



Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

TIC

September 7, 1979

Mr. J. G. Keppler, Director
Office of Inspection and Enforcement
Region III
U. S. NUCLEAR REGULATORY COMMISSION
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

DOCKET NOS. 50-266 AND 50-301
FURTHER RESPONSE TO IE BULLETIN 79-14
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

On June 2, 1979, the Office of Inspection and Enforcement issued IE Bulletin 79-14 which requires licensees to physically inspect safety-related seismically designed piping systems. The purpose of the inspections is to verify that the seismic analysis applies to the actual configuration of safety-related piping systems. A revision to Bulletin 79-14 was issued on July 20, 1979, and a supplement to the bulletin was issued on August 15, 1979. Our first submittal with respect to Bulletin 79-14 dated August 1, 1979, provided a detailed listing of the piping to be inspected, a preliminary listing of the design documentation applicable to this piping, and a brief discussion of our inspection program.

The purpose of this submittal is to respond to the sixty day report requirement of the original bulletin, to provide the results of inspections completed as of August 25, and to provide further information with respect to our program. This information is provided in Enclosure 1. Enclosure 2 provides the final listing of design documentation for the piping systems and replaces the listing in Appendix B of our August 1 submittal.

The physical inspections at Point Beach began on August 8, 1979. The inspections are being performed by inspection teams composed of an engineer and a craftsman assistant. As of August 25, approximately 850 piping hangers and seismic supports in approximately 11,200 feet of piping had been inspected. This includes the inspections for the following systems which are complete:

1. Unit 1 Safety Injection, Outside Containment
2. Service Water Supply Header, Common
3. Service Water Return Header, Common

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September 7, 1979

4. Auxiliary Feedwater Pump Suction, Common
5. Unit 1 Charging Pump Discharge, Outside Containment
6. Waste Disposal, Common

A total of about 350 discrepancies between design documents and as-built configuration have been found in these six piping systems. The discrepancies are listed in Table 1 of Enclosure 1 and range from piping geometry to missing supports and include those instances where extra supports have been installed. Over half the discrepancies are related to differences in support details. Based upon our initial engineering evaluation, none of these discrepancies create a safety problem and the affected system would perform its safety function in the event of a safe shutdown earthquake. Further evaluation will include more detailed engineering analysis and modifications to piping and/or supports will be made, if necessary.

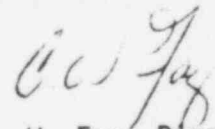
The August 15 supplement to Bulletin 79-14 requires an engineering evaluation, based upon engineering judgment, within two days and an engineering analysis within 30 days of all discrepancies in piping systems and supports which are found during the inspection program. Our initial experience in response to these requirements has indicated that the time periods specified may not be sufficient for a thorough evaluation of all discrepancies, particularly for the initial engineering evaluation. We will continue to attempt to meet the time periods specified; however, we expect that these periods may be exceeded if additional time is needed to provide an adequate evaluation.

We expect that all piping inspections for both units in accessible areas outside containment will be completed in October 1979. The inspections inside Unit 1 containment will be performed during the Fall 1979 refueling. The inspections inside Unit 2 containment will be performed during the Spring 1980 refueling outage.

It is our intent to submit periodic interim progress reports in satisfaction of the reporting requirements of the bulletin and its supplements. These reports will summarize inspection results, discrepancy evaluations, and analysis and modification schedules.

If you require any additional information, please contact us.

Very truly yours,



C. W. Fay, Director
Nuclear Power Department

Enclosures

Copy to: Office of Inspection and Enforcement
Division of Reactor Operations Inspection

Mr. A. Schwencer, Chief
Office of Nuclear Reactor Regulation

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FURTHER RESPONSE TO
IE BULLETIN 79-14September 7, 1979INTRODUCTION

This enclosure provides the results of inspections completed at Point Beach Nuclear Plant as of August 25, 1979 in response to IE Bulletin 79-14, further information regarding the overall program for inspecting Seismic Category 1 piping systems and updated information concerning listings of Seismic Category 1 piping.

INSPECTION RESULTS AND CONCLUSIONS

In early August, in-plant inspections were begun utilizing four inspection teams. Each team is composed of one Bechtel engineer and one craftsman assistant. An additional Bechtel engineer is the administrator of a Bechtel-Site Assistance Office. As of August 25, approximately 1500 manhours have been expended on inspections at Point Beach Nuclear Plant. These inspections have encompassed about 850 piping supports and about 11,200 feet of piping.

Inspection results as of August 25 are presented in Table 1. Discrepancies between design documentation and the as-built condition are assigned to one of six categories based upon the inspection results and include those instances where additional supports have been added. Of the total number of discrepancies, the majority are due to differences between design documents and as-built support configuration. The next largest number of discrepancies is due to mislocated supports. Only a small percent of the total are due to piping geometry or missing supports. As indicated in Table 1, all discrepancies have been subjected to an initial engineering evaluation and it has been determined that none of the discrepancies are sufficient to render the affected system incapable of performing its intended function in the event of a safe shutdown earthquake.

Welds attaching supports to piping are being visually examined for acceptability when the weld is exposed. In the six piping systems listed in Table 1, 44 welds (attaching pipe stanchions to the pipe) were uninsulated, visually inspected, and all were considered acceptable. Records indicate that there are about 416 weldments of this type in the plant and this sample represents over 10% with no deficiencies noted. On the basis of this sample of 44, there would be a 89 percent confidence level that there would be less than 20 defective welds (less than 5 percent) in the remaining population. We will continue to inspect these welds when they are exposed but insulation is not being removed for inspection purposes.

On the basis of the initial engineering evaluations of discrepancies found during the inspection program, it is concluded that no safety problem exists and plant operation can continue.

In addition to the above inspections, as-built documentation is available which demonstrates that piping systems associated with radioactive waste system modifications have been verified to conform to design documents and analyses.

On the basis of this documentation, further inspection of the following piping lines identified in Appendix A of our August 1 submittal are not necessary.

CH-4-152
CH-18-152Q
CHG-24-152Q
CH-21-152
CH-1-152
GR-28-152Q
GR-29-152

CH-11-152
CH-19-152Q
CHG-25-152Q
CH-23-152
CH-8-152
GR-30-152Q
GR-31-152

Copies of the following reference documents are attached and verify that these systems were inspected to ensure conformance with design and that nonconformances were resolved:

1. Letter from Mr. E. F. Trainor to Mr. S. Burstein, "Quality Assurance and Control Program, Point Beach Nuclear Power Station, Rad-Waste System Addition", May 14, 1973.
2. Certificate of Compliance by the Phillips, Getschow Company dated April 29, 1973.
3. Wisconsin Electric memorandum, Mr. W. Pollock to Mr. C. W. Fay, "Quality Assurance Records, Point Beach Nuclear Power Plant, Rad-Waste System Additions", February 26, 1973.

INSPECTION PROGRAM

The Wisconsin Electric program includes the following items:

1. Identify and list applicable piping systems.
2. Identify and list the applicable issue of design documents.
3. Inspect piping systems and document discrepancies from design.
4. Perform an initial engineering evaluation of the effect of documented discrepancies on the original design stress analyses.
5. Verify that design inputs to the original analyses were correct.
6. Evaluate discrepancies to determine if modifications or repairs are required.
7. Analyze the as-built system including any modifications or repairs to determine the acceptability of the system with respect to FFDSAR criteria.
8. Perform additional modifications and analyses, if necessary, to meet FFDSAR criteria.
9. Revise design documents to reflect the as-built condition.

Items 1 and 2 have been completed. The remaining items are presently in various stages of completion.

Inspections are performed utilizing plant area drawings, seismic restraint drawings, pipe hanger location drawings, hanger sketches, and Tubeco (original piping fabricator) piping isometrics. Because of the number of documents involved, a pipeline may be inspected as many as three times; once for piping lengths and geometry, once for support and valve locations, and once for support design and other details. During these inspections, each item or dimension on the drawing is checked against the as-built system. If there is a discrepancy, it is noted. If the inspector cannot determine whether a discrepancy exists, it is listed as a discrepancy to assure further review.

The initial engineering evaluation includes a judgment as to the significance of each discrepancy. The pipeline is then evaluated to determine its capability to perform its function during a safe shutdown earthquake with the significant discrepancies present. To consider all significant discrepancies, and ensure complete and adequate evaluation, the evaluation is performed by a single experienced analyst so that cumulative effects are not overlooked. Accordingly, the time required to perform these evaluations is dependent upon the number and type of discrepancies involved and the length of the piping line inspected. Initial engineering evaluations will be accomplished as rapidly as possible consistent with the need to perform complete and adequate evaluations. However, it is expected that, on some occasions, the time required to ensure complete and adequate evaluations may exceed the time specified in the supplement to IE Bulletin 79-14.

Because the scope of the program involves both analysis and repair or modification, extensive schedules or descriptions of work involved cannot be provided at this time. Periodic progress reports will be made during the active phase of the program. These reports will discuss prior activities with respect to systems inspected, inspection results, status of evaluations, planned additional work, and a scheduled date for completion of the work. We expect that inspections and reports will continue until April 1980 to encompass the systems inside Unit 2 containment.

