

SEP 10 1976

Docket Nos. 50-3/247/286

MEMORANDUM FOR: R. Reid, Chief  
Operating Reactors Branch No. 4, DOR

FROM: J. T. Collins, Chief  
Effluent Treatment Systems Branch, DSE

SUBJECT: ACCEPTANCE REVIEW OF THE APPENDIX I INFORMATION FOR  
INDIAN POINT UNIT NOS. 1, 2, AND 3

We have completed our review of the information provided by the licensee for Indian Point Station, Unit Nos. 1, 2, and 3, dated June 4, 1976, to meet the requirements of Section V.B of Appendix I to 10 CFR Part 50. The licensee has not provided all of the information needed to permit evaluation under Appendix I to 10 CFR Part 50. Information is needed concerning the source term calculation, radiological dose analyses and cost-benefit analysis as required by Section II.D of Appendix I.

The Radiological Assessment and the Effluent Treatment Systems Branches will need the information noted above before they can complete their acceptance review. The questions are enclosed. The Hydrology-Meteorology Branch finds that the information is satisfactory to complete their detailed evaluation.

ORIGINAL SIGNED BY  
JOHN T. COLLINS

John T. Collins, Chief  
Effluent Treatment Systems Branch  
Division of Site Safety and  
Environmental Analysis

Enclosure:  
Acceptance Review Questions

cc: K. Goller  
R. Vollmer  
W. Kreger  
L. Hulman  
F. Congel  
E. Markee  
B. Grimes  
T. Verdery

W. Burke  
R. Bellamy

Distribution:  
Docket Files 50-003/247/286  
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*Memo.*

OFFICE →	P. Erickson	DSE:ETSB	DSE:ETSB	DSE:ETSB		
x27775	DSE:ETSB	DSE:ETSB	DSE:ETSB	DSE:ETSB		
SURNAME →	RRBellamy:lw	WCBurke	JTCollins		8111050190 760910	
DATE →	09/10/76	09/10/76	09/10/76		ADOCK 05000003	
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REQUEST FOR ADDITIONAL INFORMATION  
INDIAN POINT STATION, UNIT NOS. 1, 2, AND 3  
DOCKET NOS. 50-3, 50-247, 50-286

1. If there is a prior knowledge that the current 50 mile population age distribution may be significantly different from the U.S. population distribution, then furnish the current age distribution of the 50 mile population (e.g., 0-12, 12-18, >18).
2. Provide in tabular form, the distances from the centerline of the first operational reactor for each of the 16 sectors described in Section 2.1.3 of Regulatory Guide 4.2 Revision 1, to the nearest vegetable garden (greater than 500 ft<sup>2</sup>) out to a distance of five miles.
3. Tabulate, for each compass point sector radiating from the center of the plant, the location of the nearest existing milk producing animals (cows and goats) within five miles of the site.
4. Provide data on annual meat (kg/yr), milk (liters/yr) and truck farming production (kg/yr) and distribution within a 50 mile radius from the reactor. Provide the data by sectors in the same manner indicated in Sections 2.1.3.1 and 2.1.3.2 of Regulatory Guide 4.2, Revision 1.
5. Furnish information on type, quantity and yield (kg/m<sup>2</sup>) of crops grown.
6. Provide information on grazing season (give dates), feeding regimes for cattle (such as grazing practices, green chop feeding, corn and grass silage feeding and hay feeding) pasture grass density (kg/m<sup>2</sup>) and yield statistics (kg/m<sup>2</sup>) for harvested forage crops for beef and dairy cattle feeding.
7. Determine and indicate in tabular format the present and projected commercial fish and shellfish catch (in lbs/yr) from contiguous waters within 50 miles of the plant discharge. Report the catch by total landings and by principal species, indicating the relative amounts used as human food. Indicate the location of principal fishing areas and ports of landing associated with these contiguous waters and relate these locations to harvest by species. Indicate the relative amounts consumed locally. Determine and tabulate the present and projected recreational fish and shellfish harvest from these waters in the same format, also indicating principal fishing areas and their yield by species. As above, indicate the relative amounts consumed locally. Include any harvest and use of seaweed, other aquatic life, or any vegetation used as human food from these waters. Identify and

describe any fish farms or similar aquatic activity within the 50 mile area utilizing water that may reasonably be affected by the power plant discharge. Indicate the species and production from each of these facilities and indicate the relative amounts consumed locally.

8. Identify any additional exposure pathways specific to the region around the site which could contribute 10% or more to either individual or population doses.
9. Annual Population Doses - Calculate, using the information provided in response to questions 1-8 above and any other necessary supporting data, the annual total-body man-rem and the annual man thyroid-rem to the population expected to reside in the 50 mile region at the midpoint of plant operation as well as the annual total body man-rem and the annual man thyroid-rem received by the U.S. population at the same time from all liquid and gaseous exposure pathways. Provide as an appendix to your response a description of the models and assumptions used in these calculations.
10. Provide detailed cost estimate sheets, similar to attachments A and B, listing all parameters (and their bases) used in determining capital, operating, and maintenance costs associated with all augments considered in the cost-benefit analysis. All costs should be stated in terms of 1975 dollars.
11. Provide the cost of borrowed money used in the cost analysis and the method of arriving at this cost.
12. Describe the methods and parameters used in the cost-benefit analysis as outlined in Regulatory Guide 1.110 and provide bases for all parameters. Include the following information:
  - a. Decontamination factors assigned to each augment and fraction of "on-line" time assumed, i.e., hours per year used.
  - b. Parameters and method used to determine the Indirect Cost Factor and the Capital Recovery Factor.
13. Provide the information requested in Appendix B of Regulatory Guide 1.112.

# ATTACHMENT A

## TOTAL DIRECT COST ESTIMATE SHEET

Description of Augment \_\_\_\_\_

DIRECT COST (1975 \$000)

ITEM	LABOR	EQUIPMENT/MATERIALS	TOTAL	BASIS FOR COST ESTIMATE
1. Process Equipment				
2. Building Assignment				
3. Associated Piping Systems				
4. Instrumentation & Controls				
5. Electrical Service				
6. Spare Parts				
SUBTOTAL				
7. Contingency				
8. TOTAL DIRECT COSTS				

# ATTACHMENT B

## ANNUAL OPERATING AND MAINTENANCE COST ESTIMATE SHEET

Description of Augment \_\_\_\_\_

COST (1975 \$000)

ITEM	LABOR	OTHER	TOTAL	BASIS FOR COST ESTIMATE
1. Operating Labor, Supervisory and Overhead				
2. Maintenance Material and Labor				
3. Consumables, Chemicals and Supplies				
4. Utilities & Services Waste Disposal Water Steam Electricity Building Services Other				
5. TOTAL O & M ANNUAL COST				