



Entergy Nuclear Northeast  
Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, NY 10511-0249  
Tel 914 734 6700

Fred Dacimo  
Site Vice President  
Administration

August 23, 2004

Re: Indian Point Units No. 2 and 3  
Docket No. 50-247 and 50-286  
NL-04-104

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

**SUBJECT: Reply to RAI regarding Relaxation Requests for Inspection of  
Reactor Pressure Vessel Head per NRC First Revised Order, EA-03-009**

- References:
1. NRC letter dated July 29, 2004, "Request for Additional Information Regarding Requests for Relaxation from Revised Order on Reactor Vessel Nozzles, Indian Point Generating Unit Nos. 2 and 3 (TAC Nos. MC3194 and MB3195)".
  2. Entergy letter to NRC (NL-04-060), "Relaxation Requests for Inspection of Reactor Pressure Vessel Head", dated May 19, 2004.

Dear Sir;

Entergy Nuclear Operations, Inc. (Entergy) is providing a response to the NRC request for additional information (RAI) in Reference 1 regarding proposed relaxation requests (Reference 2) for Indian Point 2 (IP2) and Indian Point 3 (IP3).

This letter addresses the additional information requested regarding Attachment 2 of Reference 2. The response to questions on Attachments 1 and 3 will be provided separately.

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at 914-734-6695.

Sincerely,

Fred R. Dacimo  
Site Vice President  
Indian Point Energy Center

cc: next page

A101

cc:

Mr. Patrick D. Milano, Senior Project Manager  
Project Directorate I,  
Division of Reactor Projects I/II  
U.S. Nuclear Regulatory Commission  
Mail Stop O 8 C2  
Washington, DC 20555

Mr. Hubert J. Miller  
Regional Administrator  
Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Resident Inspector's Office  
Indian Point Unit 2  
U.S. Nuclear Regulatory Commission  
P.O. Box 59  
Buchanan, NY 10511

Resident Inspector's Office  
Indian Point Unit 3  
U.S. Nuclear Regulatory Commission  
P.O. Box 337  
Buchanan, NY 10511

**ATTACHMENT 1 TO NL-04-104**

**REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION REGARDING  
RELAXATION REQUESTS FOR INSPECTION  
OF REACTOR PRESSURE VESSEL HEADS**

**ENTERGY NUCLEAR OPERATIONS, INC  
INDIAN POINT NUCLEAR GENERATING UNITS 2 AND 3  
DOCKETS 50-247 AND 50-286**

Request for additional information from NRC letter dated July 29, 2004 (Accession Number ML042110166)

Question regarding NL-04-60, Attachment 2:

The licensee stated that, although the reflective metal insulation support ring is removable, the other components of the insulation package supported by the support ring and the control rod drive mechanism cooling shroud would have to be removed first to achieve a 100 percent bare metal visual coverage of the RPV head.

Provide a detailed discussion that identifies the difficulties in removing the insulation, including the other components that would need to be removed. Provide sketches to show all the components that need to be removed in order to achieve a 100 percent bare metal coverage. Discuss any unique challenges posed by the removal of these components.

Reply:

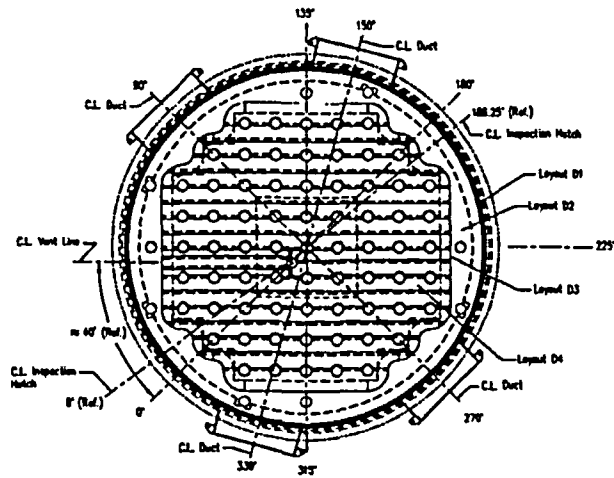
Removal of the reflective metal insulation (RMI) support ring is a challenging labor and dose intensive task. Based on experience gained in refueling outages 2R15 (Fall 2002) and 3R12 (Spring 2003) this work would take approximately 2500 man-hours and result in an estimated additional personnel exposure of 7 person-rem for Unit 2 and 3.5 person-rem for Unit 3. The primary steps for removal and replacement of the insulation are listed below.

1. Build scaffolding around the Reactor Pressure Vessel (RPV) Head.
2. Unbolt CRDM cooling shroud bolts. (18 bolts at the base of the shroud support ring).
3. Install rigging.
4. Lift the shroud approximately 4 feet high. Maintain it raised for entire evolution.
5. Establish laydown area for insulation panels.
6. Remove 18 insulation top panels.
7. Remove 24 top-side insulation panels.
8. Remove 24 lower-ring insulation panels.
9. Remove 24 support ring insulation panels.
10. Reverse sequence for re-installation of the entire insulation support package.