REVISIONS TO APPENDIX A OF AUGUST 1, 1979 SUBMITTAL

Appendix A of our August 1, 1979, submittal identified the Seismic Category I pipelines that were planned to be inspected in accordance with the requirements of IE Bulletin 79-14. Additional work effort and review have indicated that revisions to the listing are required. These revisions are as follows:

1. On page 2 of 6, revise line AC-601R-6 description to read as follows: "Residual Heat Exchanger Discharge to Valve 720 (inside containment); to Valve 742 (RWST); to MOV 871B (spray pumps); and to Valves 857A&B (SIS pumps)."
2. On page 4 of 6, revise line DB-1 description to read as follows: "Boiler Feedwater Pumps to Feedwater Control Valves (CV 466 & 476) to EB-9; not Seismic Category I."

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3. On page 4 of 6, revise line EB-9 description and inspection type as follows: "Boiler FW from Feedwater Control Valves (CV 466 & 476) to Containment Isolation Check Valves; not Seismic Category I." R&A

4. On page 4 of 6, add a new listing as follows:

EB-9	16	Feedwater from Cont. Isolation Check Valves to Steam Generator	R-I&A
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TABLE 1
PIPING SYSTEM INSPECTION RESULTS
FOR IE BULLETIN 79-14 AS OF 8/25/79
POINT BEACH NUCLEAR PLANT

PIPELINE IDENTIFICATION NUMBER	FUNCTION	NUMBER OF PIPELINES INSPECTED(1)	P&ID NUMBER	TOTAL NUMBER OF POTENTIAL DISCREPANCIES(2)	NUMBER OF DISCREPANCIES PER CATEGORY						RESULT OF INITIAL ENGINEERING EVALUATION
					PIPING GEOMETRY	SUPPORTS MISSING	EXTRA SUPPORTS	SUPPORT MISLOCATED	SUPPORT DETAILS	OTHER	
JG-4	Auxiliary Feedwater Pump Suction	1	M217	33	0	0	0	12	21	0	Acceptable
SI-1501R	Unit 1 Safety Injection Outside Containment	3	110E017	46	4	4	5	5	25	3	Acceptable
HB-19	Service Water Supply - Common	1	M207	118	15	10	3	10	73	7	In Progress*
JB-2	Service Water Return - Common	1	M207	57	1	9	3	4	34	6	Acceptable
WD-151R	Waste Disposal - Common	2	684J971	46	0	5	5	16	16	4	Acceptable
CH-2502R	Unit 1 Charging Pump Discharge - Outside Containment	3	684J741	54	0	7	3	28	16	0	Acceptable
				354							

(1) Corresponds to the number listed in Appendix A of 8/1/79 submittal.

(2) As identified in the inspection results documentation.

* Initial engineering evaluation is about 40 percent complete as of 9/6.
 Thus far the system is acceptable.

REFERENCES

FOR

ENCLOSURE 1

September 7, 1979

1075-239

STONE & WEBSTER ENGINEERING CORPORATION



225 FRANKLIN STREET, BOSTON, MASSACHUSETTS

ADDRESS ALL CORRESPONDENCE TO P.O. BOX 2325 BOSTON MASS 02107

NEW YORK
BOSTON
CHICAGO
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DESIGN
CONSTRUCTION
REPORTS
APPROVALS
EXAMINATIONS
CONSULTING
ENGINEERING

Handwritten initials and signature.

Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisconsin 53201

print 4.7.4.
J.O. NO. 12137

May 14, 1973

Attention: Mr. Sol Burstein
Senior Vice President

Dear Sir:

QUALITY ASSURANCE AND CONTROL PROGRAM
POINT BEACH NUCLEAR POWER STATION
RAD-WASTE SYSTEM ADDITION

We are submitting herein the final progress report, covering the Stone & Webster Quality Control program for the modifications to the waste Disposal System at the WMPCO Point Beach Power Station.

A review of the goals delineated in our previous progress report of December 14, 1972 has indicated that the required QC activities have progressed satisfactorily and have reached final completion relative to Stone & Webster's specified responsibilities, as of March 30, 1973. A report of activities during this period on the final status of the major involved disciplines follows:

1. Concrete Placement

All concrete work has been completed. Tests and inspections show that the concrete work meets or exceeds the specification requirements. The concrete test and inspection reports have been turned over to WMPCO.

2. Structural Steel Installation

All structural steel that has been installed conforms to the required specifications. Structural steel certifications involving the material used and the necessary inspection reports are on file in the site WMPCO QC office.

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3. Electrical Installation and Instrumentation

The electrical and instrumentation records, including termination tickets, cable pull tickets, electrical and instrumentation receiving reports, inspection reports and check lists of the material used have been turned over to WMPCO. These records provide objective evidence of satisfactory installation. All Stone & Webster's responsibilities in the electrical and instrumentation areas have been completed as of March 30, 1973. WMPCO has agreed to assume responsibility for miscellaneous electrical (instrumentation) work remaining to be done after this date.

4. Insulation Installation

The insulation release forms, certifications, and the required special testing records for materials used are on file in the site WMPCO QC office. All Stone & Webster's responsibilities in the insulation area have been completed as of March 30, 1973. WMPCO has agreed to assume responsibility for miscellaneous insulation work which remains to be done after this date.

5. Mechanical/Piping Installation

The Quality Control records involving this area are on file in the Contractor's (Phillips, Getschow) QC office on site. These give objective evidence of satisfactory completion of the required tasks. All Stone & Webster quality Control responsibilities in the mechanical/piping installation areas have been completed as of March 30, 1973.

Field Quality Control Nonconformity & Disposition Reports/
Phillips, Getschow Deficiency Reports

- A. Twenty N&D Reports were issued and all were satisfactorily resolved.
- B. Forty-six Deficiency Reports were initiated and all were satisfactorily completed.

6. Audits

In order to maintain proper control over the above mentioned activities, Stone & Webster Field Quality Control has performed 56 Field Audits involving individual systems. These audits were continuous and entailed the examination of the work, procedures, and records and the reporting of any nonconformities. As of

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March 30, 1973, all items reported have been satisfactorily completed.

In addition to these site audits, Field Quality Control Division, Boston, performed two audits which served to verify adequate Program operation. All audit nonconformities noted during site and Headquarters audits have been satisfactorily resolved with proper corrective and preventive actions.

7. Records

As of March 30, 1973, a total of 26 System Turnover documentation packages assembled by the Phillips, Gotschow Co. were final audited by the site Stone & Webster Field QC Engineer. All nonconformities noted were corrected and Turnover Letters were issued to WMPCO to transmit the final documentation.

W. A. Pollock, Quality Assurance Engineer for WMPCO periodically performed Rad-waste QA Document Audits. As of April 2, 1973, the documentation for all systems, except Radioactive Gases (GR) were complete and were accepted. The Radioactive Gases System will be completed and reviewed after Stone & Webster leaves the job site.

8. Procurement Quality Control

On the 14th of December, there were 69 active purchase orders in the PQC files. Since that date, a phasing out of the PQC function on the District level has been accomplished. A review of the documentation of the various Purchase Orders is presently being conducted by the PQC Engineer assigned to the project. As of this date, there are 4 outstanding Purchase Orders that require documentation. This information has been requested from the Vendor and will be transmitted to WMPCO when obtained.

9. Final Status

A Composite Punch List, Revision 2, dated March 30, 1973, updating the status of this project to close of work on March 30, 1973 was reviewed by J. C. Julian, Stone & Webster Resident Engineer and G. A. Reed, Manager, Nuclear Power Division (WMPCO) and A. L. Reimer, Resident Engineer (WMPCO). By agreement, WMPCO will assume the responsibility for finishing the work remaining on the referenced punch list. The Quality Control and Quality Assurance required for this work will also be assumed by WMPCO.

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SUMMARY

This report would not be complete if mention were not made of the fire which destroyed the QC office trailer on the morning of December 1, 1972. Records damaged by the fire were rapidly recovered and there was "business as usual" shortly after.

Alton A. Brown, Field Quality Control Engineer for Point Beach Nuclear Power Plant has reported that all Stone & Webster Quality Control effort ceased at the close of business on March 30, 1973. A review was completed of all Quality Control records and with the exception of the previously referenced punch list, all work is complete and accomplished in accordance with governing procedures.

It is our opinion, that the mutually established Quality Assurance/Quality Control objectives for the modifications to the Waste Disposal System were attained.

Should you have any questions, please advise.

Very truly yours,



E. F. Trainor
Manager, Quality Assurance

NAD:dm

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phillips. getschow co.



MECHANICAL &

NUCLEAR

CONTRACTORS

SINCE 1894



ENGINEERS for PROCESS PIPING • HEATING & AIR CONDITIONING • POWER INDUSTRIAL PIPING
PIPING FABRICATION • CERTIFIED WELDING • PLUMBING

481 North Dearborn Street - Chicago, Illinois 60610 - 312/644-6116

April 20, 1973

Mr. J. C. Julian, Resident Engineer
Stone & Webster Engineering Corporation
Point Beach Nuclear Plant
Route 3
Two Rivers, Wisconsin 54241

POOR
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Dear Mr. Julian:

Phillips, Getschow Co., in accordance with Stone & Webster Mechanical Contract Specification PBS-16, Section 3, E4, hereby certifies that to the best of our knowledge and belief all work performed under Contract PBC-13 complies in all respects to the aforementioned Contract Specification (PBS-16) and all Codes, other specifications and procedures referenced therein.

