.

c. Conclusions

The inspectors concluded that Nova's Part 21 program was consistent with the regulatory requirements.

2. Corrective Action

a. Inspection Scope

The inspectors reviewed the QA procedures that govern the implementation of Nova's corrective action program to ensure the procedures provided adequate guidance consistent with the requirements of Appendix B to 10 CFR Part 50 and Part 21. The inspectors also reviewed a sample of Corrective Action Reports (CARs) to assess Nova's implementation of its corrective action program. Additionally, the inspectors reviewed Nova's nonconformance process and assessed implementation through a review of a sample of NCRs.

b. Observations and Findings

The inspectors noted that Nova's implementing procedure 8.7, "Continual Improvement through Corrective and Preventive Actions," Revision 2, dated April 13, 2009, defined the process to identify and implement corrective and preventive actions. In addition, it established the method to eliminate the causes of actual or potential nonconformances and the initiation of corrective and preventive action to preclude recurrence. This procedure detailed the responsibilities, applications, internal uses, and preventive actions to address identified deficiencies.

Nova's CAR document was used to describe issues, document the root cause analysis and identify short term and long term corrective actions. The inspectors noted that the CAR process included, but was not limited to; a description of the issue, the owner of the CAR, investigation and evaluation documentation results, and prescribed actions to be taken.

Nova's NCR procedure 8.3, "Control of Nonconforming Product," Revision 2, dated April 13, 2009, established a system for identification, documentation, segregation and disposition of nonconforming product. This procedure assigned responsibilities, documented applications, specified purchased and returned materials handling methods, established hold point uses, and specified product disposition. The procedure applied to a nonconformance discovered at a sub-supplier, internally to Nova, or after delivery or use of a product.

The inspectors reviewed a sample of Nova's CARs and no findings of significance were identified. However, while reviewing a sample of external NCRs the inspectors noted several instances where Nova failed to identify deviations. The inspectors noted that Nova's NCR form does include a section for evaluation of NCRs for reporting under Part

21. However, Nova incorrectly completed the form and answered “No” when asked if the nonconformance was a deviation. Specifically, the inspector reviewed;

- NCR# EXT 00000661, from PPL Services Corporation, dated February, 4 ,2009, where Nova shipped the customer’s parts without these parts undergoing tensile strength testing. Once the customer notified Nova of the omission, Nova tested other parts from the same material and they failed the test.
- NCR# EXT00000499, from Crane Nuclear, dated February 4. 2008, where Nova certified that a part had a minimum tempering temperature of 1100°F, as requested in the purchase order but a certificate of Conformance (CofC) from MT Heat Treat Inc., certified the parts as being tempered at 1085°F.
- NCR# EXT00000485, from PPL Services Corporation, dated March 3, 2008, where Nova assembled parts with tack welds while the blueprint from the purchaser called for a continuous weld.
- NCR# EXT00000488, from First Energy Corporation, dated March 11, 2008, where Nova supplied material that was not per the customer’s specifications. The material was American Iron and Steel Institute (AISI) 1045 medium carbon steel and customer blueprint required AISI 1045 annealed, with 90ksi minimum tensile strength.

The inspectors considered these NCRs as describing deviations. The products were shipped and were a departure from the technical requirements specified in the procurement documents. Nova’s failure to identify deviations as part of their NCR process was identified as Nonconformance 99901052/2009-201-01.

The inspectors observed various errors that were administrative in nature and did not affect Nova’s corrective action resolution. The inspectors noted that for Nova’s system the manufacturing item number could end in three different numbers. Items ending in a “.10” were American Society of Mechanical Engineers (ASME), items ending in a “.30” were safety-related, and items ending in a “.50” were commercial-grade. Below the manufacturing item number location on the NCR form were four Category blocks labeled “ISO/Commercial”, “Military /Government”, “Safety-Related”, and “ASME Code” respectively. The inspectors noted in multiple instances that the manufacturing item number did not coincide with the correct category block on the NCR form. The inspectors observed that Nova was not consistent in the categorization of its manufacturing item identification when completing the NCR forms.

