



Indian Point Energy Center
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J.E. Pollock
Site Vice President
Administration

July 10, 2008

Re: Indian Point Unit 2
Docket 50-247

NL-08-106

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Reply to Request for Additional Information Regarding Surveillance Requirements For ECCS Valves Required to be in Position with Power to the Valve Operator Removed (TAC MD7501)

- References:
1. NRC letter dated June 19, 2008, "Request for Additional Information Regarding Amendment Application for Emergency Core Cooling System Valve Surveillance Requirements (TAC No. MD7501).
 2. Entergy letter NL-07-104 dated December 13, 2007 regarding "License Amendment Request Regarding Surveillance Requirements For ECCS Valves Required to be in Position with Power to the Valve Operator Removed"

Dear Sir or Madam:

Entergy Nuclear Operations, Inc (Entergy) is providing the additional information requested in Reference 1 regarding the proposed technical specification changes (Reference 2) for the Surveillance Requirements for Emergency Core Cooling System (ECCS) valves required to be in position with power to the valve operator removed

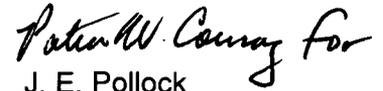
The responses to questions are provided in Attachment 1. The conclusions of the No Significant Hazards Evaluation documented in Reference 2 are not changed by the additional information provided in this response.

A002
NRR

There are no new commitments identified in this submittal. If you have any questions or require additional information, please contact Mr. R. Walpole, Manager, Licensing at (914) 734-6710.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 7-10-08.

Sincerely,



J. E. Pollock
Site Vice President
Indian Point Energy Center

Attachments: 1. Reply to NRC Request for Additional Information Regarding Amendment Application for Emergency Core Cooling System Valve Surveillance Requirements

Enclosure: 1. Drawings A235296 Rev 69, 9321-F-2735 Rev 139, and A251783 Rev 29

cc: Mr. John P. Boska, Senior Project Manager, NRC NRR
Mr. Samuel J. Collins, Regional Administrator, NRC Region I
Mr. Mark Cox, NRC Senior Resident Inspector, IP2
Mr. Paul D. Tonko, President, NYSERDA
Mr. Paul Eddy, New York State Dept. of Public Service

ATTACHMENT 1 TO NL-08-106

**REPLY TO NRC REQUEST FOR ADDITIONAL INFORMATION
REGARDING
AMENDMENT APPLICATION FOR EMERGENCY CORE COOLING SYSTEM
VALVE SURVEILLANCE REQUIREMENTS**

**ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET 50-247**

Response To Request For Additional Information

In a letter dated December 13, 2007 (ADAMS Accession No. ML073540519), Entergy Nuclear Operations, Inc. (Entergy), submitted an application for a proposed amendment to the Technical Specifications (TS) and license for Indian Point Nuclear Generating Unit No. 2 which would change the surveillance requirements for a portion of the emergency core cooling system (ECCS) valves. The NRC requested additional information in a letter dated June 19, 2008 (ADAMS Accession No. ML081650521). The Nuclear Regulatory Commission staff questions and the Entergy responses are as follows:

Question 1

Please provide flow diagrams for the systems in which the subject seven valves are located. Identify the valves in the diagrams.

Response

Enclosure 1 contains three drawings. Drawing A235296 has been marked to show the locations of valves 856A, 856C, 856D and 856E which are proposed to be removed from the Technical Specification. Drawing 9321-F-2735 has been marked to show the locations of valves 1870 and 883 which are proposed to be added. Drawing A251783 has been marked to show the locations of valves 883, 1870 and 743 which are proposed to be added.

Question 2

If the high-head branch line stop valves are set to the open position, with power removed, and not regularly surveilled, then how can the inadvertent closure of one of these valves be assumed as the single failure in a LOCA analysis? Would this not be an undetected operator error; unrelated to the LOCA?