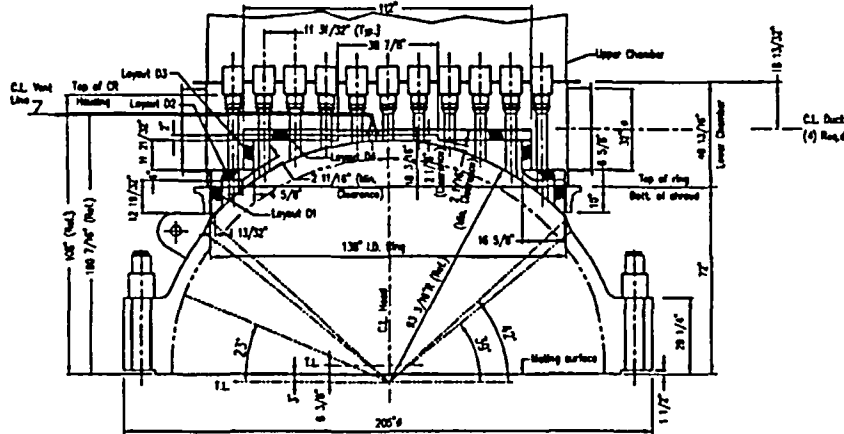
The RMI support ring insulation panels (item D1 on attached drawing) rest on the RPV head, downslope of the outermost penetration nozzles. This ring provides structural support for the entire insulation package. The RPV head surface obscured by this support ring is calculated at less than 5%, with inspection access from the upslope and downslope sides. Therefore the planned inspection will cover at least 95% of the RPV head surface. The attached drawing is typical for Indian Point 2 and Indian Point 3.

The NRC First Revised Order EA-03-009, allows "RPV heads with the surface obscured by support structure interferences which are located at RPV head elevations downslope from the outermost RPV head penetration, a bare metal visual inspection of no less than 95 percent of the RPV head surface provided that the examination shall include those areas of the RPV head upslope and downslope from the support structure interference to identify any evidence of boron or corrosive product."

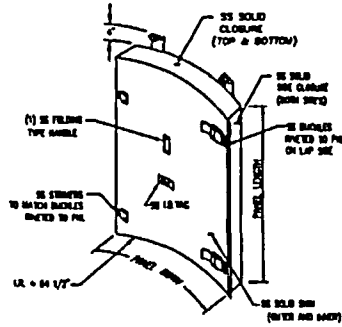
Removal of the entire insulation support package, as identified above, is a labor intensive activity and the additional stay-times by personnel in the radiation field required to perform the removal and re-installation task represents a hardship without a compensating increase in the effectiveness of the bare metal visual examination. However, if evidence of boron or corrosive product is identified under the RMI support ring, the examination will be expanded to cover the affected area under the interference.



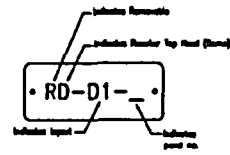
PLAN VIEW



ELEVATION VIEW



TYPICAL PANEL DETAIL FOR LAYOUT D1



TYPICAL MHX PANEL I.D. TAG (RIVETED TO MHX PANEL)

RPV TOP HEAD INSULATION DRAWING LIST

- RT-48768-R1 Key Layout
- RT-48768-R2 Layouts D1 & D2
- RT-48768-R3 Layouts D3 & D4
- RT-48768-SM1 Support Steel Assembly for Lay. D4

BILL OF MATERIALS	
MATERIAL	CRS No.
Stainless Steel 220A - 2B Finish	S-48-N
0.002" SS Foil	S-8A-N
Locking Buckle/Striker (Short Reach)	A-2H
Locking Buckle/Striker (Long Reach)	A-3H
Folding Handle	A-4H
Blind Rivets	A-5H
SS I.D. Tag	(Fabricated)

GENERAL NOTES

1. Insulation - 4" thick SS Reflective Panels (MR Panels)  
See individual layouts for total thickness
2. Metallic Reflective Ins.(MRI) panel construction (per ASTM C.667)  
22ga SS type 304 2B finish outer and inner shell  
27ga SS type 304 2B finish all void closures  
0.002 SS foil @ 3 layers per 1" panel th.
3. All panels are removable
4. Each panel shall have (1) SS folding type handle, SS long reach locking type buckle/striker (except Layout D1) and SS I.D. tag (unless otherwise noted)
5. Ref. Drawings: Combustion Eng. Inc. 234-040, 234-041, 234-048, 234-051  
Consolidated Edison Co. of N.Y. Inc. A242388-1 & A242387-1
6. The following dimensional tolerances shall be applicable:

Dimension	Tolerance
under 6'-0"	±1/16"
6'-0" to 8'-0"	±1/8"
8'-0" to 10'-0"	±3/16"
10'-0" to 15'-0"	±1/4"

P.O. No: 4500515653 C.O: 1

		TRANSCO Products, Inc. 40 S. Rotterdam Street, P.O. Box 609-0090, Danbury, CT 06810	
		Eastern Nuclear Operations, Inc. Indian Point 3 RPV Indian Point 3 NPS - Buchanan, N.Y. Westinghouse Electric Corp.	
		<b>TRANSCO PRODUCTS INC.</b> RPV Top Head (Dome) Insulation Key Layout	
1. Drawn by Andrew Stronach and Bill Dill 2. Checked by Andrew Stronach and Bill Dill 3. Reviewed by Andrew Stronach and Bill Dill	DATE: 11/15/83 11/15/83 11/15/83	DESIGNED BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature]	PART NO: QUANTITY: UNIT: RT-48768-R1 2