Additionally, the inspectors observed that for NCR# EXT00000661, from PPL Services Corporation, dated February, 4 2009, deficient material was returned to Nova. The returned deficient material and remaining material from Nova’s stock was tested, and failed. No further documentation was provided as part of this NCR. The inspectors requested the scrap record from Nova’s Enterprise Resource Planning (ERP) system. Nova was able to produce the scrap record to inspectors, but not in a timely manner. Similarly, EXT# 00000454, from Florida Power & Light, dated January 3, 2008, contained a statement in the evaluation section that was not clear on material disposition.

The inspectors again requested the scrap record, and Nova was able to produce the record for the inspectors' review. The inspectors determined that the documentation, although not readily available, was obtainable and did not affect Nova's corrective action resolution. The inspectors noted that Nova's computerized ERP stock program had just been implemented and the vendor's personnel were not yet fully proficient in the program's use.

c. Conclusion

Nonconformance 99901052/2009-201-01 was cited for Nova's failure to identify deviations as part of its Non-conformance process. With the exception of the nonconformance noted above, the inspectors determined that Nova's corrective action program and implementation met the requirements of Criterion XVI of Appendix B to 10 CFR Part 50.

3. Commercial-Grade Dedication Process

a. Inspection Scope

The inspectors reviewed Nova's QAM, Revision 1, dated March 10, 2009, and the implementation process for commercial-grade dedication activities. Specifically, the inspectors reviewed WI 7.3.20, "Commercial Grade Dedication," Revision 0, dated April 13, 2009. The inspectors reviewed the quality and work procedures governing the implementation of commercial-grade dedication activities, and a sample of completed dedication packages from the previous two years. The inspectors interviewed Nova personnel and conducted a tour of Nova's dedication facility.

b. Observations and Findings

The inspectors noted that Nova's WI 7.3.20 outlined its process for procurement, engineering evaluation, and verification of critical characteristics for commercial-grade dedication. WI 7.3.20 stated that Nova did not perform technical evaluations regarding parts applicability or safety function. Nova relied primarily on its customers to specify the safety function of the items. The procedure allowed Nova's engineering to propose a safety function of an item with customer approval.

The inspectors noted that customer purchase orders generated Nova sales orders. Nova Engineering reviewed Sales Orders and generated critical characteristics to be verified in work orders and inspection plans.

For the selection of critical characteristics, Nova's procedures distinguished between generic and product-specific items. Critical characteristics for generic items were identified in applicable standards for the item. These items were considered simple in design and function, such as nuts and bolts. Critical characteristics for product-specific items were determined by referring to customers' input and relevant technical data. These critical characteristics were identified in dedication plans and required approval by the original designer of the product, or by the customer. The inspectors noted that most of Nova's dedications were performed on generic items.

The inspectors noted that Nova performed primarily Method 1 commercial-grade dedication which is special tests and inspections, using work orders and inspection plans. Nova's inspection plans contained detailed checklists for recording critical characteristics such as dimensions. However, the inspection plans did not document verification of material. Through discussions with Nova staff, the inspectors determined that Nova verified material by reviewing its electronic database, and noting material composition on Nova's CofC's or Certified Material Test Reports (CMTRs). The inspectors found that this process allowed certified material test reports to be generated from chemical test data provided by commercial vendors.

The inspectors found one example where Nova did not adequately verify the material test report for line item seven of Purchase Order (PO) 00116085 (Sales Order 136393) for 26 safety-related hex cap screws, HXCS.007497.30, to Florida Power and Light. The PO specified that a CMTR be provided verifying that the material was American Society for Testing and Materials (ASTM) A-307('00) Grade B Carbon Steel.

For this PO, the inspectors traced the supply of the raw materials to Walker Wire, a commercial supplier that also provided a material test report. The inspectors noted that Nova machined the cap screws, and verified dimensions. In addition, Nova had the material successfully tested by an approved supplier, Herron Testing Laboratory. However, the inspectors found that Nova's CMTR #87661, dated December 12, 2008, provided the chemical test results provided by Walker Wire. Therefore, Nova failed to supply its purchaser with a certified material test report. This issue was identified as an example of Nonconformance 99901052/2009-201-02. Discussions with Nova staff indicated that it was Nova's practice to verify that material had been tested by an approved testing lab, but to use the chemical test data from the original mill on CMTRs. The inspectors noted that Nova initiated CAR #147, dated May 1, 2009, regarding this finding.

