



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

March 4, 1994

Docket No. 99900271
EA 94-049

Mr. Steve M. Quist, President
Rosemount Nuclear Instruments, Incorporated
8200 Market Boulevard
Chanhassen, Minnesota 55317

Dear Mr. Quist:

SUBJECT: NRC INSPECTION REPORT 99900271/93-01 AND NRC OFFICE OF
INVESTIGATIONS (OI) REPORT 4-90-009

This letter addresses the U.S. Nuclear Regulatory Commission (NRC) inspection led by Mr. J.J. Petrosino of this office on February 1 through 4, and March 8 through 12, 1993, of the Rosemount, Incorporated, Measurement Division (Rosemount) facilities in Eden Prairie, and Chanhassen, Minnesota, and the discussions of our findings with Mr. Kenneth Ewald and other members of your staff at the conclusion of the inspection. The inspection findings, concerns and proprietary information within the report were further discussed between March 15, 1993, and March 3, 1994, and as a result additional correspondence was exchanged between the Rosemount staff and the NRC. This letter also addresses NRC Office of Investigations (OI) Case 4-90-009, which has been completed. A copy of the OI Report synopsis is enclosed with this letter.

The specific areas examined during the inspection and our findings are discussed in the enclosed report. The inspection team evaluated the effectiveness of the quality assurance (QA) program that Rosemount established to control the quality-related activities affecting components that Rosemount supplies for use in NRC-regulated, safety-related systems at commercial nuclear reactor power plants. The team also evaluated the program that Rosemount established and executed to implement the provisions of Title 10 of the Code of Federal Regulations, Part 21 (10 CFR Part 21). Within these areas, the inspection consisted of an examination of procedures and representative records, interviews with personnel, and observations of activities in progress.

The team noted several strengths during the evaluation of your activities at the Eden Prairie and Chanhassen facilities. Most notable among these was the level of knowledge and experience of the technicians, operators, engineers, nuclear QA staff, and other personnel who were interviewed during the inspection. The majority of those employees also exhibited a sense of ownership and pride in the work that was being performed.

Based on the findings of the inspection, however, certain of your activities appeared to be in violation of NRC requirements, as specified in the enclosed Notice of Violation. Rosemount failed to establish or implement a procedure to ensure that the applicable provisions of 10 CFR Part 21 were executed at its Chanhassen facility, did not maintain adequate records of evaluations in

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all cases, did not establish an adequate employee posting and also did not adequately describe 10 CFR Part 21 and its implementing procedures in the posting. You are required to respond to this letter and should follow the instructions in the enclosed Notice of Violation when preparing your response. In your response you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice of Violation, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

The inspection team also found weaknesses in Rosemount's current QA program in both the areas of QA program establishment and implementation that, when viewed collectively, indicated that the effectiveness of the overall quality program that was observed in February and March, 1993, did not provide adequate control over the activities affecting the quality of Rosemount transmitters to an extent consistent with their importance to safety. This program controlled the manufacturing and testing of Rosemount transmitters and sub-assemblies that were used in nuclear power reactor safety-related applications. The identified QA program weaknesses are specifically discussed in the enclosed Notice of Nonconformance, for example:

- Rosemount's failure analysis (FA) facility did not have formal procedures to control root cause evaluations and failure analyses that could identify potential deviations in safety-related products returned by licensees.
- Rosemount did not establish or implement an independent QA inspection or verification function in its sensor cell and printed circuit (PC) card manufacturing areas at the Chanhassen facility.
- Rosemount did not perform QA overview, inspection, monitoring, or surveillance functions for many of its safety-related sensor module fabrication and testing activities at its Eden Prairie facility.
- Rosemount did not perform receipt inspection activities for its nuclear sensor cells that were received at its Eden Prairie facility, even though it was required to be performed in accordance with a Rosemount nuclear group procedure.

The specific findings and references to the pertinent requirements are identified in the enclosures to this letter. Please provide us within 30 days from the date of this letter a written statement in accordance with the instructions specified in the enclosed Notice of Nonconformance.

Finally, one apparent violation was identified and is being considered for escalated enforcement action in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 10 CFR Part 2, Appendix C (1993). It would appear that Rosemount did not ensure that all affected customers were appropriately informed as required by 10 CFR

Part 21 of an oil-loss deviation identified by Rosemount in its Model 1150 series transmitters. Specifically, as evidenced by various documents, from approximately August 1984 until December 1988, Rosemount failed to inform all its customers of an oil-loss deviation that could have resulted in undetectable degraded operation in Model 1150 series Rosemount nuclear safety-related pressure transmitters which could have caused safety limits to be exceeded or caused "substantial safety hazards" in licensee facilities. Examples of degraded transmitter operation as a result of sensor cell oil-loss were mainly identified in Model 1153 and 1154 pressure transmitters that had been returned for analysis by NRC licensees or found by Rosemount field service personnel. Rosemount did not begin to inform all of its nuclear licensee customers until December 1988.