Response

Branch Technical Position 8-4, "Application of the Single Failure Criterion to Manually Controlled Electrically Operated Valves" (formerly BTP ICSB 18) identified the NRC position on how to address a single failure in an electrical system that could cause loss of capability to perform a safety function. "When it is determined that failure of an electrical system component can cause undesired mechanical motion of a valve or other fluid system component, and this motion results in loss of the system safety function, it is acceptable, in lieu of design changes that also may be acceptable, to disconnect power to the electric systems of the valve or other fluid system component." Surveillance Requirement (SR) 3.5.2.1 notes that it is applicable to valves whose misalignment could render more than one ECCS train inoperable and the position of the valves are verified every seven days.

The four high-head branch line stop valves being removed from the Technical Specifications (TS) are set to the open position but power need not be removed since the inadvertent operation does not result in loss of more than one ECCS train. Therefore, since these valves are not locked, sealed or otherwise secured in position, they are verified to be in the correct position every 31 days in accordance with SR 3.5.2.2. There would be no undetected operator error unrelated to the LOCA.

Question 3

If one of these valves can be inadvertently closed, then why not more than one? Why not all?

Response

SR 3.5.2.1 requires the position of manually operated valves that could cause loss of capability to perform a safety function given a single electrical system failure to be verified in the correct position every 7 days. SR 3.5.2.2 requires manual, power operated, and automatic valves in the ECCS flow path that are not locked, sealed or otherwise secured in position, to be verified in the correct position every 31 days. These time frames are considered reasonable given that the valves are under administrative controls that will ensure a mispositioned valve is unlikely. Additionally, the high-head branch line stop valves are located in Containment where access is limited.

Question 4

If an HH branch line stop valve is closed, then its branch line becomes inoperable, since it is incapable of performing its design function. How would this inoperable status be detected?

Response

The high-head branch line stop valves all have position indication in the control room and the operators are familiar with required positions. In addition, there are surveillance requirements to verify position every 31 days.

Question 5

If an HH branch line stop valve is found closed, is there a controlled procedure to re-open it within 72 hours? If yes, then what is it?

Response

The high-head hot leg (856B and F) valves are required to be closed. The remaining cold leg valves (856A, C, D and E) are required to be open. Operations procedures 2-COL-10.0 (Rev 39) for locked safeguards valves prescribe the valves to be locked in the indicated positions and would allow immediate repositioning. Operations procedure 2-COL-10.1 .1 (Rev 31) for the position of safety injection system valves also includes these valves.

Question 6

The 72 hours of allowed outage is based upon the results of an SAI study (LAR Reference 5) of the Surry plant. The report noted (1) "the Surry plant ECCS is rather atypical of most PWRs", and (2) "recent changes to the Surry plant, particularly power lockout of some

valves, are not reflected". Justify the applicability of LAR Reference 5 to Indian Point Unit 2, with the four HH branch line stop valves locked open.

