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L-2004-043
10 CFR 50.55a(f)

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

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Fourth-10 Year Interval
Inservice Testing Program

The Turkey Point Units 3 and 4 Inservice Testing (IST) program has been revised to meet the requirements of the ASME OM Code for the Fourth 10-year testing interval.

This letter submits to Nuclear Regulatory Commission in Attachment 1 the Fourth 10-year testing interval IST program, Revision 0, beginning February 22, 2004 for Turkey Point Unit 3 and April 15, 2004 for Turkey Point Unit 4. The IST program includes the associated pump and valve relief requests, which have been previously submitted to NRC for approval under FPL letter L-2003-316, dated January 6, 2003. Attachment 2 provides a current set of drawings to assist in pump and valve identification.

If you have any questions please contact Walter Parker at (305) 246-6632.

Sincerely,

Terry O. Jones

Terry O. Jones
Vice President
Turkey Point Nuclear Plant

Attachments

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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ATTACHMENT 1
L-2004-043

Turkey Point Nuclear Plant
Units 3 & 4

Inservice Testing Program
Fourth Ten Year Interval

Revision 0

Commercial Service Dates:

Unit 3 – 12/14/72
Unit 4 – 09/14/73

Florida Power and Light Company
Turkey Point Nuclear Power Plant
P.O. Box 3088
Florida City, Florida 33034

APPROVALS:

Prepared By: ______________________ **Date:** 2-25-04
PTN IST Coordinator

Approved By: ______________________ **Date:** 2/27/04
PTN Engineering Operations Support Manager

Approved By: ______________________ **Date:** 2/27/04
PTN Engineering Manager

REVISION LOG

Effective Date	Revision Description	Prepared: IST Coordinator	Date	Approved: Engineering Operations Support Manager	Date
2/25/04	4th Ten Year Interval, Revision 0 Submittal to NRC. In compliance with the 1998 Edition through 2000 Addenda except where relief is requested. For check valve condition monitoring, this submittal is in compliance with the 1995 Edition through 1996 Addenda, Appendix II and associated Federal Register modifications.	[signature]	2/25/04	[signature]	2/25/04

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1.0 INTRODUCTION

1.1 Purpose

To provide requirements for the performance and administration of assessing the operational readiness of those pumps and valves whose specific functions are required to:

- Shutdown the reactor to the safe shutdown condition,
- Maintain the safe shutdown condition, or
- To mitigate the consequences of an accident.

1.2 Scope

The program plan was prepared to meet the requirements of the following subsections of the American Society of Mechanical Engineers (ASME) OM Code (1998 Edition through 2000 Addenda) except for Mandatory Appendix II *"Check Valve Condition Monitoring Program"*. The American Society of Mechanical Engineers (ASME) OM Code (1995 Edition through 1996 Addenda), will be used for Check Valve Condition Monitoring and will apply the modifications required in Federal Register Volume 64, No. 183 dated September 22, 1999 (see Technical Position TPv-02).

- Subsection ISTA, *"General Requirements"*

  ISTA contains the requirements directly applicable to inservice testing including the Owner's Responsibility and Records Requirements.

- Subsection ISTB, *"Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants"*

  Establishes the requirements for inservice testing of pumps in light-water reactor nuclear power plants. The pumps covered are those provided with an emergency power source, that are required in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident. These pumps are either centrifugal or positive displacement type pumps.

- Subsection ISTC, *"Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants"*

  Establishes the requirements for inservice testing of valves in light-water reactor nuclear power plants. The valves covered include those which provide overpressure protection and are required to perform a specific function, either actively by changing valve obturator position or passively by effectively maintaining required obturator position in shutting down a reactor to the safe shutdown condition, in maintaining the safe shutdown condition, or in mitigating the consequences of an accident.

- Mandatory Appendix I, *"Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants"*

  Provides the requirements for performance testing and monitoring of nuclear plant pressure relief devices. Methods, intervals, and record requirements for monitoring and testing are established, as well as guidelines for the evaluation of results. Applies to safety valves, safety relief valves, pilot-operated pressure relief valves, power-actuated pressure relief valves, nonreclosing pressure relief devices and vacuum relief devices, including all accessories and appurtenances.

- Mandatory Appendix II, *"Check Valve Condition Monitoring Program"*

  Provides an alternative to the testing or examination requirements of ISTC-3510 through ISTC-5221. The purpose of this program is both to improve valve performance and to optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select group of check valves.

The Turkey Point Nuclear Power Plant fourth 120-month interval Pump and Valve Inservice Testing Plan will be in effect as follows:

	Begin	End
Unit 3	February 22, 2004	February 21, 2014
Unit 4	April 15, 2004	April 14, 2014

This plan will be updated as required in accordance with 10CFR50.55a(f).

This program plan provides a complete listing of those pumps and valves included in the program per the requirements of:

- ISTA *"General Requirements,"*
- ISTB *"Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants"*
- ISTC *"Inservice Testing of Valves in Light-Water Reactor Nuclear Power Plants"*
- Mandatory Appendix I, *"Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants"*
- Mandatory Appendix II, *"Check Valve Condition Monitoring Program"*

The key features of this Plan are: the Pump and Valve table listings, Relief Requests, Refueling Outage Justifications, Cold Shutdown Justifications, and Technical Positions. The Turkey Point Nuclear Power Plant Inservice Testing Basis Document includes the justification for inclusion of components in the scope of IST and also the justifications for exclusion from the program. Administrative procedures, surveillance testing procedures, and other records required to define and execute the Inservice Testing Program are all retained and available at Turkey Point Nuclear Power Plant.

2.0 INSERVICE TESTING PLAN FOR PUMPS

2.1 Pump Inservice Testing Plan Description

This program plan meets the requirements of ASME OM Code ISTB with the exception of specific relief requests contained in Attachment 3.

2.2 Pump Plan Table Description

The pumps included in the Turkey Point Nuclear Power Plant IST Plan are listed in Attachment 12. The information contained in these tables identifies those pumps to be tested to the requirements of the ASME OM Code, the testing parameters and frequencies, and associated relief requests. The headings for the pump tables are delineated below.

Pump Tag — Unique pump identification number.

Category — Pump group as defined in ISTB-2000.

Group A	Continuous or routinely operated pumps
Group B	Standby pumps not operated routinely except for testing

Safety Class — ASME Code classification of the pump.

1	Class 1
2	Class 2
3	Class 3
SR	Non-Code, Safety Related
NS	Non-Safety Related

Pump Type — Pump type.

Centrifugal
Vertical
Positive Displacement

Pump Driver — Pump driver type.

Motor	Motor driven
Turbine	Steam turbine driven
Engine	Engine Driven

Nominal Speed — Pump speed for variable speed pumps only.

P&ID — Piping and Instrumentation Drawing (Flow Diagram) on which the pump is represented.

P&ID Coor. — The P&ID Coordinate location of the pump.

2.2 Pump Plan Table Description (Cont'd)

Test Type	Measured pump test parameters.	
	N	Speed
	DP	Differential Pressure
	Q	Flow Rate
	V	Vibration
	a - Denotes a Category A Pump Test b - Denotes a Category B Pump Test c - Denotes a Comprehensive Pump Test	
Test Freq.	Frequency for performing the specified inservice test.	
	M3	Quarterly (92 Days)
	CS	Cold Shutdown
	Y2	Biennially (2 Years)
Relief Request	A relief request number is listed when a specific code requirement is determined to be impracticable. Attachment 2 contains an index of all the relief requests included in Attachment 3.	
Tech. Pos.	A technical position number is listed when the requirements of the code are not easily interpreted and clarifying information is needed. The technical position is used to document how Code requirements are being implemented at the station. Technical Positions for pumps are prefixed with "TPp". Attachment 10 contains an index of all the Station Technical Positions included in Attachment 11.	
Pump Name	Descriptive name of the pump.	

3.0 INSERVICE TESTING PLAN FOR VALVES

3.1 Valve Inservice Testing Plan Description

This plan establishes the test intervals and parameters to be measured to meet the requirements of ISTA, ISTC, Appendix I, and Appendix II with the exception of the specific relief requests contained in Attachment 5.

Where the frequency requirements for valve testing have been determined to be impracticable, Cold Shutdown or Refuel Outage Justifications have been identified and written. These justifications are provided in Attachments 7 and 9 respectively.

3.2 Valve Plan Table Description

The valves included in the Turkey Point Nuclear Power Plant IST Plan are listed in Attachment 13. The information contained in these tables identify those valves that are required to be tested to the requirements of ISTC and Appendix I, the test parameters, frequency of testing, and the associated relief requests. The headings for the valve tables are delineated below.

Valve Tag — A unique identifier for the valve.

P&ID — Piping and Instrumentation Drawing (Flow Diagram) on which the valve is represented.

P&ID Coor. — The P&ID Coordinate location of the valve.

Safety Class — The ASME Class abbreviation.

1	Class 1
2	Class 2
3	Class 3
SR	Non-Code, Safety Related
NS	Non-Safety Related

Cat. — The ASME OM Code category (or categories) as defined in ISTC-1300.

A	Seat Leakage Limited.
B	Seat Leakage Not Required.
C	Self-Actuating Valves.
D	Single Use Valves.
A/C	Both Categories A and C.
B/C	Both Categories B and C.

Size — The nominal pipe size of the valve, in inches.

3.2 Valve Plan Table Description (Cont'd)

Valve Type — The valve body style abbreviation.

BAL	Ball Valve
BTF	Butterfly Valve
CK	Check Valve
DAM	Damper
DIA	Diaphragm Valve
GA	Gate Valve
GL	Globe Valve
PLG	Plug Valve
RPD	Rupture Disk
RV	Relief Valve
SCK	Stop Check Valve
3W	3-Way Valve
4W	4-Way Valve

Act. Type — The valve actuator type abbreviation.

AO	Air Operator
HO	Hydraulic Operator
MAN	Manual
MO	Motor Operator
SA	Self-Actuating
SO	Solenoid Operator

Active/Passive — Active or Passive function determination for the valve in accordance with ISTC-2000.

A	Active
P	Passive

Normal Position — The normal position abbreviation. The valve's position during normal power operation. If the system does not operate during power operation, then the normal position is the position of the valve when the system is not operating.

