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November 18, 1976

Re: Indian Point Unit No. 2  
Docket No. 50-247

**Regulatory Docket File**

Director of Nuclear Reactor Regulation  
ATTN: Mr. Robert W. Reid, Chief  
Operating Reactors Branch No. 4  
Division of Operating Reactors  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555



Dear Mr. Reid:

By letter dated October 26, 1976, Con Edison provided the Commission with its program to investigate the possible existence in Indian Point Unit No. 2 of conditions believed to have led to a steam generator tube failure at Surry Unit No. 2. That program included a shutdown of Indian Point Unit No. 2 on October 29, 1976 to perform eddy current examinations of rows 2 through 5 around U-bends in steam generators # 23 and # 24, and observation and measurement of flow slots in the uppermost tube support plate of steam generator # 22.

These examinations and measurements have been completed. The results of the eddy current examinations indicate no defects through the U-bends in rows 2 through 5 of the steam generators examined. (All row 1 tubes were previously plugged in each steam generator). Results of upper tube support plate flow slot measurements in steam generator # 22, presented in Attachment A, indicate no discernible "hourglassing", and therefore that the postulated mechanism of excessive tube U-bend straining during operation is absent.

As a result of these inspections, there is no evidence in the Indian Point Unit No. 2 steam generators of the conditions that resulted in failure of a steam generator tube in Surry Unit No. 2, and no need for a program of corrective action. The inspections demonstrate the steam generators are acceptable for continued service.

Con Edison hereby requests the Commission's concurrence in promptly returning the unit to service. The unit will be ready to resume operation on November 26, 1976.

Very truly yours,

*Carl L. Newman*

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Vice President



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## Attachment A

### Results of Flow Slot Measurements

#### 1. General Description of Measurement

To obtain access for measurement of flow slot edge straightness, a 7/16 - inch diameter hole was drilled through the shell and tube bundle wrapper of steam generator # 22 about 1/2" above the uppermost tube support plate approximately in line with the centerline of the tube lane.

The three flow slots closest to the hole were investigated. At positions 1 - inch apart along each long side of the slots, the location of the upper edge of the slot was detected by means of an adjustable probe completing an electrical circuit.

Prior to making actual measurements, the effectiveness of the method was confirmed by measurements taken on a shop mockup assembly.

#### 2. Results:

Table A.1 indicates the measured variation of the slot edge for slots # 1 and # 2, respectively. (# 1 being closest to vessel wall). Data for slot # 3 is still being processed, however a photograph showing slot # 3 is given in Figure A.1.

The data at each position represent the results of repeated series of measurements. The results indicate no departure from straightness beyond the variations expected in a flame - cut edge.

Table A.1

Flow Slot Edge Parallism

<u>Measurement Point</u> <u>(1-inch Axial Intervals)</u>	<u>Indicated Slot width (in.)</u>	
	Slot # 1	Slot # 2
1	2 51/64	2 25/32
2	2 51/64	2 25/32
3	2 25/32	2 25/32
4	2 25/32	2 25/32
5	2 25/32	2 25/32
6	2 25/32	2 25/32
7	2 25/32	2 25/32
8	2 25/32	2 25/32
9	2 25/32	2 25/32
10	2 51/64	2 25/32
11	2 51/64	2 51/64
12	2 13/16	2 26/32
13	2 13/16	2 26/32

The maximum width deviation for each slot is 1/32-inch, which is less than the accuracy of measurement,  $\pm 1/16$  -in.