Response

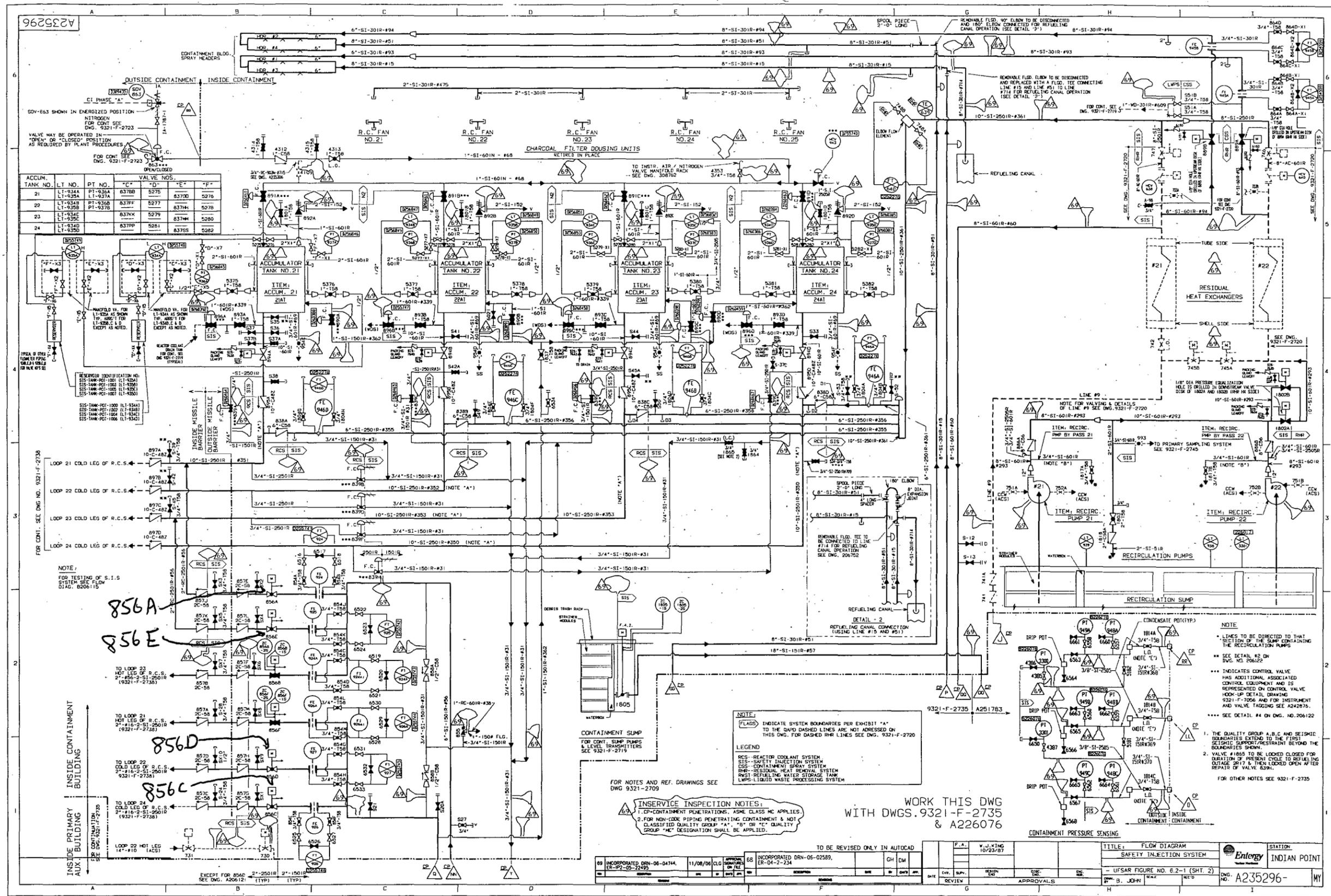
The proposed TS change will remove four high-head cold leg branch line stop valves from the requirement to remove power while in an open position. The valves are not required to be locked in position when the SR 3.5.2.2 verifies the position. This is allowed when a single failure cannot cause loss of more than one ECCS train. The 72 hour allowed outage time of Condition A is therefore applicable to Indian Point 2 (IP2) since it defines the reasonable time frame for which no additional single failure is to be applied. IP2 has applied the BTP 8-4 positions and identified the valves that could cause loss of more than one safety function. Failure to meet SR 3.5.2.1 requires entry into Condition C which requires immediate entry into LCO 3.0.3 to shut the plant down.

The NRC approved NUREG 1431 and referenced the SAI study of the Surry plant as a reasonable basis to support the Allowed Completion Time of 72 hours for Condition A. The NRC also approved Condition C which addressed the power lockout changes. Since the IP2 proposed TS is consistent with the NUREG 1431 philosophy, the 72 hour Allowed Outage Time is justified.

ENCLOSURE 1 TO NL-08-106

DRAWINGS A235296 REV 69, 9321-F-2735 REV 139, AND A251783 REV 29

**ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT NUCLEAR GENERATING UNIT NO. 2
DOCKET 50-247**



A235296

ACCUM. TANK NO.	LT. NO.	DT. NO.	VALVE NOS.
21	LT-934A LT-935A	PT-934A LT-937A	5275 8370D 5276
22	LT-934B LT-935B	PT-934B LT-937B	837FF 837H 5278
23	LT-934C LT-935C	PT-934C LT-937C	837KK 5279 837M 5280
24	LT-934D LT-935D	PT-934D LT-937D	837PP 5281 837SS 5282

NOTE:
FOR TESTING OF S.I.S.
FLOW
S.I.S. 8206115

856A
856E

856D
856C

NOTE:
PLANS INDICATE SYSTEM BOUNDARIES PER EXHIBIT "A" TO THE DASHED LINES ARE NOT ADDRESSED ON THIS DWG. FOR DASHED RHR LINES SEE DWG. 9321-F-2720

