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INDIAN POINT 2 SUB-SYSTEM DECONTAMINATIONS

Keywords: CONTAMINATION REMOVAL; DECONTAMINATION; SUBSYSTEM DECONTAMINATION; PARTIAL SYSTEM DECONTAMINATION; CAN-DREM/AP; CITROX/AP; COBALT REMOVAL; RECONTAMINATION; PWR

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Project Manager:

Objectives:

- I. Outline sub-system decontaminations experience at:
 - A) Indian Point 2 residual heat removal system
 - B) Indian Point 1 steam generators
- II. Discuss recontamination rates at Indian Point 2's Regenerative Heat Exchanger, which was first decontaminated in 1989.

Comments:

Indian Point 2 residual heat removal system:

- A five step Can-Drem/AP decontamination process was used.
- One unusual feature was that the Co-58 and Co-60 were not removed until the anion resin was used at the end of the process. The cation resin did not remove the cobalt.
- It may not be worth the cost to perform a 4th and 5th step, since 75% of the activity was removed after the 1st step.
- An auxiliary pump was installed that injected a 0.1 gpm flow rate into the RHR pump seals during the decon in order to avoid pumping decon chemicals into or through the RHR seals.

Indian Point 1 steam generators (in safe store mode since 1974):

- Used a five step CitroX/AP decon process.
- The decon chemicals were able to be reused on the 2nd pair of SG after the 1st pair were decontaminated due to the regenerative nature of the CitroX process.
- To simplify matters, the electrical power to operate the decon equipment was obtained via a cable from a reactor coolant pump.
- The asbestos insulating material on the SGs were found to be a problem.

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Remarks/Potential for dose limitation:**Indian Point 2:**

- The average exposure rate was 105 mrem/hr before and 7.1 mrem/hr after the decon.
- Approximately 30 rem was avoided during the 1993 outage due to the decontamination.
- The recontamination rate is being tracked between now and the next outage in 1995.

Indian Point 1:

- On the first pair of SGs 39 curies of Co-60 were removed.
- On the second pair 49 curies were removed.
- The final decontamination factor was approximately 4.

References: Parry, John O. "Indian Point 2 Sub-System Decontaminations," *Fifth Workshop on Chemical Decontamination*, pp. 15.1-15.22, Electric Power Research Institute, Charlotte, North Carolina, 1993.

Duration: from: 1992 to: 1993**Funding:** N/A**Status:** Completed**Last Update:** September 23, 1993