The inspectors did not identify any issues with the verification critical characteristics other than material.

For returned items which had undergone dedication, the inspectors noted that Nova initiated NCRs, and entered the items at the beginning of the dedication process. All returned orders received new sales order numbers to ensure adequate tracking and to prevent sub-standard parts from improperly re-entering the dedication process. The inspectors did not identify any issues with Nova's control of returned items.

c. Conclusion

The inspectors identified one nonconformance to 10 CFR Part 50, Appendix B. Nonconformance 99901052/2009-201-02 was cited for Nova's failure to supply its purchaser with a certified material test report as part of its commercial-grade dedication process. With the exception of the nonconformance noted above, the inspectors concluded that Nova was implementing a commercial-grade dedication process in compliance with regulatory requirements and industry guidance.

#### 4. Audits

##### a. Inspection Scope

The inspectors reviewed Section 17, "Audits," of Nova's QAM, Revision 0, dated September 10, 2008 and implementing procedures that govern the process for internal and external audits. The inspectors evaluated a sample of external and internal audit reports and qualification records for personnel to verify compliance with the program requirements.

##### b. Observations and Findings

###### b1. External Audits

The inspectors noted that Section 17.5, "Vendor Audits," provided a description of the process and requirements for performing external (vendor) audits. WI 7.3.3, "Vendor Audit Plan," Revision 5, dated October 17, 2006, established and defined an audit plan for conducting vendor audits, and established checklist completion, review and approval requirements. The inspectors noted that the work instruction was of sufficient detail to provide an adequate scope for a supplier audit.

The inspectors reviewed Nova's Approved Supplier List (ASL) and selected eight vendor audits for review. Nova's audit schedule was based on a period of less than three years for the suppliers to ensure ongoing compliance with its QAM. The inspectors verified that Nova's recent audits of the following suppliers met the requirements of Criterion XVIII of Appendix B to 10 CFR Part 50.

- Allied Tube & Conduit (Unistrut), in Harvey, Illinois, based on a Nova audit completed in February 2009, which supplied channel stock for cable racks and assorted support pieces;
- Tioga Pipe Supply Company, Incorporated, in Philadelphia, Pennsylvania, based on a Nuclear Industry Assessment Committee (NIAC) audit completed in July 2006, which supplied ferrous and nonferrous materials and had a limitation on welding and weld repairs;
- Pre-Cal Services, in Apollo, Pennsylvania, based on a NIAC audit led by Nova completed in February 2008, which supplied National Institute of Standards & Technology (NIST) traceable calibration services;
- Orbit Industries, Incorporated, in Middleburg Heights, Ohio, based on an audit performed by NDE Consulting of Hudson, Ohio that was completed July 2006, for Nova, which supplied nondestructive examination (NDE) of materials for ASME Code Section III and safety-related applications;
- PMC Lone Star, in Willoughby, Ohio, based on a Nova audit completed in December 2006, which supplied calibration services for safety-related applications;

- Hilti Corporation, in Tulsa, Oklahoma, based on a NIAC audit completed in May 2008, which supplied anchor bolts manufactured for ASME Code Section III and safety-related applications with a limitation on welding and weld repairs;
- Dyson Corporation, in Painesville, Ohio, based on a NIAC audit led by Nova completed in February 2009, which supplied fasteners manufactured for use in ASME Code Section III and safety-related applications; and
- Colonial Machine Company, in Pleasantville, Pennsylvania, based on a NIAC audit completed in September 2007, which manufactures safety-related and ASME Code Section III materials, piping component supports and attachments.

The inspectors observed that the audit of Orbit Industries was performed by NDE Consulting for Nova. The inspectors questioned why NDE Consulting was not on Nova's ASL. Nova was able to provide sufficient documentation on the lead auditor from NDE Consulting to demonstrate that he had been trained, tested, and certified as a lead auditor under Nova's quality program.