LEGEND:
RCS - REACTOR COOLANT SYSTEM
SIS - SAFETY INJECTION SYSTEM
CSS - CONTAINMENT SPRAY SYSTEM
RWS - RESIDUAL HEAT REMOVAL SYSTEM
RWS - REFUELING WATER STORAGE TANK
LWPS - LIQUID WASTE PROCESSING SYSTEM

INSERVICE INSPECTION NOTES:
1. TOP-CONTAINMENT PENETRATIONS, ASME CLASS MC APPLIES.
2. FOR NON-CODE PIPING PENETRATING CONTAINMENT & NOT CLASSIFIED QUALITY GROUP "A", "B" OR "C" QUALITY GROUP "MC" DESIGNATION SHALL BE APPLIED.

WORK THIS DWG WITH DWGS. 9321-F-2735 & A226076

TO BE REVISED ONLY IN AUTOCAD		F.A. W.J.MHG 10/23/07		TITLE: FLOW DIAGRAM SAFETY INJECTION SYSTEM		STATION: INDIAN POINT	
68	INCORPORATED DRN-08-0474A, ER-02-05-22495	11/08/06	CLG	APPROVED ON DATE	68	INCORPORATED DRN-06-02589, ER-04-2-234	GH
DATE	REVISION	BY	CHK	APP	DATE	REVISION	BY

NOTE:
* LINES TO BE DIRECTED TO THAT SECTION OF THE SLUMP CONTAINING THE RECIRCULATION PUMPS
** SEE DETAIL #4 ON DWG. NO. 206122
*** INDICATES CONTROL VALVE HAS ADDITIONAL ASSOCIATED CONTROL EQUIPMENT AND IS REPRESENTED ON CONTROL VALVE HOOR-UP DETAIL DRAWING 9321-F-7006 AND FOR INSTRUMENT AND VALVE TAGGING SEE 242876.
**** SEE DETAIL #4 ON DWG. NO. 206122

1. THE QUALITY GROUP A, B, C AND SEISMIC BOUNDARIES EXTEND TO THE FIRST SEISMIC SUPPORT/RESTRAINT BEYOND THE BOUNDARIES SHOWN.
2. VALVE #1865 TO BE LOCKED CLOSED FOR DURATION OF PRESENT CYCLE TO REFUELING OUTAGE 2017 & THEN LOCKED OPEN AFTER REPAIR OF VALVE 639H.

FOR OTHER NOTES SEE 9321-F-2735

INSIDE PRIMARY AUX. BUILDING

INSIDE CONTAINMENT BUILDING

OUTSIDE CONTAINMENT SPRAY HEADERS

CONTAINMENT BLDG. NITROGEN FOR CONT. SEE DWG. 9321-F-2723

VALVE MAY BE OPERATED IN "OPEN" OR "CLOSED" POSITION AS REQUIRED BY PLANT PROCEDURES.

RECEIVED IDENTIFICATION NO. SIS-TANK-1001 (LT-934A) SIS-TANK-1002 (LT-934B) SIS-TANK-1003 (LT-934C) SIS-TANK-1004 (LT-934D) SIS-TANK-1005 (LT-935A) SIS-TANK-1006 (LT-935B) SIS-TANK-1007 (LT-935C) SIS-TANK-1008 (LT-935D)

MANHOLE IN FOR 1 1/2" DIA. 45 SHOWN. TIP. ABOVE TIP. EXCEPT AS NOTED.

LOOP 21 COLD LEG OF R.C.S. 10-C-482A
LOOP 22 COLD LEG OF R.C.S. 10-C-482B
LOOP 23 COLD LEG OF R.C.S. 10-C-482C
LOOP 24 COLD LEG OF R.C.S. 10-C-482D

FOR CONT. SEE DWG. NO. 9321-F-2735

TO LOOP 21 HOT LEG OF R.C.S. 2"-416-2-SI-2501R (9321-F-2735)

TO LOOP 22 COLD LEG OF R.C.S. 2"-416-2-SI-2501R (9321-F-2735)