Sincerely,

Howard L. Anglim
Vice President

STATE OF ILLINOIS)) SS
COUNTY OF COOK)

Personally appeared before me Howard L. Anglim, Vice President, Phillips, Getschow Co., who deposes and says that he executed this letter for and in behalf of said corporation and that the statement therein contained is true and correct to the best of his knowledge and belief.

Sworn and subscribed before me this
20th day of April, 1973.

Notary Public

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Original is in Wb.
file in vault.

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February 26, 1973

Mr. C. W. Fay:

QUALITY ASSURANCE RECORDS
POINT BEACH NUCLEAR POWER PLANT
RAD-WASTE SYSTEM ADDITION

Stone & Webster's Mr. E. F. Trainor wrote Mr. Burstein on February 12, 1973, under the above title regarding some of the documentation on the Auxiliary Condensate (CA) system which was involved in the November 30, 1972, fire.

On February 23, 1973, I went to Point Beach to audit documentation of systems ready for turn-over and while there I contacted Mr. Alton Brown, Stone & Webster QA, and Messrs. Martin Kelly and Gary Marquardt of Phillips, Getschow regarding the matter.

I learned that:

- (1) The isometric drawings which were lost in the fire were working drawings being used by inspectors to field check the installation.
- (2) The as-built drawings were in fire-resistant cabinets and were not affected by the fire. These as-built drawings have been confirmed as being correct by inspectors who field checked them prior to insulating.
- (3) As a further check, the as-built isometrics were rechecked after insulating and the routing shown was found to be correct. (The fittings, bends, etc all were found as near correct as possible.)
- (4) Approximately two-thirds of this piping is in the turbine room. This was one of the first systems put in. Much of it was prefabricated in the fabricating shop according to drawings furnished. Then when installation was attempted, interferences caused many changes during which shop welds

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were said to have been cut out and eliminated and other welds made. The cut-out welds had been inspected but, because only one inspector was on the job early in the game, he didn't get around to destroy the records of the welds which were cut out. The number of welds cut out could have been as high as the 40 represented by the extra dye penetrant records on hand, according to Messrs. Kelly and Marquardt.

- (5) It is an established practice to make out "cut-cards" for welds which are removed and eliminated for any reason. While Mr. Marquardt, who was the first Phillips, Getschow QC inspector, does not contend that he made out "cut-cards" for all of the welds, he did do so for many of them. Some of these cards were lost in the fire which makes identification of the 40 welds impossible.

I do not believe that the above comments and explanations could be used to prove beyond a shadow of a doubt that all inspection reports in the data package belong to the welds now existing in the piping system. It can be said, however, that all inspection reports in the package plus the 40 extra ones show acceptable welds. (None show defective indications which were not polished out.) I, therefore, see no other course of action but to accept the data packages and the extra inspection slips together with the signed statements from Phillips, Getschow and Stone & Webster. These letters serve the same purpose as certificates of compliance where a vendor cannot produce specific documentation for a specific product but attests by a COP that the produce was manufactured according to approved procedures.

If you are in agreement with accepting the explanations in the attachments, no response to Stone & Webster is required.

CC: S. Burstein
T. Rodgers

W. A. Phillips

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ENCLOSURE 2

FURTHER RESPONSE TO
IE BULLETIN 79-14

September 7, 1979

Wisconsin Electric's submittal of August 1, 1979, contained Appendices A and B. Appendix A provided a detailed listing of the pipe lines to be inspected and Appendix B provided a discussion of, and preliminary listing of, the original design documentation applicable to these piping systems. The completed listings of design documentation attached hereto supersede the listing of Appendix B of our August 1 submittal. A listing is enclosed herewith for each of the piping systems. While Point Beach Nuclear Plant has two nuclear units, Unit 2 was designed as a mirror image of Unit 1. Thus, unless identified otherwise, a single analysis is considered applicable for both units.

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1075-248

DATE 9/6/77

PROJECT: Point Beach

SYSTEM: REACTOR COOLANT SYSTEM RC-2500
INJECTION SYSTEM TO PRIMARY LOOP PIPING

SYSTEM	DESCRIPTION	LINE NO.	P. & I. D. REV.	TESTING FLOW DIAGR.	TUBECO ISO.	ARE. MC. #/REV.	FAILURE & SEISMIC RESTR. DWG. #	VALVE TAG #	WEIGHT (incl. Oper.)	VENDOR DWG #	STRESS ISO# RLV. DATE	CALC. # DATE	PROGRAM VERSION	BOOK #	REMARKS
SPRAY LINE FROM PRIM. LOOP TO PRESSURIZER		3"RC-2501R-1	-	541F091	3"RC-2501R-1	M-60/6 63/5	1-401/2 1-402/4 1-403/5	PCV-431A & B	490#	B & K L-142239	EDS-5 0	1036 1-26-70	PISOL	C/1	44
		4"RC-2501R-1	-	541F091	4"RC-2501R-1	M-65/6 66/5	1-404/3 1-406/5 1-407/4			Velan 88405	EDS-13 1	1042 2-11-70			
RELIEF LINE FROM PRESSURIZER THRU PCV 430 & 431C		3"RC-2501R-2	-	541F091	3"RC-2501R-2	M-60/6 61/4 & 65/6	1-401/5 1-402/4 1-406/5	NV 515 & 516	425#	B & K S-131642					
		4"RC-2501R-2	-	541F091	4"RC-2501R-2	M-60/6 61/4 & 65/6	1-401/5 1-402/4 1-406/5	PCV 430 & 431C	320#	CF8887 H-51249	EDS-13 1	1042 2-11-70			
SAFETY VALVE LINE FROM PRESSURIZER THRU PCV 430 & 431C		4"RC-2501R-3	-	541F091	4"RC-2501R-3	M-60/6 61/4 & 65/6	1-401/5 1-402/4 1-406/5	PCV 434 & 435	480#						
		6"RC-2501R-5	-	541F091	6"RC-2501R-5	M-62/7 63/7 & 66/8	1-403/5 1-404/6 1-407/6			Velan 78704	EDS-8 0	VELAN 44-1033 5-5-79	ME101	ME101	VELAN BR. 2
HOT LEG LOOP A INJECTION LINE		6"RC-2501R-6	-	541F091	6"RC-2501R-6	M-62/7 63/7 & 66/8	1-403/5 1-405/7 1-406/7	1-877A	225#		SA 8 0	43-1022 3-26-70			
		10"RC-2501R-7	-	541F091	10"RC-2501R-7	M-61/4 62/5 & 63/5	1-402/4 1-403/5 1-404/6	1-867A	1800#	Velan 11542	EDS-9 0	1009 1-24-70	PISOL	C/1	L2
COLD LEG LOOP A INJECTION LINE		6"RC-2501R-6	-	541F091	6"RC-2501R-6	M-64/5 65/6 & 66/5	1-405/5 1-406/5 1-407/4								
		10"RC-2501R-7	-	541F091	10"RC-2501R-7	M-64/5 65/6 & 66/5	1-405/5 1-406/5 1-407/4								

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PROJECT: Point Beach

SYSTEM: REACTOR COOLANT SYSTEM RC-2500
INJECTION SYSTEM TO PRIMARY LOOP PIPING

SHEET 2 OF 3

9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV. DATE	TESTING, FLOW DIAGR.	TURCO ISO. #	AREA DWG. #/REV.	FAILURE SEISMIC RESTP. DWG. #	VALVE OR F. E. TAG #	HEIGHT (incl. Operator)	VLMDOR DWG. #	STRESS ISO# REV. DATE	CALC. # DATE	PROGRAM	VERSION	BOOK #	REMARKS
COLD LEG LOOP B INJECTION LINE	10"RC-2501R-8	-	541F091 5/19/69		M-61/4 M-62/5 M-63/5 M-64/5 M-65/6 M-66/5	M-402/5 M-403/5 M-404/5 M-405/5 M-406/5 M-407/4	867B	1800#	Velan 11542	EDS-6 0 2-4-70	1006 2-2-70	PISOL	C/1	42	
HOT LEG LOOP B INJECTION LINE STUD	6"RC-2501R-9	-	541F091 5/1-25-71 (1)	6"-RC-2501R-9 (1)	M-62/7 M-64/7 & M-65/8	M-403/5 M-405/5 M-406/7	877B	225#	Velan 78704	SA-B 0	1022 5-5-79	ME101	ME101	VELAN Bk. 1	
CHARGING LINE FROM CH-2501R-4 (VALVE 295) TO LOOP A COLD LEG	3"RC-2501R-12	-	541F091 5/5-19-69 (1)	3"-RC-2501R-12 (1)	M-62/5 & M-66/8	M-403/5 M-407/4	-			EDS-10 0 2-12-70	1032 1-28-70	PISOL	C/1	44	
RESIDUAL HEAT REMOVAL LINE TO LOOP 200	10"RC-2501R-16	-	541F091 5/5-19-69 (1)	10"-RC-2501R-16 (1)	M-62/5, M-63/5, M-64/5, M-65/6 & M-66/5	M-403/5 M-404/5 M-405/5 M-406/5 M-407/4	-			EDS-14 0	1014 1-26-70			43	

