



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 9, 2007

Mr. Gregg Blankenship, Director
Quality Management System
Veridiam, Incorporated
1717 North Cuyamaca Drive
El Cajon, CA 92020-1110

SUBJECT: NRC INSPECTION REPORT 99901363/2007-201

Dear Mr. Blankenship:

On June 4-7, 2007, U.S. Nuclear Regulatory Commission (NRC) inspectors conducted an inspection at the Veridiam, Incorporated (Veridiam) facility in El Cajon, California. The enclosed report presents the details of that 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 (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 Processing Plants." This NRC inspection report does not constitute NRC endorsement of your overall quality assurance (QA) or Part 21 programs. The inspectors concluded that the control of selected portions of Veridiam's Part 21 and QA controls regarding its safety-related activities were generally acceptable.

In accordance with 10 CFR 2.390 of the NRC's "Public inspections, exemptions, requests for withholding," a copy of this letter, its enclosures, and any associated correspondence will be placed in the NRC's Public Document Room, accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

(/RA by P. L. Hiland)

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

Docket No. 99901363

Enclosure: Inspection Report 99901363/2007-201

cc w/ encl: Sherry Gall, Quality Systems Manger
Veridiam, Incorporated
1717 North Cuyamaca Drive
El Cajon, CA. 92020-1110

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF ENGINEERING**

Report No: 99901363/2007-201

Organization: Veridiam, Incorporated
1717 North Cuyamaca Drive
El Cajon, CA 92020-1110

Vendor Contact: Gregg Blankenship, Director
Quality Management System
(619) 448-1000

Nuclear Industry: Veridiam, Incorporated, formerly known as Carpenter Special Products Corporation manufactures and supplies safety-related nuclear fuel tubing, nuclear fuel channel assemblies, and associated services to the domestic nuclear power industry.

Inspection Dates: June 4-7, 2007

Inspection Team Leader: Victor Hall, DE/NRR

Inspector: Joseph Petrosino, DE/NRR

Inspector: Kerby Scales, DE/NRR

Inspector: Edward Andruszkiewicz, DCI/NRR

Approved By:	<u><i>(/RA by D. F. Thatcher)</i></u>	<u><i>08/08/2007</i></u>
	Dale F. Thatcher Quality & Vendor Branch Division of Engineering Office of Nuclear Reactor Regulation	Date

ENCLOSURE

1.0 INSPECTION SUMMARY

The purpose of this inspection was to evaluate selected portions of the quality assurance (QA) and 10 CFR Part 21 (Part 21) controls that Veridiam, Incorporated (Veridiam) has established and implemented. The inspection was conducted at Veridiam's facility in El Cajon, California. 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 (Appendix B), and
- 10 CFR Part 21, "Reporting of Defects and Noncompliance."

2.0 STATUS OF PREVIOUS INSPECTION FINDINGS

In November, 2005, Carpenter Special Products Corporation (Carpenter) was acquired by WHI Capital Partners and renamed Veridiam. This was the first NRC inspection at Veridiam or Carpenter.

3.0 INSPECTION FINDINGS AND OTHER COMMENTS

3.1 10 CFR PART 21 PROGRAM

a. Inspection Scope

The NRC inspectors reviewed Revision 1 of Veridiam's 10 CFR Part 21 implementing procedure (IP) 8.3.2, "Process for Communicating and Controlling Delivered Nonconforming Items (Including Compliance with 10CFR21)." The inspectors reviewed supporting procedures, nonconformance reports (NRs), and corrective action reports (CARs) associated with IP 8.3.2 and the provisions of Part 21 controlled by Veridiam's QA program.

b. Observations and Findings

The NRC inspectors found that revision 1 of IP 8.3.2 met the intent of Part 21 and generally complied with the regulations. However, some aspects of the procedure were not clear. For example, the Part 21 definitions were simplified, making them potentially ambiguous. Veridiam informed the inspectors that a draft revision had already been prepared to correct some of the inconsistencies which had been identified by Veridiam staff. The inspectors reviewed the draft procedure and offered comments to Veridiam to ensure that revision 2 of the IP addressed the inspectors' concerns.

For the period reviewed, Veridiam had not performed any Part 21 evaluations or made any Part 21 notifications. The inspectors verified that Veridiam adequately posted copies of the procedures adopted to implement the provisions of 10 CFR Part 21, copies of 10 CFR Part 21, and copies of Section 206 of the Energy Reorganization Act of 1974.

Veridiam's Part 21 procedure did not elaborate on performing Part 21 evaluations.

However, the procedure directed Veridiam to inform its customers of any deviations or failures to comply in accordance with Section 21.21(b) of Part 21. Veridiam would likely not be capable of performing a 21.21(a)(1) evaluation, so informing its customers would ensure proper handling of Part 21 deviations or failures to comply.

The NRC inspectors reviewed a sample of purchase orders (POs), from Framatome ANP (FANP), and noted that the POs ordered basic components, as defined in §21.3 of Part 21. The POs imposed several quality clauses including the provisions of 10 CFR Part 21 and a quality program which meets Appendix B. The inspectors noted that FANP's procurement quality clauses ensure that identified deviations are handled as required by Part 21. The inspectors concluded that FANP's quality procurement clause 23, "Reporting of Defects and Noncompliances," articulated the requirements of §21.21(b) of Part 21. Clause 23 stated, in part:

If any deviation from the technical requirements of the procurement documents is found to exist in products already delivered, as the Supplier you will immediately notify Cognizant Buyer that a deviations exists.

c. Conclusions

The inspectors did not identify any violations of Part 21 and concluded that Veridiam's Part 21 program was generally acceptable. Veridiam's policy of informing customers of potential Part 21 issues was appropriate, since Veridiam would likely not be capable of performing a Part 21 evaluation.