C	Closed
LC	Locked Closed
DE	De-energized (3-way and 4-way solenoid valves)
E	Energized (3-way and 4-way solenoid valves)
O	Open
LO	Locked Open
SYS	System Condition Dependent

3.2 Valve Plan Table Description (Cont'd)

Safety Position	The safety function position(s). For valves that perform safety functions in the open and closed positions more than one safety function position may be specified.	
	C	Closed
	DE	De-energized (3-way and 4-way solenoid valves)
	E	Energized (3-way and 4-way solenoid valves)
	DE/E	De-energized and Energized
	O	Open
	O/C	Open and Closed
Test Type	The test type abbreviation.	
	AT-01	Seat Leakage Rate Test (low pressure air), Appendix J
	AT-02	Seat Leakage Rate Test (high pressure water), Pressure Isolation Valve
	BTC	Exercise Test Closed
	BTO	Exercise Test Open
	CC	Exercise Test Closed – Check Valve(1)
	CO	Exercise Test Open – Check Valve(1)
	CP	Partial Exercise Test – Check Valve(1)
	DT	Rupture Disk Test
	FC	Fail Safe Test Closed
	FO	Fail Safe Test Open
	PIT	Position Indication Test
	RT	Relief Valve Test

(1) Three letter designations may be used for check valve condition monitoring tests to differentiate between the various methods of exercising check valves. The letter following "CC", "CO", or "CP" should be "A" for acoustics, "D" for disassembly and examination, "F" for flow indication, "M" for magnetics, "R" for radiography, "U" for ultrasonics, or "X" for manual exercise.

Test Freq.	The test frequency abbreviation.	
	App-J	Appendix J
	CM	Condition Monitoring(1)
	CS	Cold Shutdown
	M3	Quarterly
	OP	Operating Activities(2)
	RR	Refueling Outage
	YX	X Years (X = 1,2,..., 10)

(1)Frequency is as indicated in respective Condition Monitoring Plan for that valve group.

(2)Satisfied in accordance with IST Program Technical Position, TPv-01, "Bi-directional Testing of Check Valves".

3.2 Valve Plan Table Description (Cont'd)

Relief Request	A relief request number is listed when a specific code requirement is determined to be impracticable. Attachment 4 contains an index of all the relief requests included in Attachment 5.
Deferred Just.	Deferred Test Justification. This section refers to Cold Shutdown Justifications and Refuel Outage Justifications. A Cold Shutdown Justification number is listed when the testing frequency coincides with Cold Shutdowns instead of being performed quarterly. Cold Shutdown Justification numbers for valves are prefixed with "CSJ". Attachment 6 contains an index of all the Cold Shutdown Justifications included in Attachment 7. A Refueling Justification number is listed when the testing frequency coincides with Refueling Justification instead of being performed quarterly or during Cold Shutdowns. Refueling Justification numbers for valves are prefixed with "RJ". Attachment 8 contains an index of all the Refueling Justifications included in Attachment 9.
Tech. Pos.	A technical position number is listed when the requirements of the code are not easily interpreted and clarifying information is needed. The technical position is used to document how Code requirements are being implemented at the station. Technical Positions for valves are prefixed with "TPv". Attachment 10 contains an index of all the Station Technical Positions included in Attachment 11.

4.0 ATTACHMENTS:

Attachment 1
System and P&ID Listing

Attachment 2
Pump Relief Request Index

Attachment 3
Pump Relief Requests

Attachment 4
Valve Relief Request Index

Attachment 5
Valve Relief Requests

Attachment 6
Cold Shutdown Justification Index

Attachment 7
Cold Shutdown Justifications

Attachment 8
Refuel Outage Justification Index

Attachment 9
Refuel Outage Justifications

Attachment 10
Station Technical Position Index

Attachment 11
Station Technical Positions

Attachment 12
Inservice Testing Pump Table

Attachment 13
Inservice Testing Valve Table

ATTACHMENT 1

SYSTEM AND P&ID LISTING

System	System Name	P&ID
013	Instrument Air/Service Air	5610-M-3013-1
013	Instrument Air/Service Air	5613-M-3013-1,7
018	Condensate Storage	5613/4-M-3018-1
019	Intake Cooling Water	5613/4-M-3019-1
020	Primary Water Makeup	5613/4-M-3020-2
022	Emergency Diesel Generator	5613/4-M-3022-1,2,3,4,5,6
022	Emergency Diesel Generator	5614-3022-3,4
025	Control Building Ventilation	5610-M-3025-2
030	Component Cooling Water	5613/4-M-3030-1,2,3,4
030	Component Cooling Water	5613-M-3030-5
033	Spent Fuel Pit Cooling	5613/4-M-3033
036	Sampling	5613/4-M-3036-1
036	Sampling	5613/4-M-3037-1
041	Reactor Coolant System	5613/4-M-3041-2,3,4
046	Boric Acid	5610-M-3046-1
047	Chemical and Volume Control	5613/4-M-3047-1,2,3
050	Residual Heat Removal	5613/4-M-3050-1
053	Containment Purge	5613/4-M-3053-1
056	Emergency Containment Filtering	5610-M-3068-1
056	Emergency Containment Filtering	5613/4-M-3056-1
061	Liquid Waste Disposal System	5613/4-M-3061-1
062	Safety Injection	5613/4-M-3062-1,2
064	Safety Injection Accumulators	5613/4-M-3064-1
065	Nitrogen and Hydrogen	5610-M-3065-1
068	Containment Spray	5613/4-M-3068-1
072	Main Steam System	5613/4-M-3072-1
074	Blowdown	5613/4-M-3032-1,4
074a	Main Feedwater	5613/4-M-3074-3
075	Auxiliary Feedwater	5610-M-3075-1,2
075	Auxiliary Feedwater	5613/4-M-3075-1,2,3
094a	Post Accident Hydrogen Monitors	5613/4-M-3094-1
094b	Containment Condition Monitoring	5613/4-M-3094-1
094c	Post Accident Sampling	5613/4-M-3094-1
094d	Post Accident Hydrogen Control	5613/4-M-3094-1
101	Breathing Air	5613/4-M-3101-1

ATTACHMENT 2

PUMP RELIEF REQUEST INDEX

(Page 1 of 1)

Relief Request No.	Description	NRC Approval Date
PR-01	Boric Acid Transfer Pump Fixed Resistance	
PR-02	0.25 % Gauge Liquid	
PR-03	Containment Spray Pump Comprehensive Pump Test	
PR-04	RHR Discharge and Suction Pressure Gauge Range Requirements	
PR-05	No Comprehensive Test for Certain Group A Pumps	
PR-06	Categorization of Residual Heat Removal Pumps as Group B (Modes 1-4) and Group A (Modes 5-6)	

ATTACHMENT 3

PUMP RELIEF REQUESTS

10 CFR 50.55a Request Number PR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

3P203A	3A Boric Acid Transfer Pump
3P203B	3B Boric Acid Transfer Pump
4P203A	4A Boric Acid Transfer Pump
4P203B	4B Boric Acid Transfer Pump

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-5121(c) – Where it is not practical to vary system resistance, flow rate and pressure shall be determined and compared to their respective reference values.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-5121(c). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The normal test loop for the subject pumps consists of fixed resistance flow paths to limit flow, however, flow measuring instruments are not installed. See Attachment 1, Boric Acid Transfer Pump Test Diagram. Since the system resistance is fixed and can be assumed to be constant, pump degradation can be detected by comparing successive measurements of pump differential pressure.

5. **Proposed Alternative and Basis for Use**

An alternate test circuit is available in which flow rate may be measured, however this flow path requires injection of highly concentrated boric acid solution into the reactor coolant system. During the quarterly group A test at normal power operations, this test is highly impractical since severe power level fluctuations would be created which would lead to a potential transient and subsequent trip of the reactor. Performing this test at cold shutdown intervals would also result in excessive boration of the reactor coolant system resulting in potential difficulties and delays in restarting the plant.

10 CFR 50.55a Request Number PR-01
(Continued)

As an alternative to measuring differential pressure and flow during the group A quarterly test, only the differential pressure will be measured and compared to its reference value. Additionally, vibration measurements are also recorded and compared to their reference values. Manual isolation valves are closed and flow is recirculated back to the boric acid tank. See Attachment 1, Boric Acid Transfer Pump Test Diagram.

During the comprehensive inservice test when flow may be measured, full spectrum analysis will be performed above the required vibration analysis by the Code. When performing the comprehensive pump test, all required parameters will be measured and compared to their reference values.

Additionally, these pumps are included in the station preventive maintenance program which requires a pump inspection and oil analysis to be performed periodically.

Based on the preventive maintenance inspection results, full spectrum analysis, and continued quarterly and comprehensive testing, an accurate assessment of pump health and operational readiness is determined. This alternative provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4th 120 month interval.

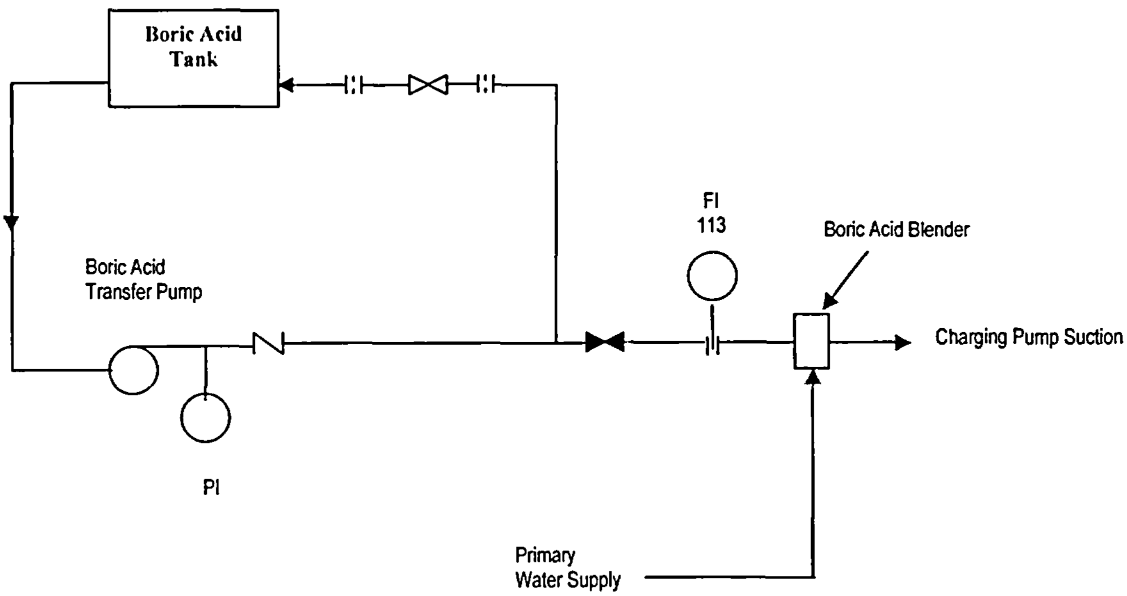
7. **Precedents**

This relief request was previously approved for 3rd Ten Year Interval at Turkey Point as PR-1, and satisfies the requirements of Generic Letter 89-04, Position 9.

