



**ROSEMOUNT**  
Nuclear

**Facsimile**

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**To:** NRC Operations Center  
**Company:**  
**Fax Number:** (301) 816-5151  
**Date:** 3/21/06  
**From:** David Roberts, Quality Manager  
**No. of Pages:** 13 , *including cover page*

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Rosemount Nuclear Instruments is submitting the attached notification as required by 10 CFR Part 21. Please feel free to contact me if you have any questions.

Sincerely,

David T. Roberts  
Quality Manager  
Rosemount Nuclear Instruments, Inc.

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Rosemount Nuclear Instruments, Inc.  
8200 Market Boulevard  
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21 March 2006

**Re: Notification under 10 CFR Part 21 for Model 1153 and Model 1154 Pressure Transmitters**

Pursuant to 10 CFR Part 21, section 21.21(b), Rosemount Nuclear Instruments, Inc. (RNII) is writing to inform you that:

- (a) certain Model 1153 Series B and 1153 Series D pressure transmitters of all range codes and measuring types (gage, differential, absolute) shipped between 16 December 2005 and 13 January 2006, and
- (b) certain Model 1154 and 1154 Series H pressure transmitters of all range codes and measuring types (gage, differential, sealed reference) shipped between 16 December 2005 and 13 January 2006

may not conform to RNII's published qualified life specification. See Attachment A for a list of equipment affected by this notification.

**1.0 Name and address of the individual providing the information:**

Mr. Jeffrey W. Schmitt  
Vice President & General Manager  
Emerson Process Management  
Rosemount Nuclear Instruments, Inc.  
8200 Market Blvd  
Chanhassen, MN 55317

**2.0 Identification of Items supplied:**

Certain Model 1153 Series B and 1153 Series D pressure transmitters of all range codes and measuring types (gage, differential, absolute), and certain Model 1154 and 1154 Series H pressure transmitters of all range codes and measuring types (gage, differential, sealed reference) shipped between 16 December 2005 and 13 January 2006 are affected. No sensor modules, shipped as spare parts kits, are affected by this notification. See Attachment A for a list of equipment affected by this notification.

3.0 Identification of firm supplying the item:

Emerson Process Management  
Rosemount Nuclear Instruments, Inc.  
8200 Market Blvd  
Chanhassen, MN 55317

4.0 Nature of the failure and potential safety hazard:

For every RNII Model 1153 and Model 1154 transmitter, four diodes are used on a circuit card assembly which is installed and sealed within the sensor module sub-assembly. The primary function of these diodes is to convert an AC oscillator signal to a DC current that is proportional to the capacitance of the sensor. The diodes (P/N D2911218A) are manufactured by Microsemi Corp. (MSC).

Recently during standard receiving inspection, it was noted that the glass packaging on several of the diodes exhibited an unusual "cloudy" appearance. Upon supplier analysis it was determined that the cloudy appearance was due to interaction between cleaning solution and metallic components of the diode. Cleaning solution was able to penetrate the glass diode package because of a poor hermetic seal. Over time, this condition could degrade the performance and reliability of the diode, particularly at elevated temperatures. The resultant effect on the transmitter might include degraded temperature effect performance and increased drift between calibration cycles.

Through further internal investigation MSC was able to bound the potential problem to two lot codes. These lot codes were traced from MSC through our circuit card supplier and to RNII to identify the shipped transmitters affected by this notification.

RNII built up several test transmitters using diodes having a cloudy appearance and performed thermal aging on the transmitters to simulate typical operating conditions, followed by high temperature testing. Test results suggest that potentially affected transmitters would operate within published performance specifications, including the Nuclear Steam Pressure/Temperature specification. Nonetheless, RNII and MSC were unable to demonstrate the long term reliability of the suspect diodes over the full qualified life of the transmitter.

Therefore, based on analysis of the test results, RNII has established the following qualified life limits for transmitters affected by this notification. This specification supersedes the published qualified life for all pressure transmitters affected by this notification:

**Interim Qualified Life = 5.1 years @ 120°F Operating Temperature**

RNII does not have sufficient information relative to each end user's specific applications to determine the potential safety-related impact of this notification to each end user's plant. Each end user must determine the impact on its plant operations and plant safety and take action as deemed necessary.

**5.0 The corrective action which is taken, the name of the individual or organization responsible for that action, and the length of time taken to complete that action:**

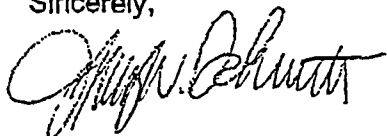
- (a) RNII held shipments of completed Model 1153 and Model 1154 transmitters while a determination was made as to which units were assembled with diodes from the suspect lot codes.
- (b) RNII quarantined all Model 1153 and Model 1154 transmitters and module sub-assemblies in manufacturing while a determination was made as to which units were being assembled with diodes from the suspect lot codes.
- (c) RNII issued a corrective action request to the diode supplier (MSC). MSC determined root cause, identified the suspect diode lots, and implemented corrective action. RNII verified the supplier's corrective actions during an on-site visit.
- (d) RNII has reworked all pressure transmitters that were completed or in production that contained diodes from the suspect lot.
- (e) RNII completed analysis and testing of pressure transmitters built with affected diodes to assess the impact of the non-conforming hermetic seal on performance and reliability of the pressure transmitter.
- (f) RNII established an interim qualified life for pressure transmitters affected by this notification as noted in Section 4.0.
- (g) Since no visual inspection of the diode is possible on shipped transmitters, RNII will rework any potentially affected pressure transmitter by replacing the module sub-assembly at the end user's request. Completion: As required.