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Sheet 3 of 3

PROJECT: POINT BEACH 10447
SYSTEM: REACTOR COOLANT SYSTEM RC-2500
PRIMARY COOLANT SYSTEM LOOP "A & B"

10447

DATE 9/6/72

PRIMARY COOLANT SYSTEM LOOP "A" & "B"																
SYSTEM DESCRIPTION	LINE NO.	P.E.I.D.		Flow DIAGR.	TURBO ISO.	AREA DWG.	FAILURE SEISMIC RESISTANT	VALVE OR F.P.		STRESS REV.	ISO DATE	CALC. DATE	PROGRAM	VERSION	BOOK	REMARKS
		REV.	DATE					TAG #	WEIGHT (incl. Operator)							
Pri. Coolant System Loop "A" including Connections	30"RC-2501R-2	-	-	5-11-71 REV. 8 1-25-71 REV. 5 5-11-71 REV. 8 4/4/71	NOT AVAIL.	M-62/7 M-64/7 M-65/8 M-59/8	M-403/8 M-405/7 M-406/7			SK-M-213	13 SH's					UNDER REVIEW
Drain "Loop A"	4"RC-2501R-14	-	-		NOT AVAIL.	M-62/7 M-59/8	M-403/8									
MTD Manifold (Flow into RC2) to Valve 560A	3"RC-2501R-14	-	-													
Pri. Coolant System Loop "B"	30"RC-2501R-Y	-	-			M-62/7 M-59/8	M-403/8									
Drain "Loop B"	4"RC-2501R-14	-	-		4"-RC 2501R-14	M-62/7	M-403/8									
Stub for Connections to drain tank (2") and Letdown Line (2")	3"RC-2501R-10	-	-		8"-RC 2501R-10	M-62/7 M-65/8 M-59/8	M-403/8 M-406/7									
RTF Manifold (Flow into RCP) to Valve 560B	3"RC-2501R-14	-	-		3"-RC 2501R-14	M-62/7 M-65/8 M-59/8	M-403/8 M-406/7									
Pressurizer Surge Line from "Loop B" to Pressurizer	10"RC-2501R-2	-	-		NOT AVAIL.	M-62/7 M-65/8 M-59/8	M-403/8 M-406/7									

1075 250

POOR
ORIGINAL

SHARP L.C.F.

NO. 10447

PROJECT: Point Beach

SYSTEM: CHEMICAL & VOLUME CONTROL CH-2500

PIPING TO CHARGING PUMP DISCH.

DATE 9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	WESTING. FLOW DIAGR.	TURCO ISO.	AREA DWG. #/Rev. LAG. #	FAILURE & SEISMIC RESTR.	VALVE O. TAG #	WEIGHT incl. operator	F. E.	VENDOR DWG. #	STRESS ISO# REV.	DATE	CALC. # DATE	PROGRAM	VERSION	BOOK #	REMARKS
CHARGING PUMP DISCH. TO VALVES 286, 289, 290	3" CH-2502R-1	-	584J741 5/3-27-70	See 2502R-3 (1)	M-42/6 M-43/6	M-411 SK-M-358 Sh. 4	286, 289, 290	88#		Velan F6118- M2-1578 -1							Under Review
CHARGING PUMP DISCH. CROSSOVER LINE TO SEAL INJECTION SYSTEM UP TO 2" PIPING	3" CH-2502R-2	-	584J741 5/3-27-70	See 2502R-3 (1)	M-42/6 M-43/6	M-411 412, 415 275 420 SK-M-358 Sh. 4	287, 283, 291,	88#		"							
CHARGING PUMP DISCH. VALVES 286, 289, 290 TO REG. HT. EXCHANGER	3" CH-2502R-3	-	584J741 5/3-27-70	3" CH-2502R-2 (1, 2, 3)	M-42/6 M-43/6	M-411/5 415/5 420/5 SK-M-358 Sh. 4	334A, 304B, 370 HCV 142,	88# 310		8131642			43-1020 5-5-79			Velan Bk. 1	
CHARGING LINE FROM REGENERATIVE HT. EXCH. TO VALVE 295 (to RC-2501R-12)	3" CH-2501R-4	-	584J741 Rev. 4 1-20-69 Sh. 2 Rev. 3 3-15-69	3" CH-2501R-4-1	M-62/6	M-403/5 M-407/4	MOV 1-298 CHECK 1-295 MOV 2-295 CHECK 2-295						1032 1-28-70	PISOL	C/1	44	0020903

1075 251

POOR ORIGINAL

100-1000

10447

POINT BEACH

CW-600

Abstracts of VOLUME CONTROL

CHEMICAL & VOLUME CONTROLS
NONREGENERATIVE HEAT EXCHANGER
BIOPHASE AND DECAY ELECTROLYSIS UNIT

66/9/6

66/9/6

[illegible]~~1075 252~~

POOR ORIGINAL

SHEET 1 OF 1

PROJECT: POINT BEACH
 SYSTEM: SAFETY INJECTION SYSTEM SI-2500
 RESIDUAL HX TO R.V. & PRIMARY COLD LEG PIPING

NO 10447
 DATE 9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	DATE	WESTING. FLOW DIAG.	TURBOCO ISO.	AREA D.C. #	FAILURE & RESIDUAL	TAG #	WEIGHT (incl. Operator)	VENDOR	STRESS ISO #	CAIC. DATE	PROG. #	VERSION	BOOK #	REMARKS
ACCUMULATOR (VALVE 801 A & B) TO COLD LEG LOOP A & B INCLUDING TEST LINE THRU VALVES 802 & 807	10" SI-2501R-1	-	-	1102017 Rev. 10 4/13/69	10" SI-2501R-1 (1,2)	M-61/4 M-62/5 M-65/6	M-2401/3 M-2402/1	WV801LAB	2550#	Darling 11663	EDS-9	1009	PISOL	C/1	42	
RESIDUAL HT. EXCHANGER TO COLD LEG INJECTION LINE (FROM ACV 720)	10" SI-2501R-2	-	-	1102017 Rev. 10 4/29/71	See 10" AC-601R-6 (14)	M-61/6 M-65/8	M-2401/3 M-2402/4				EDS-6	44-1038	ME101	ME101	Velan Ex. 2	
HOT LEG LOOP A INJECTION LINE FR. 2" x 6" EXPANDER THRU VALVE 877A	6" SI-2501R-3	-	-	1102017 Rev. 10 4/29/71	NOT AVAILABLE	M-621 M-641 M-591	M-403/8 M-405/7	1-877A	225#	Velan 70704		43-1022 5-5-79	ME101	ME101	Velan Ex. 1	
HOT LEG LOOP B INJECTION LINE FR. 1" x 6" EXPANDER THRU VALVE 877B	6" SI-2501R-3	-	-	1102017 Rev. 10 4/29/71	6" BC 2501R-9-1	M-621 M-651 M-591	M-403/8 M-406/7	1-877B	225#	"		43-1022 5-5-79				
RESIDUAL HT. EXCHANGER TO REACTOR VESSEL FROM MV92A (REFERENCE WITH RIS LINE)	6" SI-2501R-4	-	-	1102017 Rev. 10 4/29/71	6" SI-2501R-4 (1)	M-61/4 M-62/5 M-65/6	M-2401/1 M-2402/1	1-853A & C 1-852A	225# 975#	Velan 78704 Darling 11504	EDS-6	1006 2-2-70	PISOL	C/1	42	
REACTOR VESSEL INJECTION LINE FROM MV 5523	6" SI-2501R-5	-	-	1102017 Rev. 10 4/29/71	6" AC-2501R-5 (1)	M-61/6 M-62/7 M-65/8	M-2401/3 M-2402/4	852B 853B & D	975# 225#	Darling 11504 Velan 78704	EDS-8	44-1033 5-5-79	ME101	ME101	Velan Ex. 2	

POOR
ORIGINAL

Sheet 1 of 1

PROJECT: POINT BEACH
SYSTEM: SAFETY INJECTION SYSTEM
SAFETY INJECTION PUMP DISCHARGE

10447

DATE: 9/6/79

SAFETY INJECTION PUMP DISCHARGE										FAILURE		TAG #		WEIGHT (incl. Operator)		VENDOR DATE		SERIES DATE		ISO DATE		CALC. DATE		PROGRAM		VERSION		BOOK		REMARKS			
SYSTEM DESCRIPTION		LINE NO.		P.S.I.D. REV.		Flow		MIRCO		AREA		SEISMIC		TAG #		WEIGHT (incl. Operator)		VENDOR DATE		SERIES DATE		ISO DATE		CALC. DATE		PROGRAM		VERSION		BOOK		REMARKS	
SAFETY INJECT. PUMP 1-PI5 A & B DISCH. TO INJECTION LINE F.I. 924 & 925		6" SI-150LR-1		110E017		Sh. 2		150LR-1		M-49/9		415/5		1-829 A & B		350#		Velan 88503		499		29-499		5/9/79		ME101		ME101		Velan Bk. 1			
SAFETY INJECTION PUMP DISCH. FR. ST 924 TO PIER REDUCTION TO 2" LINE (SEPARATE WITH R-3 LINE)		4" SI-150LR-2		110E017		Sht. 2		150LR-1		M-42/6		M-411/5		W-846B		225#		Velan 78704		499		29-499		5/9/79		ME101		ME101		Velan Bk. 1			
SAFETY INJECT. PUMP DISCH. FR. F.I. 925 TO PIER REDUCTION 2.2 INCH DIAMETER		4" SI-150LR-3		110E017		Sht. 1		150LR-1		M-42/6		M-411/5		W-866A		-----		Darling 11986		499		29-499		5/9/79		ME101		ME101		Velan Bk. 1			
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5								0		1021		1/3/79		ME553				43			
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
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				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
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				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					
				110E017		Sht. 2		150LR-1		M-42/6		M-411/5																					

1075 255

POOR
ORIGINAL

REV. 1. of 1.