10 CFR 50.55a Request Number PR-01
(Continued)

Attachment 1

Boric Acid Transfer Pump Test Diagram



10 CFR 50.55a Request Number PR-02

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

3P203A	3A Boric Acid Transfer Pump
3P203B	3B Boric Acid Transfer Pump
4P203A	4A Boric Acid Transfer Pump
4P203B	4B Boric Acid Transfer Pump
3P211A	3A Component Cooling Water Pump
3P211B	3B Component Cooling Water Pump
3P211C	3C Component Cooling Water Pump
4P211A	4A Component Cooling Water Pump
4P211B	4B Component Cooling Water Pump
4P211C	4C Component Cooling Water Pump
3P215A	3A Safety Injection Pump
3P215B	3B Safety Injection Pump
4P215A	4A Safety Injection Pump
4P215B	4B Safety Injection Pump

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-3520(a) – *Gage Lines.* If the presence or absence of liquid in a gage line could produce a difference of more than 0.25% in the indicated value of the measured pressure, means shall be provided to ensure or determine the presence or absence of liquid as required for the static correction used.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-3520(a). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

For the group A and comprehensive pump tests, applying the 0.25% limit to low pressure measurements to these pumps results in complex venting procedures requiring valve manipulations, component disassembly, and breech of radioactive and chemically treated systems to perform the test. Turkey Point has implemented and mandated programs and policies to minimize the causes of these types of waste products.

10 CFR 50.55a Request Number PR-02
(Continued)

Venting of the suction gages for the purposes of testing does not significantly effect the overall differential pressure measurement, while it significantly impacts the plant waste reduction program.

For the subject pumps, discharge pressure exceeds suction pressure by at least a factor of six, for which a 0.25% error introduced into the suction pressure measurement typically results in an error of 0.05% in the differential pressure calculation. This error is insignificant with respect to the potential 6% error allowance applied to both the suction and discharge pressure instruments.

5. **Proposed Alternative and Basis for Use**

As an alternative, the introduced error in conjunction with the specific range and accuracy of the gauges utilized will be verified to comply with the minimum Code required accuracy for calculation of the differential pressure. This calculation will verify that the square root of the sum of the errors of the specific gauges utilized, and will include a term to account for the error associated with the presence or absence of liquid, is less than the square root of the sum of the squares of 6 % of the associated suction and discharge lines.

This request applies to the Boric Acid Transfer and Component Cooling water pumps' group A test and all of the subject pumps' comprehensive tests. The Safety Injection pumps are considered group B. Flow rate is the only measured parameter during the group B test of the Safety Injection pumps.

This alternative provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4th 120 month interval.

7. **Precedents**

This relief request was previously approved for 3rd Ten Year Interval at Turkey Point as PR-4.

10 CFR 50.55a Request Number PR-03

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

3P214A	3A Containment Spray Pump
3P214B	3B Containment Spray Pump
4P214A	4A Containment Spray Pump
4P214B	4B Containment Spray Pump

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-3300(e)(1) – Reference values shall be established within +/- 20% of pump design flow rate for the comprehensive test.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-3300(e)(1). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The specified +/- 20% of pump design flow rate can not be achieved for the subject pumps during normal quarterly Group B testing or during Comprehensive testing. The design flow rate of the containment spray pump is 1450 gpm. This point is also the best efficiency point of the pump.

Attachment 1 is the pump characteristic curve which is representative of the Containment Spray pumps at Turkey Point.

5. **Proposed Alternative and Basis for Use**

The design of the containment spray system is such that the test loop for the pump consists of a 6" discharge line which separates into a 2" recirculation line back to the pump suction. The 6" discharge line terminates inside containment at the spray nozzles. Testing of the pump at the design flow rate, would require discharging flow through the spray nozzles and subsequently wetting containment. The discharge piping was not designed to be temporarily modified to allow pump design flow without flow being discharged to the containment via the spray nozzles.

10 CFR 50.55a Request Number PR-03
(Continued)

During preoperational testing (1971 and 1972 for Unit #3 and Unit #4 respectively), the containment spray pumps were full flow tested. A test loop was constructed by installing a 6" section of piping in place of the discharge check valve (*-890A/B). This temporary section of piping was routed to the plant sump. See Attachment 2, Containment Spray System Preoperational Test Flow Diagram. With the discharge to containment isolated, the pumps were run for at least an hour in the recirculation mode (1" line) taking suction from the Refueling Water Storage Tank (RWST). After operating in recirculation, the pumps were then operated at substantial flow using the temporary test line. Three points on the manufacturers curve were then verified, with the acceptance criteria that the pump head and capacity be above the FSAR performance curve shown in Attachment 1. Each of the pumps delivered at least 1450 gpm when preoperationally tested. Attachments 3 and 4 contain the preoperational data plotted against the performance curve.

It should be noted that the originally installed 1" recirculation line was designed for a flow rate of 50 gpm to prevent pump damage when pumping to a closed loop. In 1982, a test recirculation line was installed for each containment spray pump to allow each pump to be tested at a minimum of 400 gpm for inservice testing purposes. During the design change process it was identified by the pump manufacturer (Gould) that a minimum recirculation flow of 300 gpm be provided for the short duration monthly test and 400 gpm be provided for the annual hour-long test. Turkey Point installed the necessary recirculation test flow path under design change PC/M 82-19, 20 on both Unit #3 and Unit #4. See Attachment 5, Current Containment Spray System Diagram.

As an alternative to testing at +/- 20 % of design flow, the test recirculation loop shown in Attachment 5 will be used. The reference flows are established at approximately 400 gpm, versus a design flow of 1450 gpm. The low flow rate is due to the 2" recirculation line. At this reference point of 400 gpm, the characteristic curve for the pump is not horizontal. Pump degradation as noted by measuring differential pressure can be detected for a given flow rate reference value.

The reference flow rate of 400 gpm corresponds to 27.6 % of pump design flow. At the reference conditions the flow values are currently at a point on the curve (Attachment 1) that is well sloped and repeatable. Any degradation in pump performance at the set flow rate be recognized or detected through a substantial change in measured pump differential pressure.

To establish the flow rate within +/- 20 % of design would require a flow rate of at least 1160 gpm. Establishing flows at 1160 gpm does not increase the ability to detect degradation or assess pump conditions since the slope of the pump curve is essentially constant from shutoff head to 1250 gpm. Therefore, testing at higher flows does not increase the ability to detect hydraulic degradation.

10 CFR 50.55a Request Number PR-03
(Continued)

Past test data for the Unit #3 and #4 containment spray pumps is presented in Attachments 6 and 7 respectively. This test data was collected during the corresponding inservice test with the pump operating at a set flow rate of 400 gpm. Comparing this test data to the original pump performance and preoperational curves in Attachments 3 and 4 demonstrates the pumps are operating above the original performance curve and at or above the original preoperational curve. Additionally, vibration data collected during the inservice tests, has been below 0.325 in/sec in all cases. Based on this mechanical and hydraulic data, and the maintenance history, there is reasonable assurance that the pumps would perform their intended design function. Projecting the hydraulic pump performance at substantial flow rates would be expected to be above the performance curve at the design point, with adequate margin. Mechanical vibration projected at substantial flows would tend to be less than that at the reduced flow test point.

As expected, insignificant degradation has been experienced since these pumps are only operated for testing purposes.

To compensate for testing the containment spray pumps at reduced flow rates during the comprehensive test, as required by ISTB-3300(e)(1), additional activities will be performed as follows to assess operational readiness and determine pump health.

During all comprehensive inservice testing, full spectrum analysis is performed above the required vibration analysis by the Code. Additionally, these pumps are included in the station Preventive Maintenance Program which requires a pump inspection and oil analysis to be performed periodically. Based on the preventive maintenance inspection results, full spectrum analysis, oil analysis, and continued quarterly and comprehensive testing within 27.6% of design pump flow, an accurate assessment of pump health and operational readiness is determined.

Additionally, Turkey Point has previously modified the system to increase the test flow rate. However, reestablishing the full flow test loop for the purpose of periodic testing would require modifications to the plant and removal of check valve (*-890A/B). Post maintenance testing of system and verification of check valve (*-890A/B) would be a substantial burden. Substantial flow can only be achieved through the 6" discharge line which ultimately requires flow through the spray nozzles. A temporary modification to plug the nozzles and install a test return line capable of passing pump design flow would be highly labor intensive and would require a permanent modification to the containment spray piping system.

10 CFR 50.55a Request Number PR-03
(Continued)

6. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4th 120 month interval.