**6.0 Any advice related to the potential failure of the item:**

The end user must determine the impact of this potential non-conformance upon its plant's operation and safety, and take action as deemed necessary. RNII recommends that potentially affected transmitters be returned to RNII for replacement of the module at the end user's earliest opportunity and consistent with the abbreviated interim qualified life specification noted in section 4.0. Please contact RNII to facilitate the transmitter return process as necessary.

Rosemount Nuclear Instruments, Inc. is committed to the nuclear industry and assures you that we are dedicated to the supply of high quality products to our customers. We apologize for any impact that this notification might cause. If you have any questions, or require additional information related to this issue, please contact: Mike Dougherty (208) 865-1112, Gerard Hanson (952) 949-5233, Bob Cleveland (952) 949-5206, or Matt Doyle (952) 949-5204.

Sincerely,



Jeffrey W. Schmitt  
Vice President and General Manager  
Rosemount Nuclear Instruments, Inc.

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**ATTACHMENT A: 10 CFR Part 21 Notification – 21 March 2006.**

**Constellation Nuclear**

Purchase Order	Sales Order	Model Number	Serial Number	Shlp Date	Site
7700240	1635761	1153DB7PAN0016	531371	13-Jan-06	Nine Mile Point
7700240	1635761	1153DB7PAN0016	531372	13-Jan-06	Nine Mile Point

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**Duke Energy Corp**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
NE19817	1583569	1153DB5PB	531250	22-Dec-05	Catawba
NE19817	1583569	1153DB5PB	531251	22-Dec-05	Catawba
NE19998	1590972	1153GD8PA	531256	27-Dec-05	Catawba

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**Entergy Corp**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
10109048	1611026	1153DB5PC	531249	27-Dec-05	River Bend
10109048	1611026	1153DB5PC	531248	27-Dec-05	River Bend

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**Exelon Generation Co LLC**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
00072574	1347936	1153DB7PA	531291	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531311	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531312	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531307	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531287	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531288	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531309	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531308	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531305	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531306	12-Jan-06	Quad Cities
00072574	1347936	1153DB7PA	531310	12-Jan-06	Quad Cities
00076959 Rel 00048 Rev 001	1605741	1154SH9RA	531320	9-Jan-06	Braidwood
00076959 Rel 00051 Rev 001	1605161	1153GB7PA	531281	10-Jan-06	Dresden



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**FirstEnergy Corp**

Purchase Order	Sales Order	Model Number	Serial Number	Shlp Date	Site
45161422	1578530	1153DB5RAN0039	531362	12-Jan-06	Perry NPP
45161422	1578530	1153GB6PCN0016	531404	12-Jan-06	Perry NPP
45161422	1578530	1153GB6PCN0016	531405	12-Jan-06	Perry NPP
45161422	1578530	1153DB5RAN0039	531363	12-Jan-06	Perry NPP
45161422	1578530	1153DB5RAN0039	531360	12-Jan-06	Perry NPP
45161422	1578530	1153GB4PAN0016	531373	12-Jan-06	Perry NPP
45161422	1578530	1153GB7PCN0016	531402	12-Jan-06	Perry NPP
45161422	1578530	1153GB7PCN0016	531399	12-Jan-06	Perry NPP
45161422	1578530	1153GB7PCN0016	531400	12-Jan-06	Perry NPP
45161422	1578530	1153GB7PCN0016	531401	12-Jan-06	Perry NPP
45161422	1578530	1153DB5RAN0039	531361	12-Jan-06	Perry NPP
45161422	1578530	1153DB5RAN0039	531358	12-Jan-06	Perry NPP
45161422	1578530	1153DB5RAN0039	531359	12-Jan-06	Perry NPP
45161422	1578530	1153DB3PCN0016	531378	12-Jan-06	Perry NPP
45161422	1578530	1153GB7PCN0016	531409	12-Jan-06	Perry NPP
45161422	1578530	1153DB3PCN0016	531377	12-Jan-06	Perry NPP

**ATTACHMENT A: 10 CFR Part 21 Notification – 21 March 2006.**

**Florida Power and Light Co**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
00086581	1583570	1153DB5PB	531252	22-Dec-05	Turkey Point
00086581	1583570	1153DB5PB	531253	22-Dec-05	Turkey Point
00088593	1616851	1153DB5PB	531273	29-Dec-05	Turkey Point

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**Georgia Power Co**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
7068932	1607921	1154SH9RH	531278	10-Jan-06	Vogtle
7068932	1607921	1154SH9RH	531279	10-Jan-06	Vogtle

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**ATTACHMENT A: 10 CFR Part 21 Notification – 21 March 2006.**

**Nuclear Management Co LLC**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
P807937	1585748	1153DD5RAN0033	531254	28-Dec-05	Palisades

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**Public Service Electric and Gas**

Purchase Order	Sales Order	Model Number	Serial Number	Ship Date	Site
4500309896	1567442	1153HD5RAN0037	531258	22-Dec-05	Hope Creek