It is possible that the NRC or its licensees would have taken action earlier if Rosemount: (1) had either recognized the potential generic implications and performed an adequate review and disposition of the problem in accordance with Rosemount's procedure that was adopted to implement Part 21 when the deviation was first identified, or (2) had established adequate requirements to ensure that individual problems were reviewed collectively to determine whether they indicated the existence of a generic problem. Because escalated enforcement action is being considered for this matter, no Notice of Violation is presently being issued for this inspection finding. Please be advised that the number and characterization of the apparent violations described in the enclosed inspection report may change as a result of further NRC review.

As discussed with Mr. Kenneth Ewald of your staff on March 3, 1994, an enforcement conference to discuss this apparent violation will be scheduled in the near future. The purposes of this conference are to discuss the apparent violation, its cause and the significance; to provide you the opportunity to point out any errors in our inspection report; to discuss the OI Report Synopsis which concluded that Rosemount acted with careless disregard in fulfilling their obligations under 10 CFR Part 21; and to discuss any other information that will help us to determine the appropriate enforcement action in accordance with the NRC Enforcement Policy. In particular, we expect you to address: (1) the Rosemount intracompany memoranda discussed in the report regarding transmitters exhibiting oil-loss, (2) the associated Rosemount communications with the applicable NRC licensees regarding the oil-loss deviation, (3) the Rosemount rationale for not informing customers earlier than 1988 of the common mode failure or degradation of Rosemount transmitters, and (4) any other circumstances that could affect our decision in this matter. You will be advised by separate correspondence of the results of our deliberations on this matter. No response regarding this apparent violation is required at this time.

Mr. Steve M. Quist

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In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and Enclosures 1, 2, and 4 will be placed in the NRC Public Document Room. A nonproprietary version of the inspection report (Enclosure 3) will be placed in the NRC Public Document Room following resolution of the proprietary issues.

The responses requested by this letter and the enclosed Notices are not subject to the clearance procedures of the Office of Management and Budget, as required by the Paperwork Reduction Act of 1980, Public Law 96-511.

Sincerely,



Charles E. Rossi, Director
Division of Reactor Inspection
and Licensee Performance
Office of Nuclear Reactor Regulation

cc: See next page

Enclosures:

1. Notice of Violation
2. Notice of Nonconformance
3. Inspection Report 99900271/93-01
4. OI Report Synopsis 4-90-009

Mr. Steve M. Quist

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ORIGINAL SIGNED BY

Charles E. Rossi, Director
Division of Reactor Inspection
and Licensee Performance
Office of Nuclear Reactor Regulation

cc: See next page

Enclosures:

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2. Notice of Nonconformance
3. Inspection Report 99900271/93-01
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SEE NEXT PAGE FOR CONCURRENCE AND DISTRIBUTION.

Mr. Steve M. Quist

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March 4, 1994

CONCURRENCE: (Copies W/Enclosures 1, 2, 3, & 4).

OFFICE	RIS-2:VIB	SC:RIS-2:VIB	RIS-2:VIB	RIS-2:VIB	RIV:DRS
NAME	JJPetrosino	GCCwalina	KNaidu	SDAlexander	CPaulk
DATE	05/03/93	09/03/93 *	05/14/93 *	05/04/93 *	05/03/93 *
COPY DOC	<u>YES</u> (3)	<u>YES</u> NO	<u>YES</u> NO	<u>YES</u> NO	<u>YES</u> NO

OFFICE	BC:VIB:DRIL	NRR	OGC	OE	DIR:DRIL:NRR
NAME	LJNorrholm	RPZimmerman	JRGoldberg	JLieberman	CERossi
DATE	09/03/93 *	02/___/94	02/28/94 *	02/24/94 *	02/15/94 *
COPY DOC	<u>YES</u> NO	<u>YES</u> NO	YES <u>NO</u>	<u>YES</u> NO	<u>YES</u> NO

OFFICE	OGC				
NAME	MPSiemien				
DATE	09/09/93 *				
COPY DOC	<u>YES</u> NO	YES NO	YES NO	YES NO	YES NO

* See previous concurrence
OFFICIAL RECORD COPY

DOCUMENT NAME: R8-RPTNP.LIMITED

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PDR: Docket File 99900271/93-01: Central Files: RIDS IE:09

DISTRIBUTION: (W/Enclosures 1, 2, 3, & 4.)

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Mr. Steve M. Quist

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