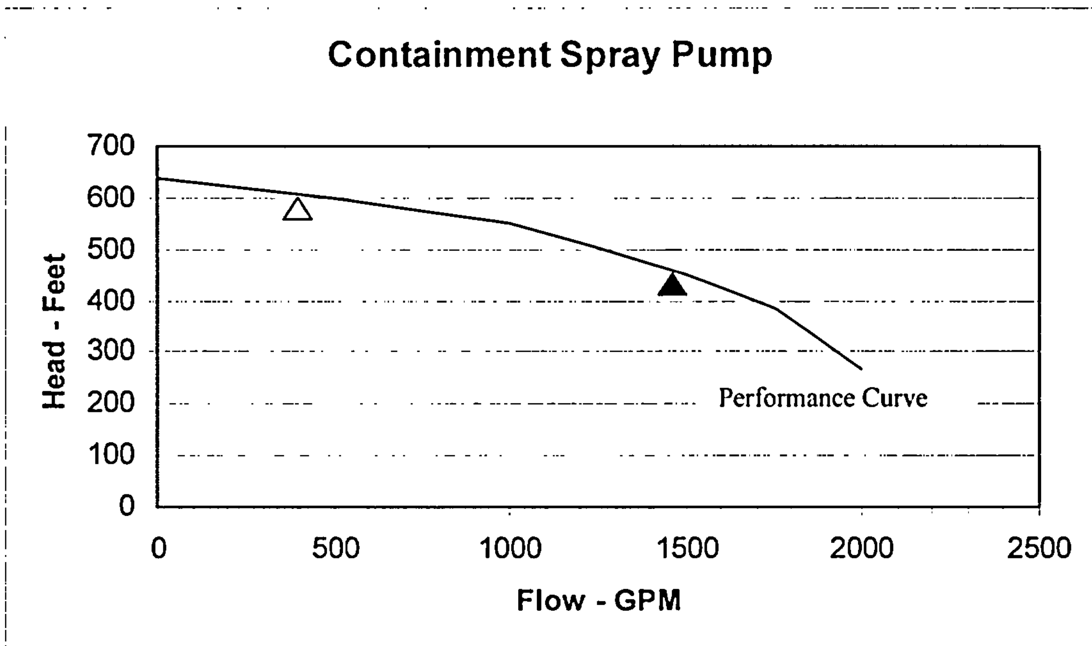
7. Precedents

- Similar relief request PR-6 was previously approved for North Anna Power Station on January 8, 2002. Docket Nos. 50-338 and 50-339 (TAC Nos. MB2221and MB2222).
- Similar relief request PR-1 was previously approved for Seabrook Station on May 30, 2003. Docket No. 50-443 (TAC No. MB6676).

10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 1

Containment Spray Pump Characteristic Curve



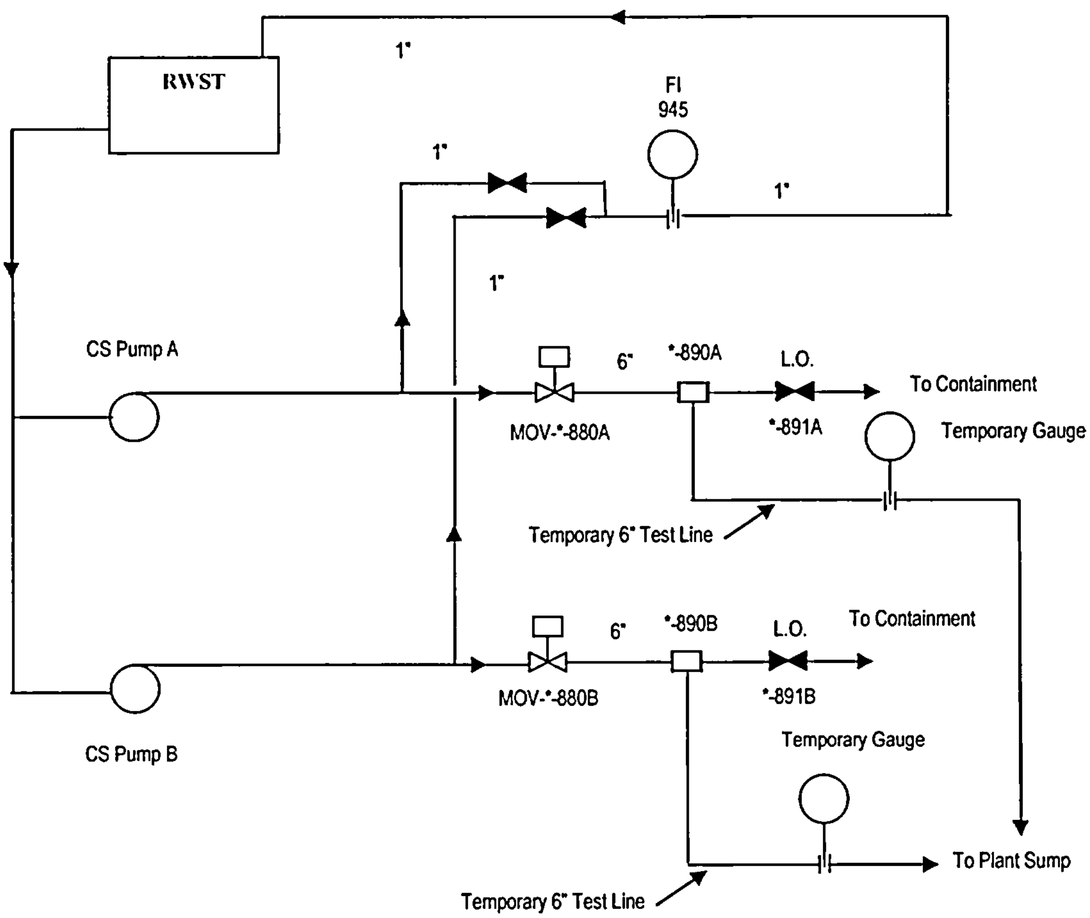
▲ - Pump Design Point (1450 gpm)

△ - Pump Test Point (set parameter is flow at 400 gpm)

10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 2

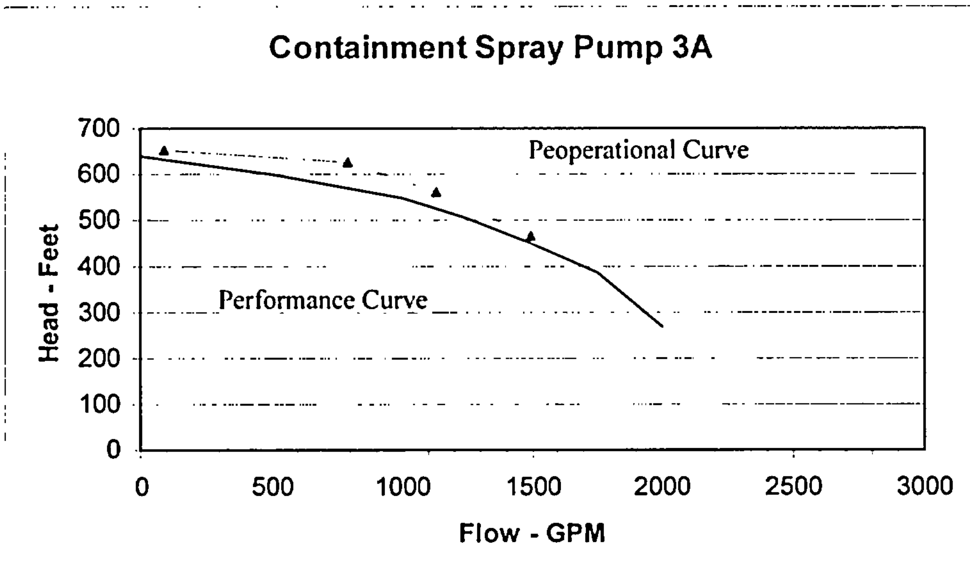
Containment Spray System Preoperational Test Flow Diagram