The inspectors' review of PMC Lone Star identified that Nova's audit report did not cover relevant criteria of Appendix B to 10 CFR Part 50. The audit report did not provide any explanation why certain criteria were not addressed and appeared to be based on survey related critical characteristics. The inspectors discussed with Nova's quality assurance manager that the audit appeared to be following the guidance for a commercial-grade survey. Critical characteristics were verified rather than Appendix B to 10 CFR Part 50 attributes.

The inspectors identified that Nova did not conduct a thorough audit of the PMC Lone Star facility. The failure to adequately conduct a comprehensive audit to verify compliance with all relevant aspects of an Appendix B to 10 CFR Part 50 quality assurance program is inconsistent with the regulatory requirements of Appendix B to 10 CFR Part 50, Criterion XVIII. This issue was identified as Nonconformance 99901052/2009-201-03.

## b2. Internal Audits

The inspectors reviewed Nova's latest internal audit report, "2008 Quality Assurance Department Status and Adequacy Report," dated March 31, 2009. The inspectors noted that Nova performed internal audits of each section of its QAM using the NIAC audit checklist. The lead auditor was from Axion Technical Services Company of Fayetteville, Pennsylvania. The audit report included monthly quality metrics developed by Nova, which included: corrective action requests – customer requested; nonconformance reports with customer disposition requested; customer returns (including customer accommodations); customer returns (not including customer accommodations); certification revisions (including customer requests); certification revisions (not including customer requests); and results of customer audits and the status of findings. Additionally, NCRs were trended with an overall general analysis of the results. Customer returns were approximately 0.5 percent of items shipped. The inspectors noted there was one audit finding and four observations; all were minor in nature. No findings of significance were noted related to internal audits.

c. Conclusion

The inspectors concluded that with the exception of NON 99901052/2009-201-03 for an inadequate audit of a supplier, Nova's audit program requirements were generally consistent with the regulatory requirements of Criterion XVIII of Appendix B to 10 CFR Part 50.

5. Exit Meeting

On May 1, 2009, the inspectors presented the inspection scope and findings during an exit meeting with Nova General Manager, Tim Davis, and other Nova personnel.

## ATTACHMENT

1. PERSONS CONTACTED

T. Davis, General Manager, Nova  
D.Nenstiel, Quality Assurance Manager, Nova  
J. Zils, Operations Manager, Nova  
J. Burk, Operations Manager, Nova  
S. Shivak, Technical Director, Nova  
E. Baus, Senior Project Engineer, Nova

2. INSPECTION PROCEDURES USED

IP 36100, "Inspection of 10 CFR Parts 21 and 50.55(e) Programs for Reporting Defects and Noncompliance"  
IP 43001, "Reactive Inspection of Nuclear Vendors"

3. LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

There were no NRC inspections of Nova's facility in Middleburg Heights, Ohio in the previous five years.

<u>Item Number</u>	<u>Status</u>	<u>Type</u>	<u>Description</u>
99901052/2009-201-01	Opened	NON	Criterion XVI
99901052/2009-201-02	Opened	NON	Criterion VII
99901052/2009-201-03	Opened	NON	Criterion XVIII

4. LIST OF ACRONYMS USED

ASL	Approved Supplier List
AISI	American Iron and Steel Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
CAR	Corrective Action Request
CFR	Code of Federal Regulations
CMTR	Certified Material Test Report
CofC	Certificate of Conformance
DE	Division of Engineering
ERP	Enterprise Resource Planning
EQVB	Quality and Vendor Branch
IP	Inspection Procedure
NDE	Nondestructive Examination
NIAC	Nuclear Industry Assessment Committee
NIST	National Institute of Standards & Technology
NON	Notice of Nonconformance
Nova	Nova Machine Products
NCR	Nonconformance Report
NRC	Nuclear Regulatory Commission

NRR	Office of Nuclear Reactor Regulation
PO	Purchase Order
QA	Quality Assurance
QAM	Quality Assurance Manual
WI	Work Instruction