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January 9, 2003  
NL-03-005

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop O-P1-17  
Washington, DC 20555-0001

SUBJECT: Indian Point Nuclear Generating Unit No.3  
Docket No. 50-286  
**Reply to Request for Additional Information Regarding  
Proposed Amendment for Selective Adoption of Alternate Source Term**

- References
1. NRC letter to Entergy Nuclear Operations, Inc; "Request for Additional Information Related to an Amendment to Implement an Alternative Source Term to the Fuel-Handling Accident," dated November 15, 2002.
  2. Entergy letter IPN-02-044 to NRC; Proposed Changes to Technical Specifications for Selective Adoption of Alternate Source Term," dated June 5, 2002.

Dear Sir:

This letter provides additional information requested by the NRC in Reference 1 regarding the subject proposed license amendment previously submitted in Reference 2. The requested information, provided in Attachment I, addresses questions regarding the supporting dose analysis and does not result in any changes to the proposed amendment. This information also does not alter the conclusions of the no significant hazards evaluation provided in Reference 2.

There are no new commitments identified in this letter. If you have any questions or require additional information, please contact Mr. Kevin Kingsley at 914-734-5581.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 1/9/03.

Very truly yours,

A handwritten signature in black ink, appearing to read "Fred Dacimo".

Fred Dacimo  
Site Vice President  
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cc: next page

A001

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**ATTACHMENT I TO NL-03-005**

**RESPONSE TO NRC QUESTIONS REGARDING  
PROPOSED LICENSE AMENDMENT REQUEST FOR  
SELECTIVE ADOPTION OF ALTERNATE SOURCE TERM**

**ENTERGY NUCLEAR OPERATIONS, INC.  
INDIAN POINT NUCLEAR GENERATING UNIT NO. 3  
DOCKET NO. 50-286**

**Question 1:**

Provide total fission product activities (iodines and noble gases) assumed in the fuel rod gap after 84 hours decay and available for release to the water surrounding the failed fuel assembly with or without applying fuel rod peaking factor.

**Response 1:**

The fission product activities available for release are based on the activities in the one fuel assembly that is assumed to be dropped. Table 5 of Attachment III of the amendment request (IPN-02-044, dated June 5, 2002) provides the fission product activities for the core, consisting of 193 fuel assemblies. The fission product activities available for release from the one damaged fuel assembly, without applying a fuel rod peaking factor, is obtained by dividing the values in Table 5 by 193. Multiply these values by 1.7 to obtain the activities available for release from a fuel assembly with the fuel rod peaking factor applied. The resulting activities are listed below.

Isotope	Activity without peaking factor (curies)	Activity with 1.7 peaking factor (curies)
I -131	3.40E+05	5.79E+05
I -132	3.12E+05	5.31E+05
I -133	5.70E+04	9.69E+04
I -134	5.65E-23	9.60E-23
I -135	1.28E+02	2.18E+02
Kr -85m	2.72E-01	4.63E-01
Kr -85	5.39E+03	9.16E+03
Kr -87	3.00E-15	5.11E-15
Kr -88	3.98E-04	6.76E-04
Xe -131m	4.83E+03	8.22E+03
Xe -133m	1.40E+04	2.38E+04
Xe -133	6.74E+05	1.15E+06
Xe -135m	2.06E+01	3.50E+01
Xe -135	3.86E+03	6.57E+03
Xe -138	0.00E+00	0.00E+00

**Question 2:**

In Section 2 of Appendix B to Regulatory Guide 1.183, the NRC staff stated that the iodine chemical species above the pool water (and released to the environment) is composed of 57% elemental and 43% organic. What did you assume in your radiological analysis?

**Response 2:**

Entergy assumed 70% elemental and 30% organic for the iodine chemical species above the pool water. This result was obtained using the decontamination factor assumptions specified in Regulatory Guide 1.183 for a pool depth that provides 23 feet of water above the damaged fuel assembly. Note that the filter efficiencies assumed in the analysis are the same for elemental and organic species. No credit for filtration is assumed for releases from the containment and the fuel storage building. The filtration efficiency assumed for the control room charcoal filters is 90% for both elemental and organic iodine. Therefore, a different chemical species composition would not result in a change in the dose results.