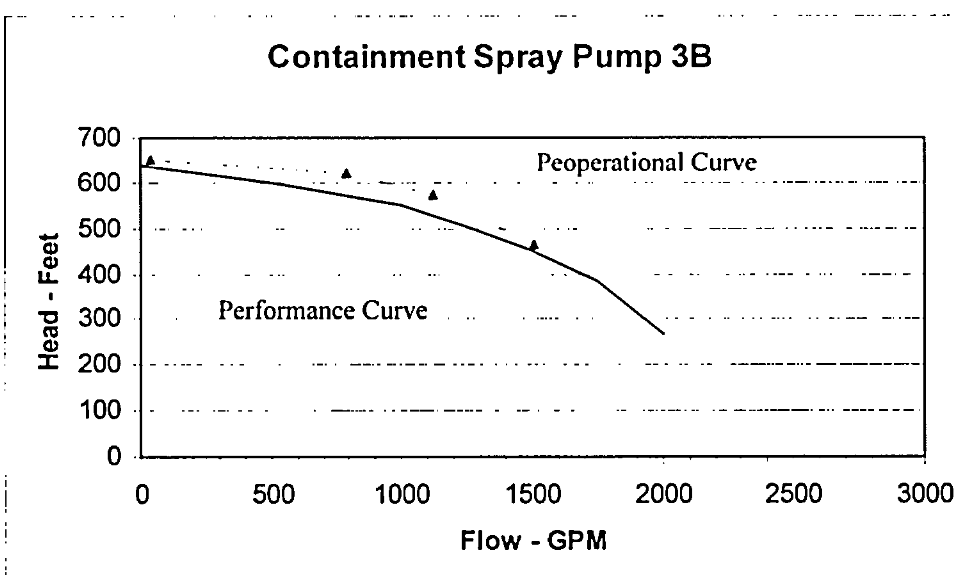


10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 3

Containment Spray Pump Preoperational Data – Unit #3

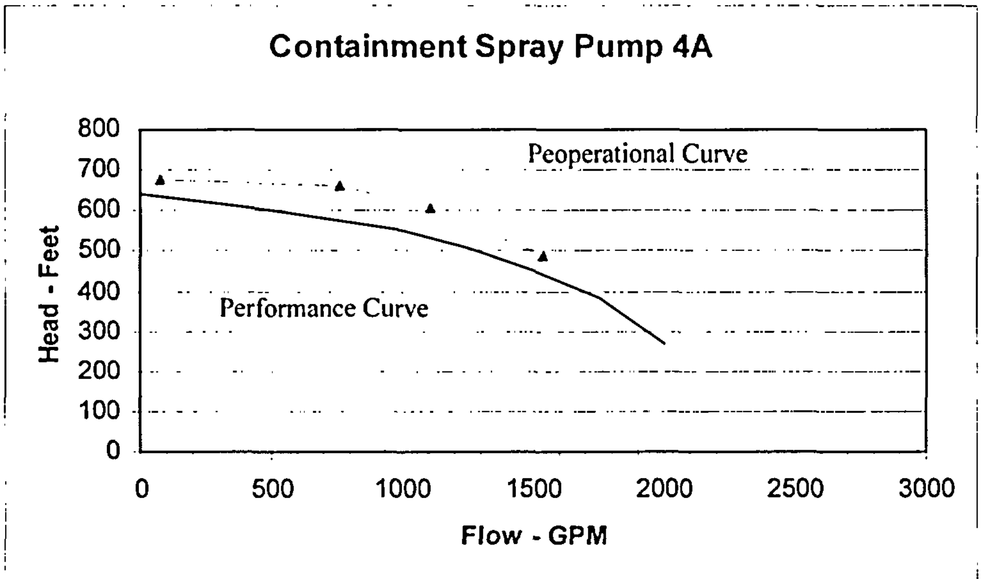


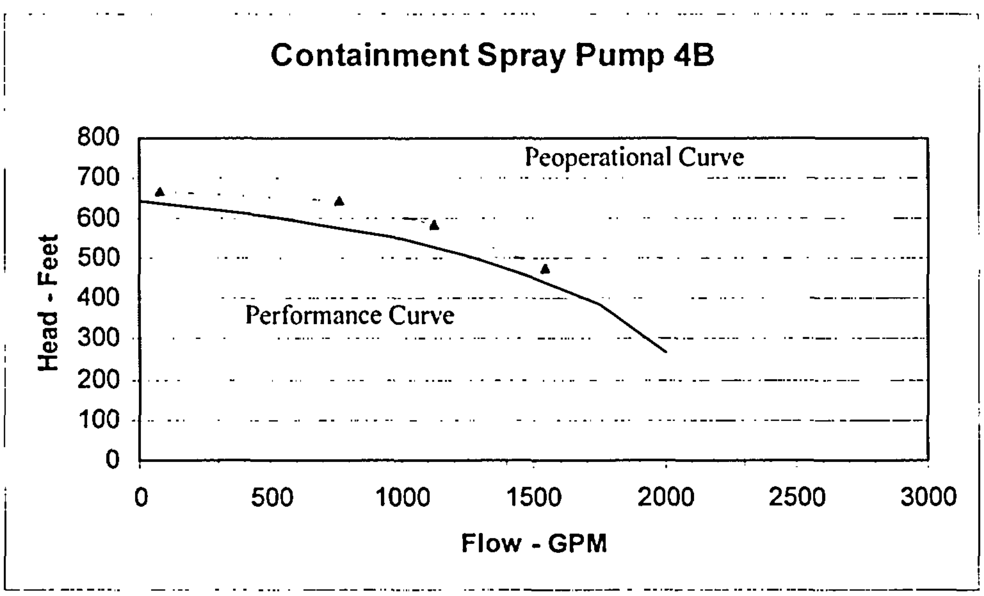


10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 4

Containment Spray Pump Preoperational Data – Unit #4

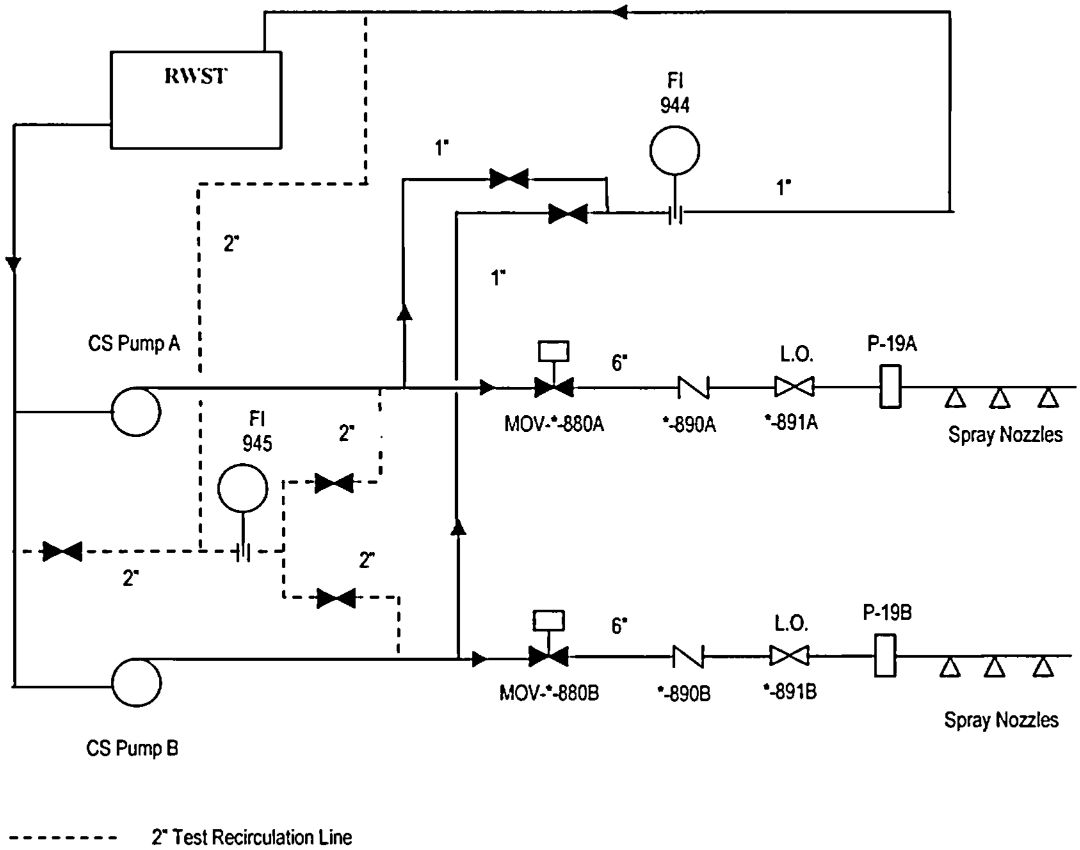




10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 5

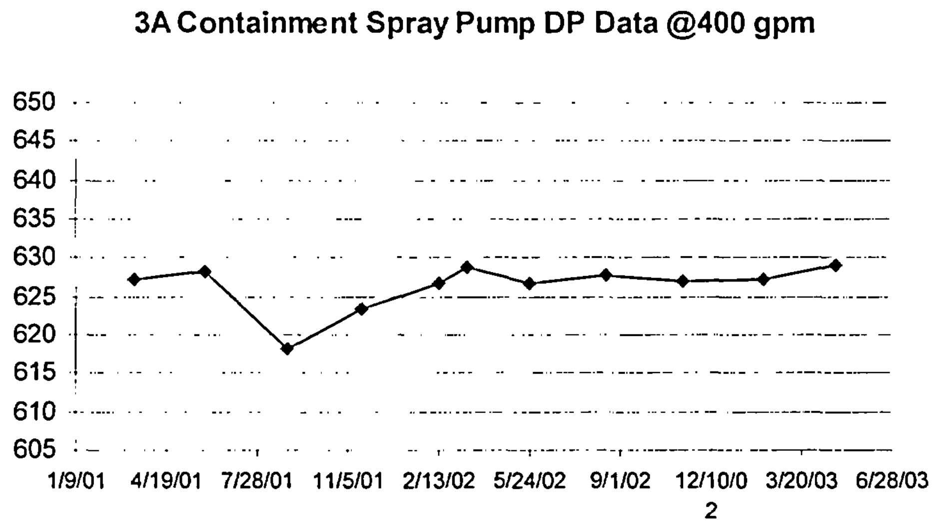
Current Containment Spray System Diagram