TO LOOP 24 COLD LEG OF R.C.S. 2"-416-2-SI-2501R (9321-F-2735)

EXCEPT FOR 856D SEE DWG. APPROX. (TYP)

CONTAINMENT SLUMP FOR CONT. SLUMP PUMPS & LEVEL TRANSMITTERS SEE 9321-F-2719

FOR NOTES AND REF. DRAWINGS SEE DWG. 9321-2709

INSERVICE INSPECTION NOTES:

1. TOP-CONTAINMENT PENETRATIONS, ASME CLASS MC APPLIES.

2. FOR NON-CODE PIPING PENETRATING CONTAINMENT & NOT CLASSIFIED QUALITY GROUP "A", "B" OR "C" QUALITY GROUP "MC" DESIGNATION SHALL BE APPLIED.

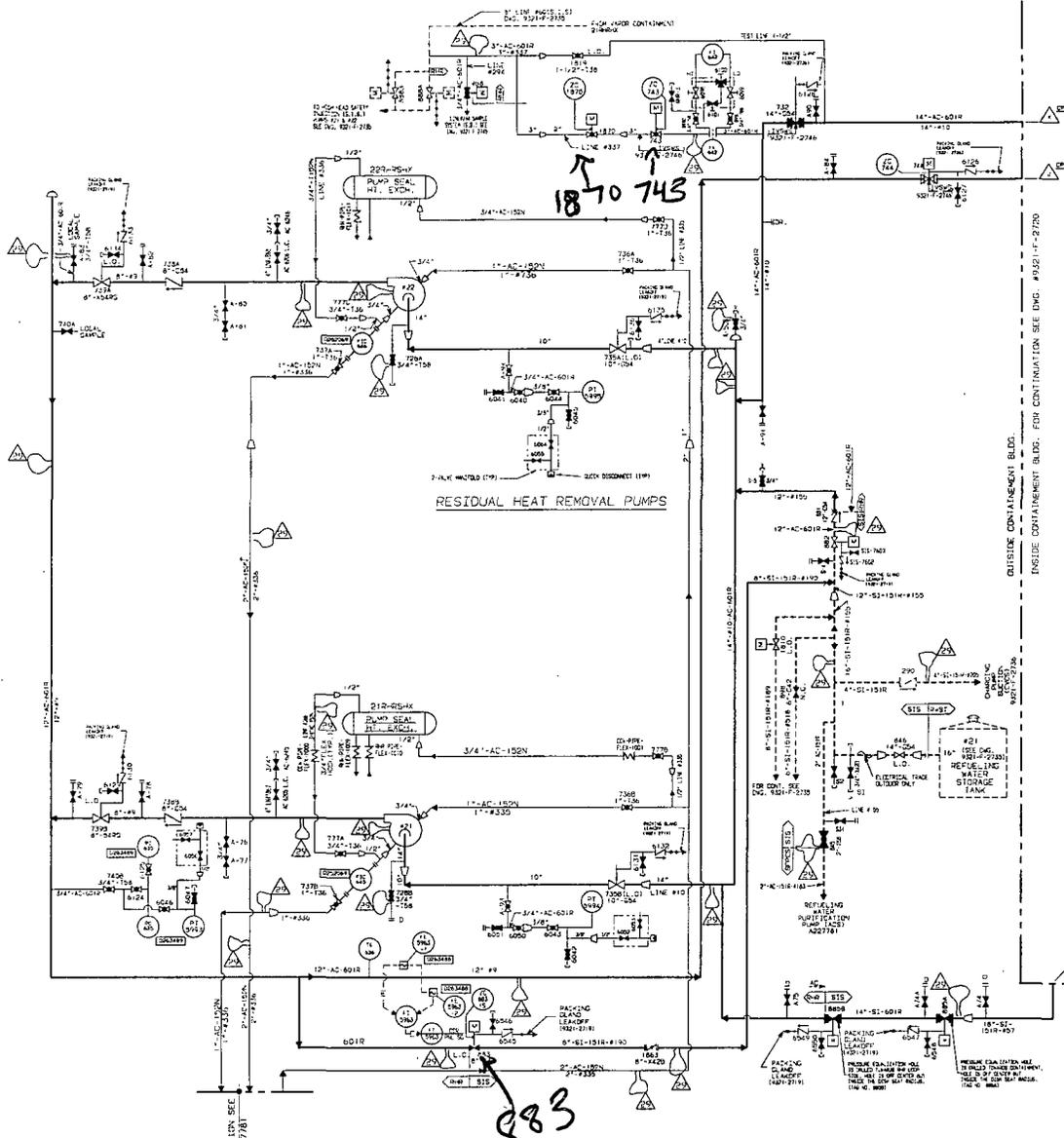
WORK THIS DWG WITH DWGS. 9321-F-2735 & A226076

