

December 18, 2007

Mr. David Gobbi  
Quality Assurance Manager  
Flowserve Pump Division  
2300 E. Vernon Ave  
Vernon, CA 90058

SUBJECT: FLOWSERVE NRC INSPECTION REPORT 99901369/2007-201 AND NOTICE  
OF VIOLATION

Dear Mr. Gobbi:

On October 22 – 26, 2007, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at the Flowserve facility in Vernon, California. The purpose of this inspection was to verify that Flowserve has implemented a 10 CFR Part 21 (Part 21) program that meets NRC requirements. The enclosed report presents the details of that inspection. This was a limited scope inspection that is not intended to endorse or approve your Part 21 program.

During this inspection it was found that the implementation of your Part 21 program failed to meet certain NRC requirements. Specifically, the NRC inspectors identified that the Part 21 procedure did not provide adequate guidance to meet the requirements of Part 21, including adequate guidance for identification and evaluation of a deviation. Additionally, the NRC inspectors identified a deviation that was evaluated as required by §21.21(a)(1). However, Flowserve failed to send a notification to NRC as required by §21.21(d). The specific findings and reference to the pertinent requirements are identified in the enclosure of this letter.

Two violations are cited in the enclosed Notice of Violation (NOV) and described in detail in the enclosed report. You are requested to respond to the NOV, and should follow the instructions specified in the enclosed NOV when preparing your response.

In accordance with §2.390, "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 your response will be made available electronically for public inspection in the NRC Public Document Room (PDR) 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.

Sincerely,

*/RA/*

John Nakoski, Chief  
Quality and Vendor Branch 2  
Division of Construction Inspection and Operational  
Programs  
Office of New Reactors

Enclosures: As Stated

proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

*/RA/*

John Nakoski, Chief  
Quality and Vendor Branch 2  
Division of Construction Inspection and Operational Programs  
Office of New Reactors

Enclosures: As Stated

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NAME	ARiveraVarona		RMclntyre		JNakoski	
DATE	12/14/2007		12/14/2007		12/18/2007	

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## NOTICE OF VIOLATION

Flowserve Pump Division  
Vernon, California

Docket Number 99901369  
Inspection Report Number 2007-201

Based on the results of a Nuclear Regulatory Commission (NRC) inspection conducted October 22-25, 2007, of activities performed at Flowserve, Vernon facility, it appears that certain activities were not conducted in accordance with NRC requirements.

1. Paragraph 21.21(d)(1) of Part 21, requires, in part, that a director or responsible officer subject to the regulations of this part or a person designated under paragraph 21.21(d)(5) must notify the Commission when he or she obtains information reasonably indicating a failure to comply or a defect.

Contrary to the above, Flowserve failed to send a notification to NRC of an identified defect as documented in deviation evaluation, #CFR-06-001, regarding a pressure reducing bushing affecting two (2) NRC-licensed facilities.

This issue is identified as Violation 99901369/2007-201-01. This is a Severity Level IV violation (Supplement VII).

2. 10 CFR 21.21(a)(1), requires, in part, that each individual, corporation, partnership, dedicating entity, or other entity subject to the regulations in this part shall adopt appropriate procedures to evaluate deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards as soon as practicable, and, except as provided in paragraph (a)(2), in all cases within 60 days of discovery.

Contrary to the above, Flowserve Quality Assurance Program procedure NPO-NNP-01, "Quality Department 10 CFR Part 21 Evaluation Board," Revision 00, dated October 11, 2007, did not provide adequate guidance in the procedure to meet the above requirements of Part 21. For example:

- 10 CFR 21.21(a)(2), requires, in part, if an evaluation of an identified deviation ... cannot be completed within 60 days from discovery... an interim report is prepared and submitted to the Commission within 60 days of discovery of the deviation.

Procedure NPO-NPP-01, paragraph 4.2.3 states that the evaluation of a basic component deviation shall be completed within sixty (60) days of discovery. If the evaluation can not be completed within sixty (60) days of discovery, the Quality Assurance Representative shall prepare an interim report ... and submit it to the Quality Manager, NPO. Furthermore, paragraph 4.2.4, states that the Quality Manager, NPO, shall submit the interim report to the NRC within thirty (30) days of receipt.

- 10 CFR 21.21(d)(1), requires, in part, that the responsible officer notify the Commission when he or she obtains information reasonably indicating a

ENCLOSURE 1

failure to comply or a defect.

Procedure NPO-NPP-01, paragraph 4.2.1.2 states, in part, that subsequent to delivery, a report to the customer is made when an assessment performed by the Quality Assurance Representative after consultation with members of the Material Review Board (MRB), that a substantial safety hazard may exist.