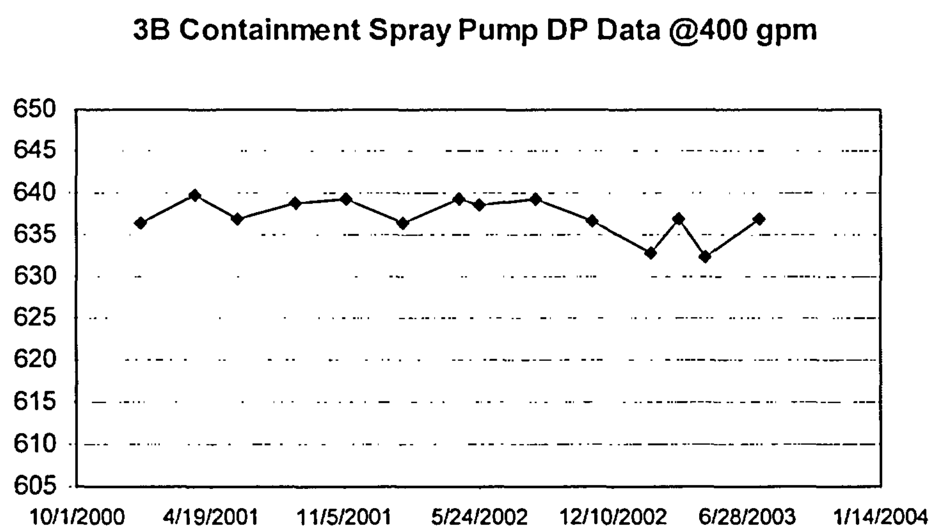


10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 6

Containment Spray Pump Operational Data – Unit #3

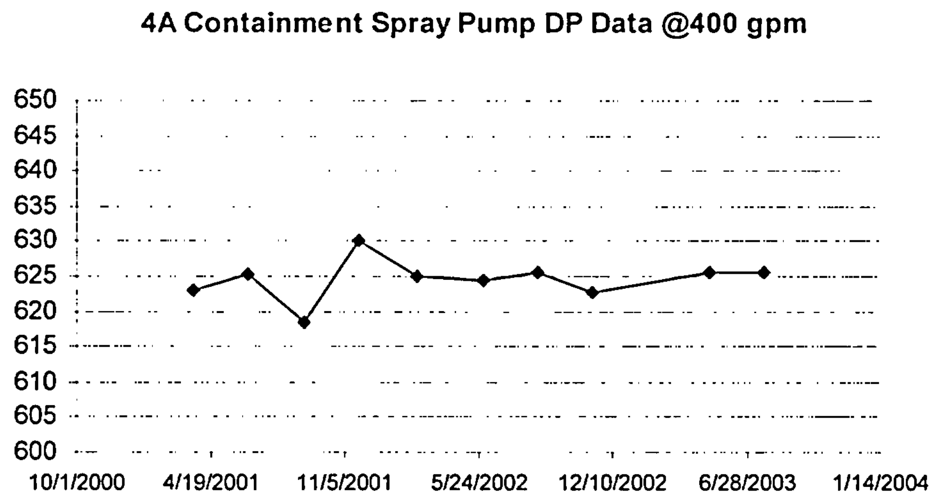


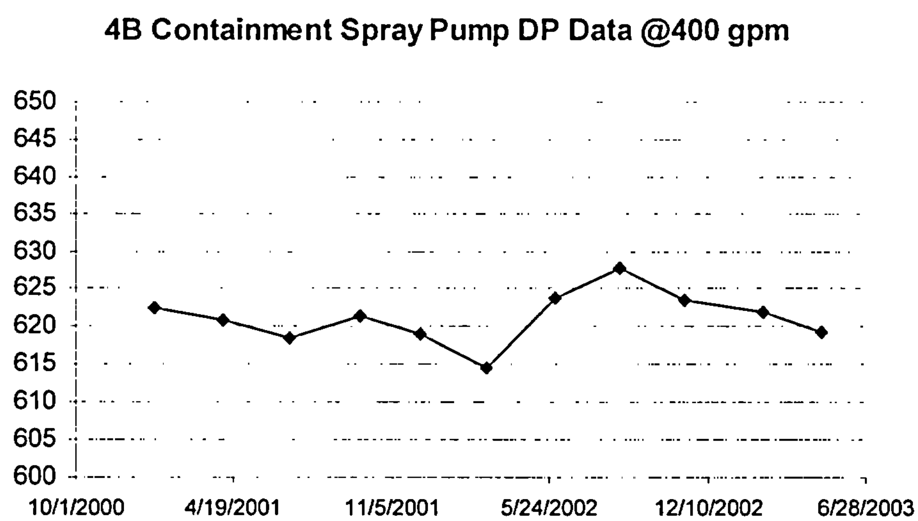


10 CFR 50.55a Request Number PR-03
(Continued)

Attachment 7

Containment Spray Pump Operational Data – Unit #4





10 CFR 50.55a Request Number PR-04

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(I)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

3P210A	3A Residual Heat Removal Pump
3P210B	3B Residual Heat Removal Pump
4P210A	4A Residual Heat Removal Pump
4P210B	4B Residual Heat Removal Pump

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-3510(b)(1) – The full-scale range of each analog instrument shall be not greater than three times the reference value.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-3510(b)(1). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The installed suction and discharge pressure gauges of the residual heat removal pumps are sized to accommodate the pressure range of 4 to 600 psig expected under standby, cold shutdown, and emergency operation modes. The instrument range is 0 to 600 psig. As a result, the instrument range exceeds the requirement of ISTB-3510(b)(1) since during the quarterly and cold shutdown inservice tests, the suction/discharge pressures may be considerably less than the range requirements of ISTB-3510(b)(1).

5. **Proposed Alternative and Basis for Use**

As an alternative, the use of existing instrumentation, without meeting the 1/3 range requirements of the Code but which exceed the Code required accuracies will be applied to all inservice tests of the RHR pumps. This alternative will adequately provide for monitoring pump health conditions for the following reasons:

These specific gauges are calibrated to an accuracy of +/- 0.25 % and are of the "twice around" type such that they may accurately indicate pressure over all modes of Residual Heat Removal operations (Shutdown Cooling and Emergency Core Cooling). The gauge range on the first revolution is 0 to 300 psig and 300 to 600 psig on the second revolution. See Attachment 2, RHR Suction and Discharge Pressure Gauge.

10 CFR 50.55a Request Number PR-04
(Continued)

Suction Pressure

Suction pressure measurements are recorded and used to derive the pump differential pressure through calculation. The accuracy of the suction pressure measurement normally has little or no effect on the results of this calculation since, generally, the pump discharge pressure exceeds the suction pressure by 6 to 7 times the reference value. When determining pump differential pressure (DP), typically the RHR pump DP is approximately 100 psi (discharge pressure approximately 120 psig while suction pressure is approximately 20 psig). The maximum effect of suction pressure inaccuracies is 0.25% x 600 psig, or 1.5 psig. The Code required gauge range for this suction pressure reference value (20 psig) would be 0 to 60 psig. The Code accuracy requirement of 2% would cause a maximum inaccuracy of 2.0% x 60 psig, or 1.2 psig. See Attachment 1.

Discharge Pressure

Discharge pressure measurements are also recorded and used to derive the pump differential pressure through calculation. When determining pump differential pressure (DP), typically the RHR pump DP is approximately 100 psig (discharge pressure approximately 120 psig while suction pressure is approximately 20 psig). The maximum effect of the discharge pressure inaccuracies is 0.25% x 600 psig, or 1.5 psig. The Code required gauge range for this discharge pressure reference value (120 psig) would be 0 to 360 psig. The Code accuracy requirement of 2% would cause a maximum inaccuracy of 2.0% x 360 psig, or 7.2 psig. See Attachment 1.

Combination

Based on the inaccuracies of the suction and discharge pressure gauges (+/- 1.5 psig), the largest possible error in the differential pressure calculation is +/- 3 psig. Use of gauges with Code required ranges, and applying the Code accuracy requirements, the largest possible inaccuracies would be 1.2 psig + 7.2 psig, or 8.4 psig. See Attachment 1.

Therefore, the use of permanently installed pressure instruments which exceed the Code required accuracies but do not meet the Code range requirements would reduce the overall instrument inaccuracies with respect to differential pressure for the quarterly test from 8.4 psig to 3.0 psig.

For the comprehensive pump test, the overall inaccuracy of the currently installed instruments is 3.0 psig versus 2.1 psig for an instrument which meets the range requirements. This difference is less than 1% (0.9 psig) of the overall reference differential pressure of 100 psi.

Additionally, during the RHR pump comprehensive testing, full vibration spectrum analysis is performed above the Code required vibration analysis. Further, these pumps are included in the station preventive maintenance program which requires each pump to be inspected on a periodic basis.

10 CFR 50.55a Request Number PR-04
(Continued)

Based on the preventive maintenance inspection results, full spectrum analysis, and continued quarterly and comprehensive testing with the permanently installed pressure gauges, an accurate assessment of pump health and operational readiness is determined.

This alternative provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4^{th} 120 month interval.

7. **Precedents**

A similar relief request was previously approved for 3^{rd} Ten Year Interval at Turkey Point as PR-3.

10 CFR 50.55a Request Number PR-04
(Continued)

Attachment 1

Gauge Ranges and Accuracy Comparison

The following tables present a comparison between the permanently installed pressure gauges on the RHR pumps at Turkey Point along with the Code required ranges and accuracies for both a Group A or B test and a Comprehensive test.

Suction Pressure

	Gauge Range	Accuracy	Suction Pressure Inaccuracy
Turkey Point	0 – 600 psig	0.25 %	1.5 psig
Group A or B Test	0 – 60 psig	2.0 %	1.2 psig
Comprehensive Test	0 – 60 psig	0.5 %	0.3 psig

Discharge Pressure

	Gauge Range	Accuracy	Discharge Pressure Inaccuracy
Turkey Point	0 – 600 psig	0.25 %	1.5 psig
Group A or B Test	0 – 360 psig	2.0 %	7.2 psig
Comprehensive Test	0 – 360 psig	0.5 %	1.8 psig

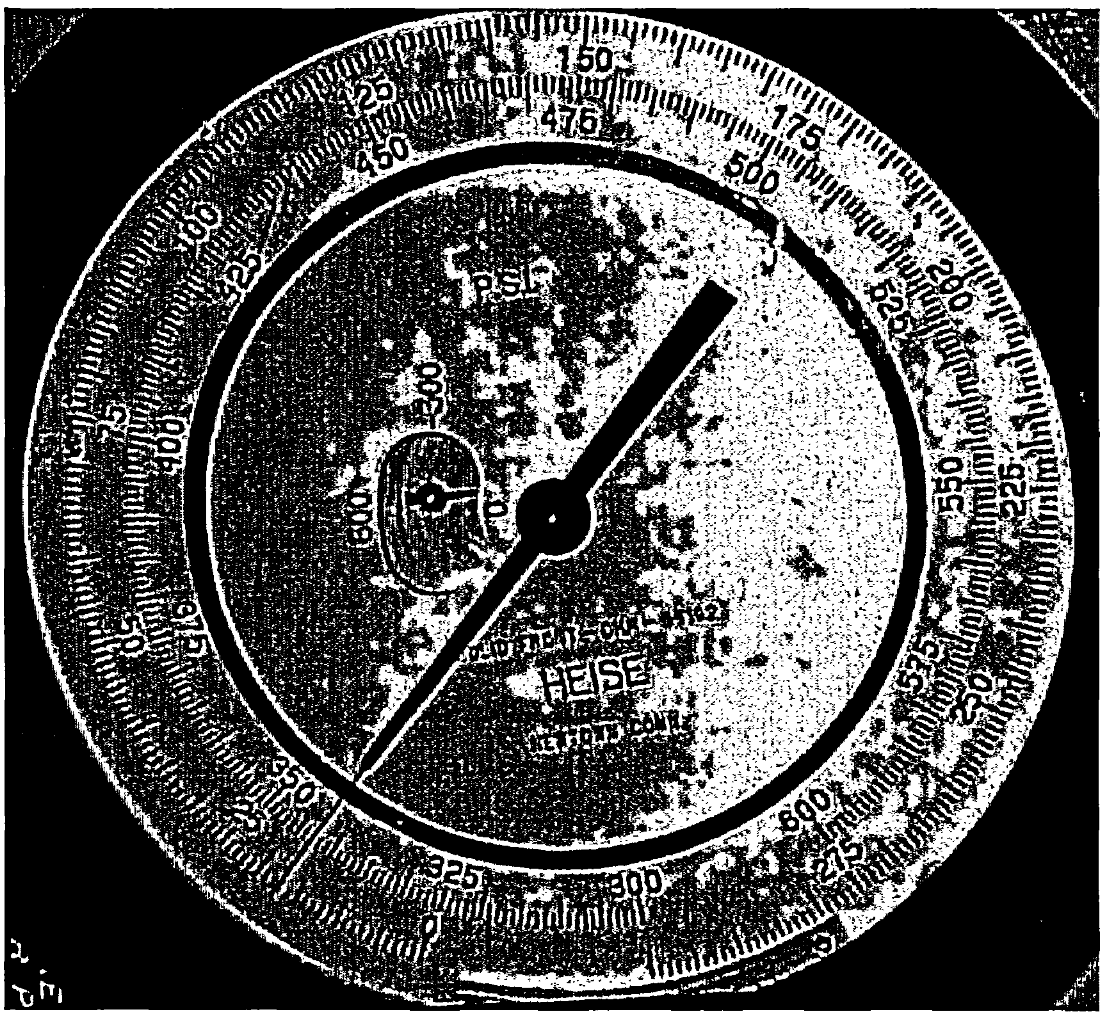
Combination – Differential Pressure

	Suction Gauge Range	Suction Pressure Accuracy	Discharge Gauge Range	Discharge Pressure Accuracy	Total Inaccuracy
Turkey Point	0 – 600 psig	0.25 % (1.5 psig)	0 – 600 psig	0.25 % (1.5 psig)	3.0 psig
Group A or B Test	0 – 60 psig	2.0 % (1.2 psig)	0 – 360 psig	2.0 % (7.2 psig)	8.4 psig
Comprehensive Test	0 – 60 psig	0.5 % (0.3 psig)	0 – 360 psig	0.5 % (1.8 psig)	2.1 psig

