Entergy

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:

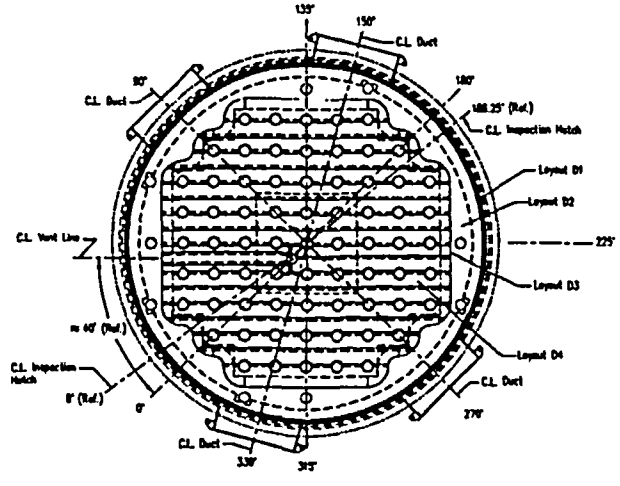
Removal of the reflective metal insulation (RMI) support ring is a challenging labor and dose intensive task. Based on experience gained in refueling outages 2R15 (Fall 2002) and 3R12 (Spring 2003) this work would take approximately 2500 man-hours and result in an estimated additional personnel exposure 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.

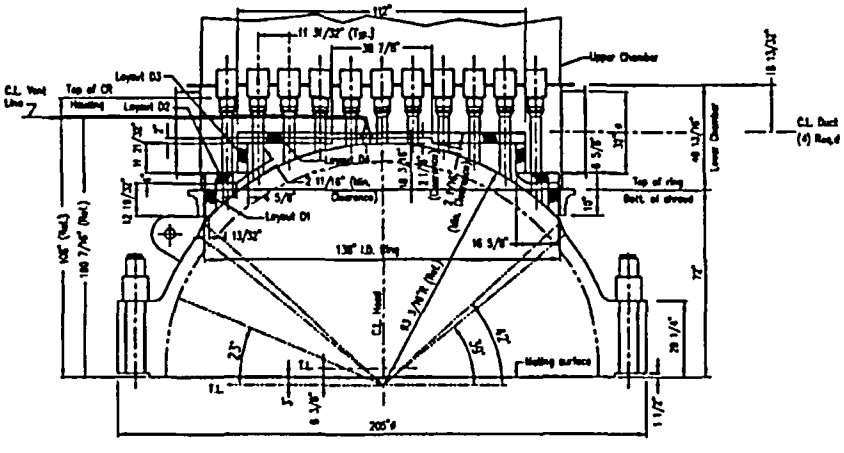
The RMI support ring insulation panels (item D1 on attached drawing) rest on the RPV head, downslope of the outermost penetration nozzles. This ring provides structural support for the entire insulation package. The RPV head surface obscured by this support ring is calculated at less than 5%, with inspection 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."

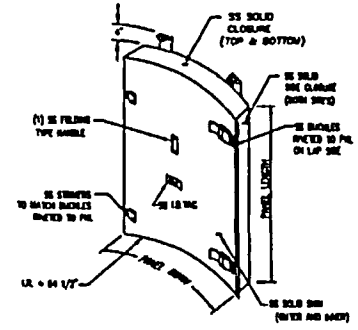
Removal of the entire insulation support package, as identified above, is a labor intensive activity and the additional stay-times by personnel in the radiation field required to perform the removal and re-installation task represents a hardship without a compensating increase in the effectiveness of 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

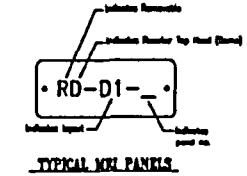


⚠⚠ ELEVATION VIEW



TYPICAL PANEL DETAIL FOR LAYOUT D1

LEGEND



TYPICAL MRI PANELS I.D. TAG (RIVETED TO MRI 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-SH1	Support Steel Assembly for Lay. D4

⚠ BILL OF MATERIALS

MATERIAL	CRS No.
Stainless Steel 22GA. - 2B Finish	S-48-N
0.002" SS Foil	S-8A-N
Locking Buckle/Striker (Short Reach)	A-2N
Locking Buckle/Striker (Long Reach)	A-3N
Folding Handle	A-4N
Blind Rivets	A-5N
SS I.D. Tag	(Fabricated)

GENERAL NOTES:

1. Insulation - 4" thick SS Reflective Panels (MRI 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 22ga.SS type 304 2B finish all solid closures 0.002 SS foil @ 3 layers per 1" panel thk.
3. All panels are removable
4. ⚠ Each panel shall have (1) SS folding type handle, SS long reach locking type buckles/strikers (except Layout D1) and SS I.D. tag (unless otherwise noted)
5. ⚠ *Ref. Drawings:* Combustion Engr. Inc. 234-040, 234-041, 234-048, 234-051 Consolidated Edison Co. of N.Y. Inc. A242386-1 & A242387-1
6. The following dimensional tolerances shall be applicable:

Dimensions	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

Customer	Entergy Nuclear Operations, Inc.
Project Name	Indian Point Unit 2 RPV
Location	Indian Point 2 NPS - Buchanan, N.Y.
Manufacturer	Westinghouse Electric Corp.

TRANSCO PRODUCTS INC.

RPV Top Head (Dome) Insulation
Key Layout

RT-48768-R1 2