This issue is identified as Violation 99901369/2007-201-02. This is a Severity Level IV violation (Supplement VII).

Pursuant to the provisions of 10 CFR 2.201, "Notice of Violation," Flowserve 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, 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 Violation. This reply should be clearly marked as a "Reply to Notice of Violation" and should include for each violation: (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 noncompliances, and (4) the date when your corrective actions 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. Agency-wide Documents Access and Management System (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 19<sup>th</sup> day of December of 2007.

**U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NEW REACTORS**

Report No: 99901369/2007-201

Organization: Flowserve Pump Division  
Nuclear Products Operations  
2300 E. Vernon Avenue  
Vernon, California 90058

Vendor Contact: Mr. David Gobbi  
Quality Assurance Manager  
(323) 587-6171

Nuclear Industry: Flowserve designs and manufactures a wide range of pump types for nuclear power and industrial applications, and provides a range of related flow design and management services to U.S. nuclear utilities.

Inspection Dates: October 22 - 25, 2007

Inspectors: Richard McIntyre, Lead Inspector, CQVB/DCIP/NRO  
Aida Rivera-Varona, CQVB/DCIP/NRO  
Carla Roquecruz, DE/NRR

Approved by:

\_\_\_\_\_  
John 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 the inspection at Flowserve, Vernon facility was to verify that Flowserve has implemented a 10 CFR Part 21 program that meets NRC requirements. As part of this review, the NRC inspectors reviewed the documentation associated with evaluations of deviations pursuant to 10 CFR Part 21 during 2005, 2006 and 2007.

The inspection was conducted at Flowserve's facility in the City of Vernon, California. The inspection bases were:

- 10 CFR Part 21, "Reporting of Defects and Noncompliance."

### 1.1 VIOLATIONS

- Violation 99901369/2007-201-01 was identified and is discussed in Section 3.1.b.3 of this report.
- Violation 99901369/2007-201-02 was identified and is discussed in Section 3.1.b.1 of this report.

### 1.2 Non-Cited Violations

- Non-Cited Violation is discussed in Section 3.1.b.2 of this report.

## 2.0 STATUS OF PREVIOUS INSPECTION FINDINGS

There were no previous NRC inspections performed at Flowserve Pump Division's facility in Vernon, California, prior to this inspection.

## 3.0 INSPECTION FINDINGS AND OTHER COMMENTS

The Flowserve quality program consists of Level 1, 2, and 3 quality policies and procedures. The Level 1 document is the highest level document which consists of Flowserve Quality Assurance Manual, "NPO Nuclear Quality Program, Edition 2," Revision 0, dated June 30, 2007. The manual describes the overall quality management system for the Pump Division of Flowserve. The Level 2 documents are the second level documents which contain the policies and procedures that form the structure of the quality management system. The Level 3 documents are the third level documents which contain implementing procedures for the Vernon facility.

### 3.1 10 CFR PART 21 PROGRAM

#### a. Inspection Scope

The NRC inspectors reviewed Flowserve's Quality Assurance Program, and implementing procedures developed to implement the requirements of 10 CFR Part 21.

b. Observations and Findings

b.1 Procedure Review

The NRC inspectors reviewed the Flowserve policy and procedure governing the 10 CFR Part 21 program to assure those guidelines provided adequate description of the process and implemented the requirements as described in 10 CFR Part 21, "Reporting of Defects and Noncompliance."

Level 2 Procedure, NPO-NNP-01, "Quality Department 10 CFR Part 21 Evaluation Board," dated October 11, 2007, was developed to implement the requirements of 10 CFR Part 21. The purpose of this procedure is to define the methods to identify, report, and disposition defects or noncompliance which may result in a substantial safety hazard. The inspectors noted that the procedure did not contain adequate guidance to meet certain requirements of the regulations.

NPO-NPP-01, paragraph 4.2.3 states that the evaluation of a basic component deviation shall be completed within sixty (60) days of discovery. If the evaluation can not be completed within sixty (60) days of discovery, the Quality Assurance Representative shall prepare an interim report and submit it to the Quality Manager, NPO. Furthermore, paragraph 4.2.4, states that the Quality Manager, NPO, shall submit the interim report to the NRC within thirty (30) days of receipt. This process thus allows Flowserve ninety days for the submittal of the interim report to the NRC. 10 CFR 21.21(a)(1) requires the report to be provided to the NRC within 60 days of discovery.