10 CFR 50.55a Request Number PR-04
(Continued)

Attachment 2

RHR Suction and Discharge Pressure Gauge



10 CFR 50.55a Request Number PR-05

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

3P201A	3A Charging Pump
3P201B	3B Charging Pump
3P201C	3C Charging Pump
3P211A	3A Component Cooling Water Pump
3P211B	3B Component Cooling Water Pump
3P211C	3C Component Cooling Water Pump
3P9A	3A Intake Cooling Water Pump
3P9B	3B Intake Cooling Water Pump
3P9C	3C Intake Cooling Water Pump
4P201A	4A Charging Pump
4P201B	4B Charging Pump
4P201C	4C Charging Pump
4P211A	4A Component Cooling Water Pump
4P211B	4B Component Cooling Water Pump
4P211C	4C Component Cooling Water Pump
4P9A	4A Intake Cooling Water Pump
4P9B	4B Intake Cooling Water Pump
4P9C	4C Intake Cooling Water Pump

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-5123, 5223, 5323 – Comprehensive Test Procedure.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-5123, 5223, and 5323. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The subject pumps are all categorized as group A pumps. These pumps are operated routinely during normal plant operations. Each pump is tested in accordance with its associated group A procedure. All of these pumps are operated at conditions within +/- 20% of the design flow rate when tested each quarter (see attachments to this request). All of the required Code parameters are measured and compared to their respective reference values.

10 CFR 50.55a Request Number PR-05
(Continued)

At least once every two years, during the group A test, a full spectrum vibration analysis will be performed above the required vibration analysis by the Code. Additionally, these pumps are included in the station preventive maintenance program which requires a pump inspection and oil analysis to be performed periodically.

The intent of the Code required Comprehensive Test is to test the pump at substantial flow (biennially) such that pump degradation may be easily detected on the portion of the pump curve which is well sloped. Turkey Point tests each of these pumps at substantial flow (+/- 20% of design) each quarter.

Intake Cooling Water Pump

See Attachment 1, Intake Cooling Water Pump Curve

Inservice Testing Basis

The intake cooling water pump is required to operate to supply cooling water from the intake structure to the tube side of the component cooling water heat exchangers during design basis accident conditions to ensure heat removal capabilities of the component cooling water system [UFSAR 9.6.2]. The intake cooling water pumps supply cooling flow to the component cooling water and turbine plant cooling water system loads during normal plant operations, however, only one pump is required to satisfy design basis accident conditions. The C intake cooling water pump automatically starts on a loss of power or safety injection signal if either the A or B pump breaker is open. [UFSAR 9.6.2].

The intake cooling water pump is designed to deliver 16,000 gpm at 60 feet of developed head (approximately 26 psi) to the component cooling water heat exchangers during design basis accident conditions [DBD-019].

Inservice Testing

The Intake Cooling Water Pumps are vertical line shaft pumps. These pumps are tested each quarter in accordance with Turkey Point Operating Surveillance *-OSP-19.1. Each pump is tested at a flow rate of 15,400 gpm, which corresponds to the design accident flow rate of the system. During this test, the flow rate is set, while the differential pressure is measured. After the stabilization period, all required parameters of Table ISTB-3000-1 are measured and compared to the acceptance criteria of Table ISTB-5200-1. The design flow rate of the Intake Cooling Water Pump is 16,000 gpm. The test point of 15,400 gpm, corresponds to 96.25% of the design flow rate.

10 CFR 50.55a Request Number PR-05
(Continued)

Test Results

The following data tables indicate the hydraulic test data collected for the last inservice tests. Based on these results, pump operation has been acceptable. Applying the group A pump acceptance criteria to these pumps indicates acceptable performance. Additionally, if the comprehensive acceptance criteria would be applied, the data would also indicate acceptable performance.

3A ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/13/03	15400	27.5	27.1	25.7 – 29.8	25.7 – 27.9

3B ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/13/03	15400	27.6	27.1	25.7 – 29.8	25.7 – 27.9

3C ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/13/03	15400	26.1	26.8	25.5 – 29.5	25.5 – 27.6

4A ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/20/03	15400	26.2	27.2	25.8 – 29.9	25.8 – 28.0

4B ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/20/03	15400	26.7	28.0	26.6 – 30.8	26.6 – 28.8

4C ICW Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
9/20/03	15400	25.8	26.8	25.5 – 29.5	25.5 – 27.6

Charging Pumps

Inservice Testing Basis

The charging pump is required to pump water from the emergency boration makeup system or RWST to the reactor coolant system during emergency boration conditions [UFSAR 9.2.2/14.2.6]. The charging pump is designed to deliver 77 gpm @2385 psig of developed head to the reactor coolant system [UFSAR Table 9.2-3].

10 CFR 50.55a Request Number PR-05
(Continued)

The charging pump takes suction from the volume control tank and discharges to the reactor coolant system through the tube side of the regenerative heat exchanger during normal operations [UFSAR 9.2]. This function is not required for safe shutdown or accident mitigation.

Inservice Testing

The Charging Pumps are positive displacement pumps. These pumps are tested each quarter in accordance with Turkey Point Operating Surveillance *-OSP-47.1. Each pump is tested at a flow rate of greater than 81 gpm, which corresponds to the design accident flow rate of the system. During this test, speed is set, while the resistance of the system can not be varied. Since the pump is a positive displacement type pump both the flow rate and the discharge pressure are measured. After the stabilization period, all required parameters of Table ISTB-3000-1 are measured and compared to the acceptance criteria of Table ISTB-5300-2. The design flow rate of the Charging Water Pump is 77 gpm. The test point of 81 gpm corresponds to 105 % of the design flow rate.

The Charging Pump is a positive displacement pump. No pump curve is provided.

Test Results

The following data tables indicate the hydraulic test data collected for the last inservice tests. Based on these results, pump operation has been acceptable. Applying the group A pump acceptance criteria to these pumps indicates acceptable performance. Additionally, if the comprehensive acceptance criteria would be applied, the data would also indicate acceptable performance.

3A Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
8/24/03	2350	2350	2186 - 2585	2186 - 2420	77.3	81.3	77.2 – 89.4	77.2 – 83.7

3B Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
8/17/03	2350	2340	2176 – 2574	2176 - 2410	77.2	81.0	77.0 – 89.1	77.0 – 83.4

3C Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
8/24/03	2325	2350	2186 – 2585	2186 - 2420	77.8	81.4	77.3 – 89.5	77.3 – 83.8

10 CFR 50.55a Request Number PR-05
(Continued)

4A Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
7/02/03	2350	2300	2139 - 2530	2139 - 2369	81.1	81.5	77.4 – 89.7	77.4 – 83.9

4B Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
9/13/03	2390	2400	2232 - 2640	2232 - 2472	80.5	81.0	77.0 - 89.1	77.0 - 83.4

4C Charging Pump Test Results

Date	Press	Press. Ref	Group A Accept Range	Comp Accept Range	Flow	Flow Ref	Group A Accept Range	Comp Accept Range
9/13/03	2450	2390	2223 - 2629	2223 - 2461	80.5	82.0	77.9 - 90.2	77.9 - 84.5

Component Cooling Water Pump

See Attachment 2, Component Cooling Water Pump Curve

Inservice Testing Basis

The component cooling water pump is required to operate to supply cooling water to the shell side of the component cooling water heat exchangers during design basis accident conditions to ensure heat removal capabilities of the component cooling water system [UFSAR 9.3.2]. One pump and three component cooling water heat exchangers are normally operated to provide cooling water for various components located in the auxiliary and containment buildings [UFSAR 9.3.1]. Following a loss-of-coolant accident, one component cooling water pump and two component cooling water heat exchangers accommodate the heat removal loads [UFSAR 9.3.3].

The component cooling water pump is designed to deliver 7,500 gpm at 185 feet of developed head to the component cooling water heat exchangers during design basis accident conditions [UFSAR Table 9.3-1].

The pump is operated during normal operations and shutdowns to supply cooling water for the component cooling water system loads [UFSAR 9.3.2]. These functions are not required for safe shutdown or accident mitigation.

10 CFR 50.55a Request Number PR-05
(Continued)

Inservice Testing

The Component Cooling Water Pumps are centrifugal pumps. These pumps are tested each quarter in accordance with Turkey Point Operating Surveillance *-OSP-30.1. Due to the configuration of the system the A pump is tested at a flow rate of 6,500 gpm and the B and C pumps are tested at 8500 gpm each quarter. During this test, the flow rate is set, while the differential pressure is measured. After the stabilization period, all required parameters of Table ISTB-3000-1 are measured and compared to the acceptance criteria of Table ISTB-5100-1. The design flow rate of the Component Cooling Water Pump is 7,500 gpm. Therefore the test point of 6,500 gpm, corresponds to 86.7% of the design flow rate for the A pumps while the test point of 8,000 gpm corresponds to 106.7% for the B and C pumps.

Test Results

The following data tables indicate the hydraulic test data collected for the last inservice tests. Based on these results, pump operation has been acceptable. Applying the group A pump acceptance criteria to these pumps indicates acceptable performance. Additionally, if the comprehensive acceptance criteria would be applied, the data would also indicate acceptable performance.

