Indian Point 3
Nuclear Power Plant
P.O. Box 215
Buchanan, New York 10511
914 736.8001

New York Power Authority

L. M. Hill
Site Executive Officer

February 16, 1996
IPN-96-014

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

SUBJECT: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
License No. DPR-64
Licensee Event Report # 96-001-00,
"Auxiliary Component Cooling Water Pump Inoperability Placed the Plant In A Condition Considered Prohibited by Technical Specifications And Made Two Trains Of Recirculation Pumps Technically Inoperable Due to a Mismatch Between the Original Design and Technical Specifications Limiting Condition For Operation."

Dear Sir:

The attached Licensee Event Report (LER) 96-001-00 is hereby submitted as required by 10CFR50.73. This event is of the type defined in 10CFR50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(vii). Also, attached is the commitment made by the Authority in this LER.

Very truly yours,

for L. M. Hill
Site Executive Officer
Indian Point 3 Nuclear Power Plant

Attachment
cc: See next page

JE22

cc: Mr. Thomas T. Martin
Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

INPO Record Center
700 Galleria Parkway
Atlanta, Georgia 30339-5957

U.S. Nuclear Regulatory Commission
Resident Inspectors' Office
Indian Point 3 Nuclear Power Plant

Attachment I
List of Commitments

Number	Commitment	Due
IPN-96-014-01	Engineering will ensure either a Technical Specification Amendment to the ACCW limiting condition for operation is submitted or a change to the ACCW power scheme is completed prior to the end of the next refueling outage. Either one of these actions will ensure that the design and the Technical Specification match.	Prior to the end of the next Refueling Outage (RO-9)

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Indian Point Unit 3	05000286	1 OF 5

TITLE (4) Auxiliary Component Cooling Water Pump Inoperability Placed the Plant In A Condition Considered Prohibited by Technical Specifications And Made Two Trains Of Recirculation Pumps Technically Inoperable

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	17	96	96	001	00	02	16	96	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N
POWER LEVEL (10)	000

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)

	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)
	20.405(a)(1)(ii)		50.36(c)(2)	✓	50.73(a)(2)(vii)		OTHER
	20.405(a)(1)(iii)	✓	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)	
	20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)		
	20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Dennis J. Celentano, Licensing Specialist	(914) 736-8033

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE).	✓ NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On January 17, 1996, with the unit in cold shutdown, it was discovered that, on two occasions in the past, an auxiliary component cooling water (ACCW) pump was inoperable for greater than twenty-four hours when required to be operable. This is considered a condition prohibited by the Technical Specifications because the intent of the limiting condition for operation (LCO) was not met. This is also considered a condition that technically rendered two trains of recirculation inoperable in that single failure was not assured during the inoperability. The cause of this event is that the original design of the ACCW pumps power scheme and the LCO do not match. The LCO only specifies action when two ACCW pumps per recirculation pump are inoperable. This allows unlimited inoperability of the particular ACCW pump that is required to meet single failure criteria for its recirculation pump. The ACCW support function is required to provide cooling flow to the internal recirculation pump motors after safety injection actuation. The event had no significant effect on the health and safety of the public because, without the recirculation pumps, the safety functions would have been accomplished with the residual heat removal pumps. Corrective actions include applying an administrative control specifying the one required ACCW pump per train to meet the LCO, performing an extent of condition review, and performing a design change to the ACCW pump power scheme or submitting a Technical Specification Amendment prior to the end of the next refueling outage.

Note: The Energy Industry Identification System codes are identified within brackets{ }.

DESCRIPTION OF THE EVENT

On January 17, 1996, with the unit in cold shutdown, it was discovered that on two occasions in the past, number 31 auxiliary component cooling water pump (ACCW) {CC} was inoperable for greater than twenty-four hours. An NRC resident inspector, upon review of the ACCW pumps' maintenance history, presented to Licensing that maintenance was performed on #31 ACCW pump via work orders during the years 1991 and 1992, numbered 27761 and 92-03772-00 respectively. Licensing initiated a Deviation Event Report (DER), numbered 96-0097, to document the discovery and to identify that a previous related DER, numbered 95-2863, was closed without addressing potential reportability for the ACCW pumps' past operation. Corrective action for the incomplete closure of DER-2863 that caused the delay in discovery of reportability will be addressed as part of DER 96-0097.

The previous DER 95-2863 identified that the original design of the power scheme to the ACCW pumps did not meet single failure criteria upon a loss of power upstream of their motor control centers (MCC-36A and MCC-36B) {ED} without applying a limiting condition for operation (LCO) on a particular ACCW pump per recirculation pump {BP}. The Technical Specification (TS) requires only one unspecified ACCW pump per recirculation pump to be operable above cold shutdown condition. The TS specifies an LCO action statement for inoperability of two ACCW pumps associated with each recirculation pump. The two supporting ACCW pumps for each recirculation pump are powered from different MCCs and respectively from different 480 volt buses {EK}. Since one ACCW pump of each recirculation train is powered by the same bus as is the other recirculation pump, then in a particular case, loss of a 480 volt bus can affect two trains of recirculation when coupled with an inoperable ACCW pump. Therefore, single failure criteria is not assured if a particular one of the two ACCW pumps for each of the recirculation pumps is inoperable coupled with a single failure on the other 480 volt safety bus. Number 31 and 34 ACCW pumps are the only ACCW pumps that can ensure single failure criteria is met because they are powered by the same 480 volt bus as the supported recirculation pump.