PROJECT: Point Beach
SYSTEM: SAFETY INJECTION SYSTEM
RWS TO RHR PUMP SUCT. & R.V. S.I.S. **SI-600**

10447

DATE 9/6/99

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	DATE	MEETING FLOW DIAG.	TUBECO. ISO.	AREA DWG. #	FAILURE & SEISMIC RESTR. DWG. #	VALVE TAG #	WEIGHT (incl. Operator)	VENDOR DWG #	STRESS ISO# REV.	DATE	CPLC. # DATE	PROGRAM VERSION	BOOK #	REMARKS
REFUELING WATER STORAGE TANK FROM MOVES 52, 63 & 77 TO RHR PUMP SUCTION (TO AC-601R-3)	10" SI-601R-1	-	-	110E017 SH. 2 11-20-62 110E018 SH. 1	See 10" AC-601R-3 (5)	M-49/6	M-435/0 SK-M-359 SH. 3/A	MV 856 A & B 854 A & B	1100# 185#	Darling 11502 Alcoyco D-44547		496 2-9-70				Under Review
FROM RHR SYSTEM TO REACT. VESSEL SIS INJECTION LINE TO MOVES 52, 63 & 77 (redundant to AC-601R-6)	6" SI-601R-2	-	-	110E017 SH. 1 11-20-62 110E018 SH. 1	See 10" AC-601R-5 (14)	M-61, 62, 63, & 77	SK-M-385 SH. 1/A SK-M-378 SH. 1/A	MV852A & B	975#	Darling 11504						

1075 256

POOR
ORIGINAL

SHEET 1 OF 1

PROJECT: POINT BEACH
SYSTEM: SAFETY INJECTION SYSTEM
DISCHARGE FROM CMT SPRAY

NO 10447

DATE 9/6/79

SI-300

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	DATE	FLOW DIAGR.	TUBING ISO. #	AREA DWS. #	FAILURE & REPAIR	TAG #		WEIGHT (incl. Operator)	VENDOR	STRESS	ISO #	CALC. #	PROVA	VERSIC	ROOF	REMARKS
Disch. from CMT Spray Pump to Spray Nozzles	SI-301R-1			110E017 SH. 3/10	6" SI-301R-1 (3, 4, 5, 6, 7, 8 & 9)	M-60, 61, 62, 76, 78, 80	M-415 M-416	1-860A, B, C & D 1-862A & B 1-868A & B	440# 285# 250#	Darling ANYCO D-43493 ACGYCO #D-44663				492A 2/26/70	P-15CL	C/	23A	
				110E035 Sh. 3 Rev. 7 2/21/70					583 3/2/70					584 3/6/70			37	020-115-11
																		0206115-0-0

1075 257

POOR ORIGINAL

SHEET 1 of 1

NO 10417

PROJECT: Point Beach

SYSTEM: SAFETY INJECTION SYSTEM SI-150

SAFETY INJECTION PUMP, SPRAY PUMP, RHR PUMP

& CHARGING PUMP SUCTION PIPING

9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV. DATE	WESTING. FLOW DIAGR.	TUBECO ISO.#	AREA DWG.#/Rev.	FAILURE & SEISMIC RESTR. DWG.#	VALVE OR F. E.			STRESS ISO#		CALC.#	PROGRAM	VERSION	BOOK #	REMARKS
							TAG #	WEIGHT (incl. Operator)	VENDOR DWG #	REV.	DATE					
SUCT. FROM RWST TO SAFETY INJECTION PUMP	16"SI-151R-2 12"SI-151R-2 10"SI-151R-2 6"SI-151R-2	-	110E017 SH.2 10-3-68	16"-SI 151R-2 (1,2)	M-42/4, M-49/6, M-51/5, M-52/5	M-411 M-415 SK-M- 359/3	MV896A&B, MV825A&B,	375# 650#	D-45200 E-45467 Aloyco	SK-M-323		575 9/22/69			36	
SUCT. FROM 151R-2 (RWST) TO CONTAINMENT SPRAY PUMPS	6" SI-151R-3	-	110E017 SH.3 5-12-69	See 16"-SI 151R-2 (1)	M-42/5 M-49/6 M-51/5 M-52/5	M-411/0 M-415/0 SK-M- 357/3	MV870A&B 1-858 A & B MV 871 A&B	375# 130# 785#	D45200 D44514 Darling 94-12390			498 2/12/70 495 2/18/70	PISOL	C/1	29A 29A	
SUCT. FROM 151R-2 (RWST) TO RHR PUMPS UPSTREAM OF EYESCOPE	10" SI-151R-4	-	110E017 SH.2 1-29-71		M-49,50 & 52	M-415 SK-M-359 SH.3										
RES. HT. EXCH. TO SAFETY INJ. PUMP DOWNSTREAM OF V857A&B	6"SI-151R-5	-	110E017 SH.2 11-20-69	See 12"-SI 151R-2 (2)	M-49/6 M-50/6 M-51/5	M-415/0 SK-M-359 SH.3	1-857 A & B	250#	Aloyco D-44663	EDS		498 2-12-70 495 2-18-70			29A 29A	
RWST TO CHARGING PUMP SUCT. UPSTREAM OF LCV-112B	4" SI-151R-6	-	641J741 & 110E017 SH.2 11-20-69	1"-SI 151R-6 (1)	M-41/5 M-42/5 M-44/4	M-411/0 M-412/0 SK-M-358 SH.3 SK-M-358 SH.4	1-357					726 3-27-70	PISOL	C/1	39	0206118-031
BORIC ACID TANKS TO SAFETY INJECT. PUMPS SUCT. LINE-DOWNSTREAM OF VALVES 827A&B TO 151R-2	8"SI-151R-7	-	110E017 SH.2 11-20-69	8"-SI 151R-7 (1)	M-47/6 M-48/6 M-49/6 M-50/6	M-415/0 M-416/0 M-417/0 SK-M-359 SH.3 SK-M-359 SH.2 SK-M-359 SH.1	MV826A, B & C 827 A & B	470# 360#	Aloyco D-45099 Darling 11506	EDS		498 2-1-70	PISOL	C/1	29A	
FROM CONTAINMENT SUMP A (VALVE 85CA & B TO MOV 851A&B (AC-601R-1))	10"-SI-151R-X	-	110E017 Sh. 1		M-63/1 M-70/4	M-404/2	MOV 850A & B MOV 851A & B	1180 # 1180 #	DARLING 11502			452 6/19/69			25	PARTIAL

1075 258

POOR ORIGINAL

Sheet 1 of 1

PROJECT: POINT BEAC
 AUXILIARY COOLANT SYSTEM AC-600
 SYSTEM: PIPING TO PRIMARY LOOPS

10447

9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	TESTING. FLOW DIAGR.	THIRCO ISO.	AREA DWG. #	FAILURE & REMEDIAL	TAG #	WEIGHT (Incl. Operator)	WINDC. DATA	PRICE	ISO #	DATE	PISTON	VERSION	ROOM	REMARKS
FEED PUMP 251 J2.5 B (CONTAINMENT SUIT B)	10" AC-601R-1	-	110E017 Sh. 1	10" AC-601R-3-4	M-70/4 71/4 72/3	M-434	MOV 851A MOV 851B	1180# 1180#	DARLING 11502	EDS	EDS	496 2/9/70	PISOL	C/1	29A	20217-
HOT LEG LOOP A FROM MOV-701 TO RHR PUMP SUCT. (R-3)	8" AC-601R-2 10" AC-601R-2	-	110E018 Sh. 1	10" AC-601R-2 1-11	M-70/4 71/4 72/3 & 77/3	SK-M-361 Sh. 3 M-434	704A & B 718A & B	300#	Alloyco D-45918	EDS	EDS	496 2/3/70	PISOL	C/1	29A	---
SUCT. LINE TO RHR PUMP SUCT. (R-3)	10" AC-601R-3	-	Sh. 1	10" AC-601R-3-4	---	SK-M-361 Sh. 3 M-434	---	---	---	EDS	EDS	496	PISOL	C/1	29A	00217C-
RHR PUMP TO RESIDUAL HT. EXCHANGER INCLUDING CROSS-TO	8" AC-601R-4	-	Sh. 1	8" AC-601R-4-5	---	SK-M-361 Sh. 3 R-434	709A & B 710A & B 713A & B 715A & B	300#	Alloyco D-43495 D-45918 D-45918	EDS	EDS	497 2/9/70	PISOL	C/1	29A	00211C2
BYPASS AROUND RES. HT. EXCHANGER (FROM 4-4 to R-5)	6" AC-601R-5	-	Sh. 1	8" AC-601R-4-5	---	SK-M-361 Sh. 3 M-434	714A & B PCV 626	250#	D-44663	EDS	EDS	---	---	---	---	---
RESIDUAL HEAT EXCH. to S.I. & AC TCR VALVE 720	8" AC-601R-6 10" AC-601R-6 6" AC-601R-6	-	110E018 Sh. 1	8" AC-601R-6-7	M-49/6 70/6 71/4 72/3 & 77/3	SK-M-361 Sh. 3 M-434	HCV 624, HCV 625, 716A, B, C & D 720 FE-626	250#	M-11051 VELAN 88904	EDS	EDS	495 2/18/70 494 2/12/70	PISOL	C/1	29A	00213C3 AC22305