NPO-NPP-01, paragraph 4.2.1.2 states, in part, that subsequent to the delivery of a component, a report to the customer is made after an assessment is made by the Quality Assurance Representative through consultation with members of the Material Review Board (MRB), that a substantial safety hazard may exist. The NRC inspectors found that the procedure did not provide guidance for the notification to the NRC of evaluated deviations that are determined to be defects that could cause substantial safety hazard, when those items and/or components have been delivered and accepted by the customer.

In addition, the NRC inspectors reviewed Section SN-19 of Flowserve's Quality Assurance Manual, "Non-Conformance Control." This section of the Quality Assurance Manual provides provisions to establish measures to identify, evaluate, and report deviations that may result in substantial safety hazard per 10 CFR Part 21. However, paragraph 5.2.3 does not provide adequate guidance for informing the Commission of deviations that would create a substantial safety hazard.

The NRC inspectors noted that the Flowserve Part 21 procedure NPO-NPP-01, did not provide adequate guidance to meet the requirements of Part 21. As a result, the NRC inspectors concluded that the Flowserve Part 21 procedures, and thus the QA Manual, do not meet the requirements of 10 CFR 21.21(a)(1). This is identified as Violation 99901360/2007-201-03.

b.2 Posting

The inspectors reviewed Flowserve's posting of Part 21 to determine whether Flowserve had complied with the posting requirements of 10 CFR 21.6. The inspectors found that Flowserve had posted notices that included a copy of Section 206 of the Energy Reorganization Act of 1974, a current copy of 10 CFR Part 21, and a note with the title of the responsible person and



reference to the procedure NPO-NPP-01. However, the inspectors found that Flowserve facility failed to include the other applicable procedure, NPO-005, "Quality Department 10 CFR Part 21 Evaluation Board," dated October 17, 2007, and clear statement of where these procedures may be examined. Although a Violation was characterized with respect to Part 21 posting requirements, it is considered a Non-cited Violation due to the minor nature of the violation.

### b.3 10 CFR Part 21 Implementation

The inspectors reviewed the five Part 21 evaluations performed by Flowserve since 2005 to verify that Flowserve had documented and implemented a program consistent with the requirements described in Part 21. The NRC inspectors verified that Flowserve's program included a method of identification to perform an evaluation, and requirements for a timely reporting.

The inspectors noted that Flowserve had a method to screen for Part 21 applicability and evaluation through the corrective action report (CAR) process. Additionally, the Quality Manager pointed out that Flowserve had revised the nonconformance report form to include review for Part 21 applicability. However, the inspectors noted that none of the issues identified and evaluated under the Part 21 program resulted from a CAR. The inspectors found that the Part 21 evaluations did not provide consistency in the method of identification. For example, some evaluations were initiated by the Quality Supervisor's identification of the need to perform an evaluation.

The inspectors noted that for deviation evaluation #CFR-06-01, Flowserve only sent notifications to its customers of an identified defect in material of a pressure reducing bushing. The inspectors could not find any notification to the NRC for reporting this defect. The inspectors discussed the issue with the Quality Manager, and he explained to the inspectors that since the affected components had not been installed, Flowserve's position was that they were not required to send notification to the NRC. The inspectors explained that the Part 21 regulations (10 CFR 21.21(d)(1)) require notification to the NRC of any evaluated deviation that is found to cause a substantial safety hazard, when the component was delivered and accepted by the customer. The inspectors identified that Flowserve failed to send the required notification to NRC of an identified defect as documented in deviation evaluation, #CFR-06-001, regarding a pressure reducing bushing affecting two (2) NRC-licensed facilities. This issue is identified as Violation 99901369/2007-201-01.

### c. Conclusions

Except for the violations discussed above (one violation is non-cited), the inspectors concluded that Flowserve's 10 CFR Part 21 program was generally acceptable and consistent with the regulatory requirements. The NRC inspectors also determined that Flowserve's 10 CFR Part 21 procedures did not provide adequate guidance to ensure effective implementation of the provisions of Part 21.

## **4.0 ENTRANCE AND EXIT MEETINGS**

In the entrance meeting on October 22, 2007, the NRC Inspectors discussed the scope of the inspection, outlined the areas to be inspected, and established interfaces with Flowserve staff and management. In the exit meeting on October 25, 2007, the NRC Inspectors discussed their Part 21 findings with Flowserve management and staff.

## 5.0 PARTIAL LIST OF PERSONS CONTACTED

Frank Constanzo*	Director of Quality Assurance
David Gobbi*	Quality Assurance Manager
Tamer Rezk*	Quality Assurance Supervisor
Rey Sepulveda*	Quality Assurance

\* Attended Entrance & Exit Meeting