A review was performed of the maintenance database files going back many years for 31 and 34 ACCW pumps. Two completed work requests were found to affect the operability of the pumps when they were required. One maintenance work request numbered 27761 presents that 31 ACCW pump was inoperable from approximately August 14, 1991 through August 20, 1991. For the other maintenance work request numbered 92-03772-00, the control room log presents that 31 ACCW pump was inoperable from October 30, 1992 through December 9, 1992.

The IP3 Final Safety Analysis Report (FSAR) section 6.2.3, "Design Evaluation, Single Failure Analysis," identifies consideration for all credible active system failures and the worst case single active failure (generally a pump failure). The FSAR Table 6.2-7 item B considered that two pair of ACCW pumps assures that at least one per pair will be operating during the injection phase. Table 6.2-7 item E considered that with the loss of one of the three emergency diesels at least one recirculation pump will be available to operate. The FSAR section 6.2.2, "System Design and Operation," presents that the residual heat removal pumps {BP} provide backup recirculation capability and the system is arranged to allow either of the residual heat removal pumps to take over the recirculation function.

The FSAR section 9.3.2, "Auxiliary Component Cooling Pumps," presents that a minimum of two of the four ACCW pumps are automatically started during the injection phase to protect the internal recirculation pump motors from the containment atmosphere. The Design Basis Document (DBD) IP3-DBD-308, "Component Cooling Water," section 3.2.2 presents that the ACCW pumps provide cooling flow to the recirculation pump motors following safety injection actuation. The DBD section 3.2.3, "Design Basis Requirements," references "Safety Evaluation for an Ultimate Heat Sink Temperature Increase," (WCAP-12313) that says at least one ACCW pump on each header should be left operating during the recirculation phase of a loss of coolant accident to ensure adequate cooling to the recirculation pump motor coolers.

CAUSE OF THE EVENT

The cause of this event is that the original design of the ACCW pumps power scheme and the original TS LCO do not match. The apparent cause was personnel error when the design was not properly translated into the TS in a manner that considered single failure upstream of the motor control centers.

CORRECTIVE ACTIONS

Licensing issued a Technical Specification Interpretation to administratively control the application of the TS LCO statement to the appropriate ACCW pumps for the recirculation pumps until the design or TS LCO statement is changed. This action is complete.

Engineering performed an extent of condition review to look at a sample of similar support components like the ACCW pumps. The review looked at components on three essential safety related motor control centers (MCC-36A, MCC-36B, MCC-36C) and the components they functionally support. Based on this evaluation (IP3-RPT-ED-01753, rev. 0), no other conditions prohibited by Technical Specifications were identified. Some administrative procedural changes will be implemented to clarify controls. This extent of condition review is complete.

Engineering will ensure either a Technical Specification Amendment to the ACCW limiting conditions for operation is submitted or a change to the ACCW power scheme is completed prior to the end of the next refueling outage. Either one of these actions will ensure that the design and the Technical Specifications match.

ANALYSIS OF THE EVENT

This event is considered a condition prohibited by the Technical Specifications because the intent of the limiting conditions for operation (LCO) was not met. The intent of the LCO is to assure reasonable time to affect repairs and return the equipment to operable status reinstating the single failure capability. If the equipment is not returned to operable status within the LCO time, then the plant must be placed in the condition not requiring the equipment. In this case, even though there was literal compliance with the LCO, the intent was not met because of the designed power scheme and the inoperability of 31 ACCW beyond twenty-four hours when plant conditions required the ACCW support function. The plant was considered to be in a condition prohibited by Technical Specification for approximately five consecutive days in the year 1991 and for approximately thirty-nine consecutive days in the year 1992 beyond the twenty-four hour LCO time. Therefore, this event is reportable under 10 CFR 50.73(a)(2)(i)(B).

The event is also reportable under 10 CFR 50.73(a)(2)(vii) where a single condition caused two independent trains of recirculation to be considered technically inoperable (i.e., not able to meet single failure criteria) in a single system.

A condition similar to this event exists where one of the two redundant diesel room exhaust fans providing an essential support function to a diesel was not powered by the same bus. When the fan that is powered by its associated diesel is inoperable with no LCO applied, and a loss of power occurs on another bus making the redundant fan inoperable, this renders the second diesel inoperable. Administrative controls were applied and the event was reported in Licensee Event Report numbered 95-015-01, dated September 26, 1995.

SAFETY SIGNIFICANCE

The design basis of the plant for the recirculation pumps is to provide a reactor core cooling function and containment spray cooling function during the recirculation phase of the postulated loss of coolant accident. These safety functions were assured with the residual heat removal pumps as designed alternates. The residual heat removal pumps limiting condition for operation is controlled by the Technical Specifications. Based on a review of the control room log for the durations of this event, the operation of the residual heat removal pumps were in compliance with the Technical Specifications limiting conditions for operation. Therefore, this event had no significant effect on the health or safety of the public.