1075 200

POOR
ORIGINAL

PROJECT: Point Beach
SYSTEM: AUX. COOLANT SYSTEM AC-152N
COMPONENT COOLING WATER

10447

9/6/79

SYSTEM DESCRIPTION	LINE NO.	P. & I. D. REV.	WESTING. DIAGR.	ISO. #	TUBECO	AREA	FAILURE AND SEISMIC RESTR. #	TAG #	VALVE O' F. E. WEIGHT (incl. Operator)	VENDOR DRG #	STRESS ISO#	DATE	CAV. #	DATE	PROGRAM	VERSION	BOOK	REMARKS
COMPONENT COOLING PUMP DISCH. TO COMPONENT COOLING HT. EXCH. INCLUDING RECIRC. LINE	14" AC-152N-1 10" AC-152N-1	-	SH. 1 2-21-70	14" AC-152N-1 (1 & 2)	M-49/7 M-51/6 M-78/6	M-49/7 M-51/6 M-78/6	434, 415, 417, 419, 421, 423, 425, 427, 429, 431, 433, 435, 437, 439, 441, 443, 445, 447, 449, 451, 453, 455, 457, 459, 461, 463, 465, 467, 469, 471, 473, 475, 477, 479, 481, 483, 485, 487, 489, 491, 493, 495, 497, 499, 501, 503, 505, 507, 509, 511, 513, 515, 517, 519, 521, 523, 525, 527, 529, 531, 533, 535, 537, 539, 541, 543, 545, 547, 549, 551, 553, 555, 557, 559, 561, 563, 565, 567, 569, 571, 573, 575, 577, 579, 581, 583, 585, 587, 589, 591, 593, 595, 597, 599, 601, 603, 605, 607, 609, 611, 613, 615, 617, 619, 621, 623, 625, 627, 629, 631, 633, 635, 637, 639, 641, 643, 645, 647, 649, 651, 653, 655, 657, 659, 661, 663, 665, 667, 669, 671, 673, 675, 677, 679, 681, 683, 685, 687, 689, 691, 693, 695, 697, 699, 701, 703, 705, 707, 709, 711, 713, 715, 717, 719, 721, 723, 725, 727, 729, 731, 733, 735, 737, 739, 741, 743, 745, 747, 749, 751, 753, 755, 757, 759, 761, 763, 765, 767, 769, 771, 773, 775, 777, 779, 781, 783, 785, 787, 789, 791, 793, 795, 797, 799, 801, 803, 805, 807, 809, 811, 813, 815, 817, 819, 821, 823, 825, 827, 829, 831, 833, 835, 837, 839, 841, 843, 845, 847, 849, 851, 853, 855, 857, 859, 861, 863, 865, 867, 869, 871, 873, 875, 877, 879, 881, 883, 885, 887, 889, 891, 893, 895, 897, 899, 901, 903, 905, 907, 909, 911, 913, 915, 917, 919, 921, 923, 925, 927, 929, 931, 933, 935, 937, 939, 941, 943, 945, 947, 949, 951, 953, 955, 957, 959, 961, 963, 965, 967, 969, 971, 973, 975, 977, 979, 981, 983, 985, 987, 989, 991, 993, 995, 997, 999, 1001, 1003, 1005, 1007, 1009, 1011, 1013, 1015, 1017, 1019, 1021, 1023, 1025, 1027, 1029, 1031, 1033, 1035, 1037, 1039, 1041, 1043, 1045, 1047, 1049, 1051, 1053, 1055, 1057, 1059, 1061, 1063, 1065, 1067, 1069, 1071, 1073, 1075, 1077, 1079, 1081, 1083, 1085, 1087, 1089, 1091, 1093, 1095, 1097, 1099, 1101, 1103, 1105, 1107, 1109, 1111, 1113, 1115, 1117, 1119, 1121, 1123, 1125, 1127, 1129, 1131, 1133, 1135, 1137, 1139, 1141, 1143, 1145, 1147, 1149, 1151, 1153, 1155, 1157, 1159, 1161, 1163, 1165, 1167, 1169, 1171, 1173, 1175, 1177, 1179, 1181, 1183, 1185, 1187, 1189, 1191, 1193, 1195, 1197, 1199, 1201, 1203, 1205, 1207, 1209, 1211, 1213, 1215, 1217, 1219, 1221, 1223, 1225, 1227, 1229, 1231, 1233, 1235, 1237, 1239, 1241, 1243, 1245, 1247, 1249, 1251, 1253, 1255, 1257, 1259, 1261, 1263, 1265, 1267, 1269, 1271, 1273, 1275, 1277, 1279, 1281, 1283, 1285, 1287, 1289, 1291, 1293, 1295, 1297, 1299, 1301, 1303, 1305, 1307, 1309, 1311, 1313, 1315, 1317, 1319, 1321, 1323, 1325, 1327, 1329, 1331, 1333, 1335, 1337, 1339, 1341, 1343, 1345, 1347, 1349, 1351, 1353, 1355, 1357, 1359, 1361, 1363, 1365, 1367, 1369, 1371, 1373, 1375, 1377, 1379, 1381, 1383, 1385, 1387, 1389, 1391, 1393, 1395, 1397, 1399, 1401, 1403, 1405, 1407, 1409, 1411, 1413, 1415, 1417, 1419, 1421, 1423, 1425, 1427, 1429, 1431, 1433, 1435, 1437, 1439, 1441, 1443, 1445, 1447, 1449, 1451, 1453, 1455, 1457, 1459, 1461, 1463, 1465, 1467, 1469, 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1803, 1805, 1807, 1809, 1811, 1813, 1815, 1817, 1819, 1821, 1823, 1825, 1827, 1829, 1831, 1833, 1835, 1837, 1839, 1841, 1843, 1845, 1847, 1849, 1851, 1853, 1855, 1857, 1859, 1861, 1863, 1865, 1867, 1869, 1871, 1873, 1875, 1877, 1879, 1881, 1883, 1885, 1887, 1889, 1891, 1893, 1895, 1897, 1899, 1901, 1903, 1905, 1907, 1909, 1911, 1913, 1915, 1917, 1919, 1921, 1923, 1925, 1927, 1929, 1931, 1933, 1935, 1937, 1939, 1941, 1943, 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973, 1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023, 2025, 2027, 2029, 2031, 2033, 2035, 2037, 2039, 2041, 2043, 2045, 2047, 2049, 2051, 2053, 2055, 2057, 2059, 2061, 2063, 2065, 2067, 2069, 2071, 2073, 2075, 2077, 2079, 2081, 2083, 2085, 2087, 2089, 2091, 2093, 2095, 2097, 2099, 2101, 2103, 2105, 2107, 2109, 2111, 2113, 2115, 2117, 2119, 2121, 2123, 2125, 2127, 2129, 2131, 2133, 2135, 2137, 2139, 2141, 2143, 2145, 2147, 2149, 2151, 2153, 2155, 2157, 2159, 2161, 2163, 2165, 2167, 2169, 2171, 2173, 2175, 2177, 2179, 2181, 2183, 2185, 2187, 2189, 2191, 2193, 2195, 2197, 2199, 2201, 2203, 2205, 2207, 2209, 2211, 2213, 2215, 2217, 2219, 2221, 2223, 2225, 2227, 2229, 2231, 2233, 2235, 2237, 2239, 2241, 2243, 2245, 2247, 2249, 2251, 2253, 2255, 2257, 2259, 2261, 2263, 2265, 2267, 2269, 2271, 2273, 2275, 2277, 2279, 2281, 2283, 2285, 2287, 2289, 2291, 2293, 2295, 2297, 2299, 2301, 2303, 2305, 2307, 2309, 2311, 2313, 2315, 2317, 2319, 2321, 2323, 2325, 2327, 2329, 2331, 2333, 2335, 2337, 2339, 2341, 2343, 2345, 2347, 2349, 2351, 2353, 2355, 2357, 2359, 2361, 2363, 2365, 2367, 2369, 2371, 2373, 2375, 2377, 2379, 2381, 2383, 2385, 2387, 2389, 2391, 2393, 2395, 2397, 2399, 2401, 2403, 2405, 2407, 2409, 2411, 2413, 2415, 2417, 2419, 2421, 2423, 2425, 2427, 2429, 2431, 2433, 2435, 2437, 2439, 2441, 2443, 2445, 2447, 2449, 2451, 2453, 2455, 2457, 2459, 2461, 2463, 2465, 2467, 2469, 2471, 2473, 2475, 2477, 2479, 2481, 2483, 2485, 2487, 2489, 2491, 2493, 2495, 2497, 2499, 2501, 2503, 2505, 2507, 2509, 2511, 2513, 2515, 2517, 2519, 2521, 2523, 2525, 2527, 2529, 2531, 2533, 2535, 2537, 2539, 2541, 2543, 2545, 2547, 2549, 2551, 2553, 2555, 2557, 2559, 2561, 2563, 2565, 2567, 2569, 2571, 