DATE	REVISION	BY	CHK	APP

DATE	REVISION	BY	CHK	APP

STATION: INDIAN POINT
DRAWING NO: A235296-
MY

251783



NOTES:

- THE QUALITY CONTROL AND DESIGN BOUNDARIES EXTEND TO THE FIRST BELTIVE SUPPORT RESTRAINT BEYOND THE SQUARES SHOWN.

INSERVICE INSPECTION NOTES:

- IF CONTAINMENT PENETRATIONS, ASME CLASS VC APPLIES
- FOR NON-DCR PIPING PENETRATING CONTAINMENT & NOT CLASSIFIED QUALITY GROUP "A", "B" OR "C" QUALITY GROUP "A" DESIGNATION SHALL BE APPLIED.

THIS DRAWING HAS BEEN APPROVED FOR CONSTRUCTION BY THE QUALITY CONTROL GROUP PER THE QAPD

FOR NOTES AND REF. DWGS. SEE DWG. A257781

THIS DWG. TO BE REVISED ONLY BY AUTOCAD.

NO	INCORPORATED DNN-06-04747, CR-02-05-22495	DATE	11/08/06	BY	CLC	APPROVED	BY	DATE	11/08/06	REVISION	1	DESCRIPTION	THIS REVISION IS CLASS A PER THE QAPD. UPDATED DWG TO SHOW THE WORK DONE ON 11/08/06. #17-AC-6010-41, 17-AC-6010-42, 17-AC-6010-43, 17-AC-6010-44, 17-AC-6010-45, 17-AC-6010-46, 17-AC-6010-47, 17-AC-6010-48, 17-AC-6010-49, 17-AC-6010-50, 17-AC-6010-51, 17-AC-6010-52, 17-AC-6010-53, 17-AC-6010-54, 17-AC-6010-55, 17-AC-6010-56, 17-AC-6010-57, 17-AC-6010-58, 17-AC-6010-59, 17-AC-6010-60, 17-AC-6010-61, 17-AC-6010-62, 17-AC-6010-63, 17-AC-6010-64, 17-AC-6010-65, 17-AC-6010-66, 17-AC-6010-67, 17-AC-6010-68, 17-AC-6010-69, 17-AC-6010-70, 17-AC-6010-71, 17-AC-6010-72, 17-AC-6010-73, 17-AC-6010-74, 17-AC-6010-75, 17-AC-6010-76, 17-AC-6010-77, 17-AC-6010-78, 17-AC-6010-79, 17-AC-6010-80, 17-AC-6010-81, 17-AC-6010-82, 17-AC-6010-83, 17-AC-6010-84, 17-AC-6010-85, 17-AC-6010-86, 17-AC-6010-87, 17-AC-6010-88, 17-AC-6010-89, 17-AC-6010-90, 17-AC-6010-91, 17-AC-6010-92, 17-AC-6010-93, 17-AC-6010-94, 17-AC-6010-95, 17-AC-6010-96, 17-AC-6010-97, 17-AC-6010-98, 17-AC-6010-99, 17-AC-6010-100.								
										DATE	11/08/06	BY	CLC	APPROVED	BY	DATE	11/08/06	REVISION	2	DESCRIPTION	REVISION 2: ASME CLASS VC APPLIES TO THE FIRST BELTIVE SUPPORT RESTRAINT BEYOND THE SQUARES SHOWN.
										DATE	11/08/06	BY	CLC	APPROVED	BY	DATE	11/08/06	REVISION	3	DESCRIPTION	REVISION 3: INSERVICE INSPECTION NOTES ADDED.

Edison
INDIAN POINT
A251783