3.2 MANUFACTURING PROCESS CONTROLS:

a. Inspection Scope

The NRC inspectors observed Veridiam's manufacturing process controls for safety-related nuclear fuel tubing and nuclear fuel channel assemblies. The inspectors conducted discussions with QA managers, QA personnel, engineers, and manufacturing craftsmen. The inspectors reviewed documents, such as travelers, work orders and associated engineering documentation used to maintain compliance with Veridiam's quality program. Finally the inspectors observed zirconium fuel channel fabrication activities including forming, welding, rolling, shaping, and testing.

b. Observations and Findings:

The NRC inspectors reviewed Veridiam Nuclear's procedures, documents, and records and observed the processes for forming, welding, rolling, shaping, and testing of zirconium fuel channels. The inspectors reviewed Operating Procedures OP 5.7.10, "Qualification Program for BWR Fuel Channel Welding," and OP 3.18.19 "Gap Measurement of round, as formed Zircalloy pre-channel." The inspectors noted that the welding procedures and welding procedure qualifications are written to the requirements of Section IX of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code. This included performing welding procedure qualifications with tensile and bend tests.

The inspectors observed the gas tungsten arc welding process for a zirconium fuel channel weld. The inspectors noted that the gap measurement prior to welding showed a discrepancy from the guidelines of OP 3.18.19, which directed welders to measure the end gap and angle. The procedures listed a 0.60 inch maximum end gap, yet the inspectors noted measurements up to 0.75 inches. OP 3.18.19 states that measurement is for in-process control only. Final quality is assured by non-destructive examination and testing. The procedure further states that the guidelines are used for determining acceptable gap characteristics. The inspectors discussed the end gap discrepancy with Veridiam management, welders, metal formers, and engineers. According to Veridiam, welders informally alert their project coaches when a gap exceeds the guidelines. This feedback is provided to the metal formers for adjustments as necessary. This feedback is not done per any procedure. The NRC inspectors noted that OP 3.18.19 did not explain why the gap characteristics were measured and did not prescribe adequate procedures when the characteristics are exceeded. However, the gap characteristics do not affect the quality of the weld because the fuel channels receive quality checks including non-destructive examination and testing to ensure their quality. Therefore, the NRC inspectors did not cite the deviation from OP 3.18.19 as a noncompliance.

The inspectors also observed "seam leveling," "tube forming," and "square shape forming from the round section." Finally the inspectors reviewed documentation of the heat treatment of a sample of zirconium channels from shop traveler to heat treatment recording and the associated procedure OP 1.1.31, "HEAT TREATMENT OF Zircalloy WR fuel channels."

c. Conclusions:

The inspectors did not identify any deviations from the Veridiam process controls other than the gap dimension discussed above. The NRC inspectors did not identify any significant issues or concerns in this area.

3.3 PERSONNEL QUALIFICATIONS

a. Inspection Scope

The NRC inspectors reviewed Veridiam's documents and records related to welding personnel qualification to determine the adequacy of Veridiam Nuclear's quality program control in this area.

b. Observations and Findings

The inspectors reviewed Veridiam's procedures and processes regarding welder performance qualifications for the welding of Zirconium fuel channels including Operating Procedure OP 5.7.10, "Qualification Program for BWR Fuel Channel Welding." The inspectors noted that welder performance procedures and welder performance qualifications are written to the requirements of Section IX of the ASME Boiler and Pressure Vessel Code. The inspectors reviewed the welder qualification list associated with the maintenance of welder qualifications. The inspectors also reviewed a sample welder performance qualification for welding procedure specification WPS

70029-A which is for the welding of the Zirconium fuel channels. The inspectors reviewed records of test results and personnel qualifications and verified that certification records were current. The inspectors also verified that Veridiam met its QA program requirements for welder performance qualifications.

c. Conclusions

The inspectors found that Veridiam's procedures for qualification and certification of welding personnel were satisfactory and met the intent of the requirements. The NRC inspectors did not identify any significant issues or concerns in this area.

4.0 MANAGEMENT MEETINGS AND PERSONNEL CONTACTED

4.1 ENTRANCE AND EXIT MEETINGS:

In the entrance meeting on June 4, 2007, the NRC inspectors discussed the scope of the inspection, outlined the areas to be inspected, and established interfaces with Veridiam's staff. During the exit meeting on June 7, 2007, the NRC inspectors discussed the tentative results of the inspection with Veridiam's staff.

4.2 PERSONNEL CONTACTED:

		<u>Meetings:</u>	
		Entrance	Exit
Neal Nordstrom	President and CEO	X	X
Gregg Blankenship	Director, Quality Assurance		X
Sherry Gall	Quality Systems Manager	X	X
Rich Hockman	Director, Sales and Marketing	X	X
Curt Hoehn	Director, Production	X	X
John Vance	Director, Product Development	X	X
James Massey	Customer Service Planner	X	X
Annette Kretzchmar	Welder Specialist I		
John Leon Guerrero	Team Leader, Seam Leveler		
Ken Cook	Drawn Products Operator		
Erik LaCom	Quality Engineer		
Mike Penwell	Inspection Coordinator		
Felix Jean-Guillaume	NDT Inspector		
Alix Babich	Turkshead Machine Operator		
Justin Menard	Drawn Products Operator		
Kim Downing	Materials and Process Engineer		