2573, 2575, 2577, 2579, 2581, 2583, 2585, 2587, 2589, 2591, 2593, 2595, 2597, 2599, 2601, 2603, 2605, 2607, 2609, 2611, 2613, 2615, 2617, 2619, 2621, 2623, 2625, 2627, 2629, 2631, 2633, 2635, 2637, 2639, 2641, 2643, 2645, 2647, 2649, 2651, 2653, 2655, 2657, 2659, 2661, 2663, 2665, 2667, 2669, 2671, 2673, 2675, 2677, 2679, 2681, 2683, 2685, 2687, 2689, 2691, 2693, 2695, 2697, 2699, 2701, 2703, 2705, 2707, 2709, 2711, 2713, 2715, 2717, 2719, 2721, 2723, 2725, 2727, 2729, 2731, 2733, 2735, 2737, 2739, 2741, 2743, 2745, 2747, 2749, 2751, 2753, 2755, 2757, 2759, 2761, 2763, 2765, 2767, 2769, 2771, 2773, 2775, 2777, 2779, 2781, 2783, 2785, 2787, 2789, 2791, 2793, 2795, 2797, 2799, 2801, 2803, 2805, 2807, 2809, 2811, 2813, 2815, 2817, 2819, 2821, 2823, 2825, 2827, 2829, 2831, 2833, 2835, 2837, 2839, 2841, 2843, 2845, 2847, 2849, 2851, 2853, 2855, 2857, 2859, 2861, 2863, 2865, 2867, 2869, 2871, 2873, 2875, 2877, 2879, 2881, 2883, 2885, 2887, 2889, 2891, 2893, 2895, 2897, 2899, 2901, 2903, 2905, 2907, 2909, 2911, 2913, 2915, 2917, 2919, 2921, 2923, 2925, 2927, 2929, 2931, 2933, 2935, 2937, 2939, 2941, 2943, 2945, 2947, 2949, 2951, 2953, 2955, 2957, 2959, 2961, 2963, 2965, 2967, 2969, 2971, 2973, 2975, 2977, 2979, 2981, 2983, 2985, 2987, 2989, 2991, 2993, 2995, 2997, 2999, 3001, 3003, 3005, 3007, 3009, 3011, 3013, 3015, 3017, 3019, 3021, 3023, 3025, 3027, 3029, 3031, 3033, 3035, 3037, 3039, 3041, 3043, 3045, 3047, 3049, 3051, 3053, 3055, 3057, 3059, 3061, 3063, 3065, 3067, 3069, 3071, 3073, 3075, 3077, 3079, 3081, 3083, 3085, 3087, 3089, 3091, 3093, 3095, 3097, 3099, 3101, 3103, 3105, 3107, 3109, 3111, 3113, 3115, 3117, 3119, 3121, 3123, 3125, 3127, 3129, 3131, 3133, 3135, 3137, 3139, 3141, 3143, 3145, 3147, 3149, 3151, 3153, 3155, 3157, 3159, 3161, 3163, 3165, 3167, 3169, 3171, 3173, 3175, 3177, 3179, 3181, 3183, 3185, 3187, 3189, 3191, 3193, 3195, 3197, 3199, 3201, 3203, 3205, 3207, 3209, 3211, 3213, 3215, 3217, 3219, 3221, 3223, 3225, 3227, 3229, 3231, 3233, 3235, 3237, 3239, 3241, 3243, 3245, 3247, 3249, 3251, 3253, 3255, 3257, 3259, 3261, 3263, 3265, 3267, 3269, 3271, 3273, 3275, 3277, 3279, 3281, 3283, 3285, 3287, 3289, 3291, 3293, 3295, 3297, 3299, 3301, 3303, 3305, 3307, 3309, 3311, 3313, 3315, 3317, 3319, 3321, 3323, 3325, 3327, 3329, 3331, 3333, 3335, 3337, 3339, 3341, 3343, 3345, 3347, 3349, 3351, 3353, 3355, 3357, 3359, 3361, 3363, 3365, 3367, 3369, 3371, 3373, 3375, 3377, 3379, 3381, 3383, 3385, 3387, 3389, 3391, 3393, 3395, 3397, 3399, 3401, 3403, 3405, 3407, 3409, 3411, 3413, 3415, 3417, 3419, 3421, 3423, 3425, 3427, 3429, 3431, 3433, 3435, 3437, 3439, 3441, 3443, 3445, 3447, 3449, 3451, 3453, 3455, 3457, 3459, 3461, 3463, 3465, 3467, 3469, 3471, 3473, 3475, 3477, 3479, 3481, 3483, 3485, 3487, 3489, 3491, 3493, 3495, 3497, 3499, 3501, 3503, 3505, 3507, 3509, 3511, 3513, 3515, 3517, 3519, 3521, 3523, 3525, 3527, 3529, 3531, 3533, 3535, 3537, 3539, 3541, 3543, 3545, 3547, 3549, 3551, 3553, 3555, 3557, 3559, 3561, 3563, 3565, 3567, 3569, 3571, 3573, 3575, 3577, 3579, 3581, 3583, 3585, 3587, 3589, 3591, 3593, 3595, 3597, 3599, 3601, 3603, 3605, 3607, 3609, 3611, 3613, 3615, 3617, 3619, 3621, 3623, 3625, 3627, 3629, 3631, 3633, 3635, 3637, 3639, 3641, 3643, 3645, 3647, 3649, 3651, 3653, 3655, 3657, 3659, 3661, 3663, 3665, 3667, 3669, 3671, 3673, 3675, 3677, 3679, 3681, 3683, 3685, 3687, 3689, 3691, 3693, 3695, 3697, 3699, 3701, 3703, 3705, 3707, 3709, 3711, 3713, 3715, 3717, 3719, 3721, 3723, 3725, 3727, 3729, 3731, 3733, 3735, 3737, 3739, 3741, 3743, 3745, 3747, 3749, 3751, 3753, 3755, 3757, 3759, 3761, 3763, 3765, 3767, 3769, 3771, 3773, 3775, 3777, 3779, 3781, 3783, 3785, 3787, 3789, 3791, 3793, 3795, 3797, 3799, 3801, 3803, 3805, 3807, 3809, 3811, 3813, 3815, 3817, 3819, 3821, 3823, 3825, 3827, 3829, 3831, 3833, 3835, 3837, 3839, 3841, 3843, 3845, 3847, 3849, 3851, 3853, 3855, 3857, 3859, 3861, 3863, 3865, 3867, 3869, 3871, 3873, 3875, 3877, 3879, 3881, 3883, 3885, 3887, 3889, 3891, 3893, 3895, 3897, 3899, 3901, 3903, 3905, 3907, 3909, 3911, 3913, 3915, 3917, 3919, 3921, 3923, 3925, 3927, 3929, 3931, 3933, 3935, 3937, 3939, 3941, 3943, 3945, 3947, 3949, 3951, 3953, 3955, 3957, 3959, 3961, 3963, 3965, 3967, 3969, 3971, 3973, 3975, 3977, 3979, 3981, 3983, 3985, 3987, 3989, 3991, 3993, 3995, 3997, 3999, 4001, 4003, 4005, 4007, 4009, 4011, 4013, 4015, 4017, 4019, 4021, 4023, 4025, 4027, 4029, 4031, 4033, 4035, 4037, 4039, 4041, 4043, 4045, 4047, 4049, 4051, 4053, 4055, 4057, 4059, 4061, 4063, 4065, 4067, 4069, 4071, 4073, 4075, 4077, 4079, 4081, 4083, 4085, 4087, 4089, 4091, 4093, 4095, 4097, 4099, 4101, 4103, 4105, 4107, 4109, 4111, 4113, 4115, 4117, 4119, 4121, 4123, 4125, 4127, 4129, 4131, 4133, 4135, 4137, 4139, 4141, 4143, 4145, 4147, 4149, 4151, 4153, 4155, 4157, 4159, 4161, 4163, 4165, 4167, 4169, 4171, 4173, 4175, 4177, 4179, 4181, 4183, 4185, 4187, 4189, 4191, 4193, 4195, 4197, 4199, 4201, 4203, 4205, 4207, 4209, 4211, 4213, 4215, 4217, 4219, 4221, 4223, 4225, 4227, 4229, 4231, 4233, 4235, 4237, 4239, 4241, 4243, 4245, 4247, 4249, 4251, 4253, 4255, 4257, 4259, 4261, 4263, 4265, 4267, 4269, 4271, 4273, 4275, 4277, 4279, 4281, 4283, 4285, 4287, 4289, 4291, 4293, 4295, 4297, 4299, 4301, 4303, 4305, 4307, 4309, 4311, 4313, 4315, 4317, 4319, 4321, 4323, 4325, 4327, 4329, 4331, 4333, 4335, 4337, 4339, 4341, 4343, 4345, 4347, 4349, 4351, 4353, 4355, 4357, 4359, 4361, 4363, 4365, 4367, 4369, 4371, 4373, 4375, 4377, 4379, 4381, 4383, 4385, 4387, 4389, 4391, 4393, 4395, 4397, 4399, 4401, 4403, 4405, 4407, 4409, 4411, 4413, 4415, 4417, 4419, 4421, 4423, 4425, 4427, 4429, 4431, 4433, 4435, 4437, 4439, 4441, 4443, 4445, 4447, 4449, 4451, 4453,											

POOR
ORIGINAL

SHEET 2 OF 2

NO. 10447

PROJECT: Point Beach

DATE: 9/6/79

SYSTEM: AUX. COOLANT SYSTEM
COMPONENT COOLING WATER

AC-152N

SYSTEM	DESCRIPTION	LINE	NO.	P.E.I.D. REV. DATE	TESTING, FLOW DIAGR.	TURBO ISO.#	AREA DWG.#	FAILURE and SEISMIC RESTR. DWG.#	VALVE O. TAG #	WEIGHT (incl. Operator)	VEHICOR DWG.#	STRESS ISO4 REV. DATE	CALC. # DATE	PROGRAM	VERSION	BOOK #	REMARKS
COMP. COOLING WATER THROUGH NON-REG. HT. EXCH. (back to #7)	6"AC-152N-10			—	1195018 SH. 3 2-21-70	See 14" AC 152N-2(2) 3" AC 152N-10 (1)	M-49/6 & 51/5	415 SK-M-359	740A & B TC 130 FE 601	128# ----	6299-B K-6299-B ----	725 2 4-6-70	725 3-30-70	FISOL	C/1	39	EDS 0206118-37
COMP. COOLING WATER THROUGH BORIC ACID EVAP. & DISTILLATE COOLER (back to #7)	6"AC-152N-11			—	SH. 3	See 14" AC 152N-2 (2)	M-49/6 & 51/5	415 SK-M-359 (3)	744 A&B 753 F.E. 642	128# 100# ----	K-6299B H-M066 ----	725 2 4-6-70	725 3-30-70			39	
COMP. COOLING WATER THROUGH WASTE EVAP. & WASTE GAS COMPRESSOR	3"AC-152N-12			—	SH. 2 & 3 (1,2)	3" AC 152N-12 (1,2)	M-49/6 & 51/5	415 SK-M-359 (3)	776 A & B FE 617	----	----						
RETURN HDR. TO COMP. COOLING PUMP SUCT. FRC K-7, & UNIT 2 COLLECTION TO VALVE 722A	10"AC-152N-15			—	SH. 3	See 14" AC 152N-7 (3)	M-49/6, 48/6, 51/5 & 55/3	415 SK-M-359 (23)	723 A&B 722A	594 lbs. 594 lbs. ----	K-6299-B K-6299-B ----	724 2 4-6-70	724 3-27-70			39	EDS 0206118-025
SURGE LINE TO SURGE TANK-INCL. SURGE TANK DRAINS & VENTS (H-15 TO TANK)	4"AC-152N-16			—	SH. 3	4" AC 152N-16 (1,3)	M-49/6, 48/6, & 51/5	415 SK-M-359 (33)	RCV-17, 779, 777C, 774			724 2 4-6-70	724 3-27-70			39	

1075 263

POOR
ORIGINAL

Sheet 1 of 1

PROJECT: Point Beach
SYSTEM: WASTE DISPOSAL SYSTEM WD-151R
CTMT SUMP DRAIN & WASTE HOLD UP TANKS

10447

9/6/79

SYSTEM DESCRIPTION	LINE	NO.	P.A.I.D. REV. DATE	FLOW P. I. I.	TUBECO ISO. #	AREA DWG. #	FAILURE & SEISMIC RECT. DWG. #	VALVE OR F. E. TAG #	WEIGHT (incl. Operator) ---	VENDOR DWG. #	STRESS ISO. REV. DATE	CALC. # DATE	PROGRAM	VERSION	BOOK #	REMARKS
CONTAINMENT SUMP DRAIN TO AUX. BLDG. SUMP (Sump section piping)	3"WD-151R-8		-	5-14-71	3"WD-151R-8-3	463670	H-434 SK-N-385 Sh. 4/A SK-M-361 Sh. 3/A	1728, 1729	---	---						
COMPONENT COOLING SURGE TANKS & HOLDUP TANKS RELIEF VALVE DISCH. TO WASTE HOLDUP TANKS	4"WD-151R-23		-	5-14-71	4"WD-151R-23-1 & 2	M-48, 69	SK-M-359 Sh. 243/A SK-M-360 Sh. 243/A H-415 416 433	RV-1265, 1266 & 1267	100#	Crosby H-510341						Under Review

POOR
ORIGINAL

SHEET 1 OF 1

PROJECT: POINT BLANK
SYSTEM: BOILER FEEDWATER & EMERGENCY FEEDWATER DB-143

10447

DATE 9/2/79

SYSTEM DESCRIPTION	LINE NO.	P.C.I.D. REV.	DATE	TESTING FLOW DIA.	TURCO ISO	AREA DATE	FAILURE & SEISMIC RESTRAINT	TAG #	WEIGHT (Incl. Operator)	VENDOR DATE	STRESS REV.	ISO DATE	CAIC DATE	PROGRAM	VERSION	BOOK	REMARKS
Boiler Feedwater Pumps to CINT Isolation Valves (CINT to EB-9; NOT SEISMIC)	20" DB-1 16" DB-1 6" DB-1	M-202 8 8-70		-	20" DB-1 (1,2,3 & 4)	M-21/3 M-27/2 M-28/4	SH-M-255 SH-2/A SH-M-356 SH-3/A	1-CV-456 & 476 1-CV-480 & 481 MOV-2189, 2190	3980# 650# ---	B & K M-139414 B & K M-138238 M91-010	394 11-25-68 529 548		394 11-25-68 529 548			21	
Emergency FW FROM MOV 4000 & 4001 & TO EB-10, & CROSS TIE RETURN P38A & B	4" DB-3 3" DB-3	M-217 11 11-19-69		-	3" DB-3 (2,3,4)	M-35/5 & 37/4 SH 2/B M-429	MOV-400D MOV-4001 FE-4002		---	M.W.P. 035115		ENS 4-9-70	743 4-9-70	PISOL	C/1	41	E.S. 06/11/92

1075 265

0106-01-85

[illegible]

ORIGINAL

WB-19

[illegible]

1899-1900

POINT BEACH

CVCTF4: DIESEL GENERATOR EXHAUST

WB-29

9/6/72

1075 268

POOR
ORIGINAL

SHEET 1 OF 1

10447

PROJECT: POINT BEACH

SYSTEM: SERVICE WATER RETURN & AUX. P.W.

78 & 76

DATE 9/6/72

PUMP SECTION

SYSTEM DESCRIPTION	LINE NO.	P.S.I.D. REV.	DATE	FLOW DIAGR.	THIRCO ISO.	AREA DWG.#/Rev.	FAILURE & REASON	TAG #	VALVE OR F.E.		EIS	CALC. DATE	FISOL	VERSION	ROOM	REMARKS
									WEIGHT (incl.)	OPERATOR						
SERVICE WATER RETURN HEADER TO CIRCULATING	20" JB-2 10" JB-2 12" JB-2	M-207 9	11- 19-69		14-JB-2-1 14-JB-2-2 14-JB-2-3 14-JB-2-4 14-JB-2-5 14-JB-2-6 14-JB-2-7 14-JB-2-8 14-JB-2-9 14-JB-2-10 14-JB-2-11 14-JB-2-12 14-JB-2-13 14-JB-2-14 14-JB-2-15	1-35/3, 2-7/5, 3-48/5 & 4-10/4	M-115/3 M-116/2 M-117/3 M-118/2 SK-M-359 (1,2,3) 351(2)				EIS	738 4-15-70	FISOL	C/1	41	EIS 0206118-0
WATER DISCHARGE																
AUX. FW PUMP SUCTION FROM CONDENSATE STORAGE TANKS	4" JG-4 6" JG-4 8" JG-4 10" JG-4	M-217 11	11- 19-69		14-JG-4-1 14-JG-4-2 14-JG-4-3 14-JG-4-4 14-JG-4-5 14-JG-4-6 14-JG-4-7 14-JG-4-8 14-JG-4-9 14-JG-4-10 14-JG-4-11 14-JG-4-12 14-JG-4-13 14-JG-4-14 14-JG-4-15	M-34/2, 35/3, 36/3 & 38/3	M-429/2 M-450/1 SK-M-357 (1)(2)	4" Gate 4" Check 6" Gate 6" Check			EIS-737 0	737 4-14-70	FISOL	C/1	41	EIS 0206118-0

1075 269