3A Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
7/6/03	6500	84.0	87.7	78.9 – 96.5	81.6 – 90.3

3B Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
7/6/03	8000	76.0	79.0	71.1 – 86.9	73.5 – 81.4

3C Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
8/3/03	8000	78.0	82.5	74.3 – 90.8	76.7 – 85.0

4A Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
6/29/03	6500	83.0	87.7	78.9 – 96.5	81.6 – 90.3

4B Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
6/27/03	8000	77.0	78.5	70.7 – 86.4	73.0 – 80.9

4C Component Cooling Water Pump Test Results

Date	Flow	DP	DP Reference	Group A Accept	Comprehensive Accept
6/29/03	8000	78.0	78.2	70.4 – 86.0	72.7 – 80.5

10 CFR 50.55a Request Number PR-05
(Continued)

5. **Proposed Alternative and Basis for Use**

As an alternative to performing Comprehensive Pump tests biennially, the subject pumps will be tested each quarter at +/- 20% of the design flow rate. The required inservice test parameters of Table ISTB-3000-1 based on pump type will be measured and compared to their reference values. The group A pump test acceptance criteria will be applied. Additionally, once every two years, full spectrum analysis will be performed above the Code required vibration measurements. Continued Preventive Maintenance, including periodic pump inspections and oil analysis, on each pump will assist in determining overall mechanical and hydraulic pump health.

Based on the preventive maintenance inspection results, full spectrum analysis, and continued quarterly group A testing at +/- 20% of design pump flow, an accurate assessment of pump health and operational readiness is determined on a quarterly frequency.

This alternative provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4th 120 month interval.

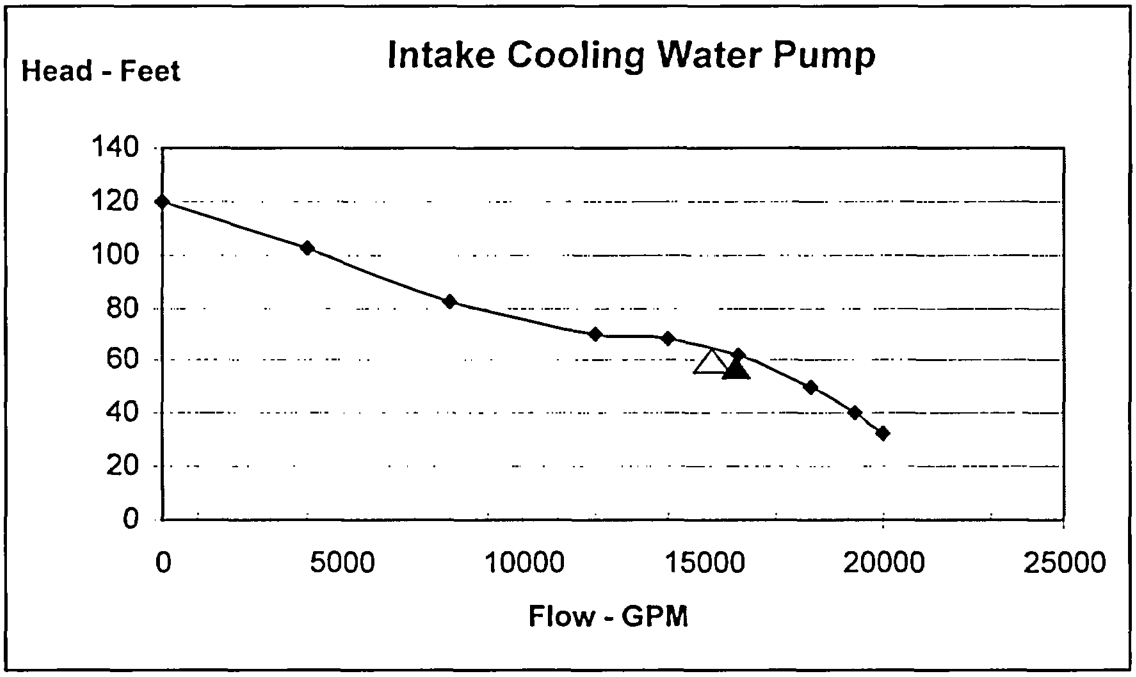
7. **Precedents**

None

10 CFR 50.55a Request Number PR-05
(Continued)

Attachment 1

Intake Cooling Water Pump Curve



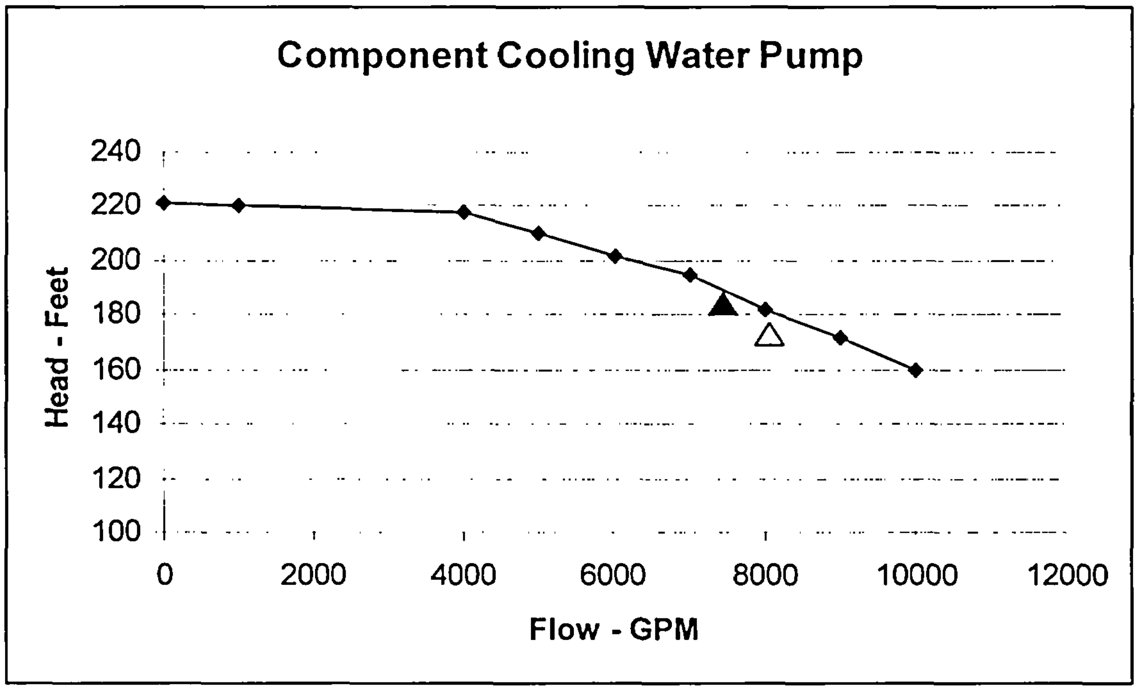
▲ - Pump Design Point (16000 gpm @ 60 feet of developed head)

△ - Pump Test Point (set parameter is flow at 15400 gpm)

10 CFR 50.55a Request Number PR-05
(Continued)

Attachment 2

Component Cooling Water Pump Curve



▲ - Pump Design Point (7500 gpm @ 185 feet of developed head)

△ - Pump Test Point (set parameter is flow at 8000 gpm)

10 CFR 50.55a Request Number PR-06

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

Pump Number	Function
3P210A	Residual Heat Removal
3P210B	Residual Heat Removal
4P210A	Residual Heat Removal
4P210B	Residual Heat Removal

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTB-1400(b), "identify each pump to be tested in accordance with the rules of this Subsection and categorize it as either a group A or group B pump and list the pumps in the plant records (see ISTB-9000). A pump that meets both group A and group B definitions shall be categorized as a group A pump."

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTB-1400(b). The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The Residual Heat Removal pumps meet the categorization requirements of group A pumps in that they are operated routinely during plant shutdowns (Mode 5-6). However, these pumps also meet the requirements of group B, in that during normal operation (Modes 1-4) they are not operated except for testing.

During normal power operations, Modes 1-4, the residual heat removal pump is in a standby condition and is considered an essential part of the Emergency Core Cooling System (ECCS). The pump starts automatically upon receipt of a safety injection signal taking suction from the RWST during the injection phase of an accident. The pump is then aligned to take suction from the containment sump during the recirculation phase of an accident. The pump discharges to the reactor coolant system via the residual heat removal heat exchangers. The pump may also be aligned to pump to the suction of either the safety injection pumps or the containment spray pumps depending on plant emergency conditions. During normal plant shutdowns, the residual heat removal pump is used to cool down the reactor coolant system (shutdown cooling). This shutdown cooling function is not required for safe shutdown or accident mitigation.

10 CFR 50.55a Request Number PR-06
(Continued)

ASME ISTB-1400(b) states that if a pump meets both group A and group B definitions, it shall be categorized as a group A pump. The Residual Heat Removal pumps are tested during normal operation, Modes 1-4, using the minimum flow recirculation loop. This current test is essentially a group B test in that the pump is operated at low flow conditions (approximately 300 gpm) on minimum flow recirculation. The design flow rate of the Residual Heat Removal Pumps is 3750 gpm. This flow rate can only be achieved during shutdown periods (Modes 5-6) when injection into the reactor coolant system is possible. See Attachment 1, RHR System Diagram. Attachment 2, RHR Pump Characteristic Curve is also supplied,

The performance of a group A test at these low flow conditions does not reflect the intent of the Code for group A tests. Additionally, these pumps can not be tested as Group A or Comprehensive in these modes due to using the minimum flow recirculation line.

5. **Proposed Alternative and Basis for Use**

Turkey Point Nuclear Plant will test the Residual Heat Removal pumps as standby (group B) during Modes 1-4 and as routinely operated pumps (group A) when the plant is in Modes 5-6. When in cold shutdown or refueling, a comprehensive test may be substituted for the group A test should the comprehensive test schedule come due. ISTB-5000 permits substitution of a comprehensive test for a group A test.

This alternative is consistent with Generic Letter 89-04, Position 9, in which the NRC determined that, in cases where flow can only be established through a non-instrumented, minimum flow path during quarterly pump testing, and a path exists at cold shutdown or refueling outages to perform a test of the pump under full or substantial flow conditions, the increased interval is an acceptable alternative to the Code requirements.

Therefore testing the Residual Heat Removal pumps as group B during Modes 1-4 and as group A during Modes 5-6 provides reasonable assurance of the operational readiness of the pumps and provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4th 120 month interval.

7. **Precedents**

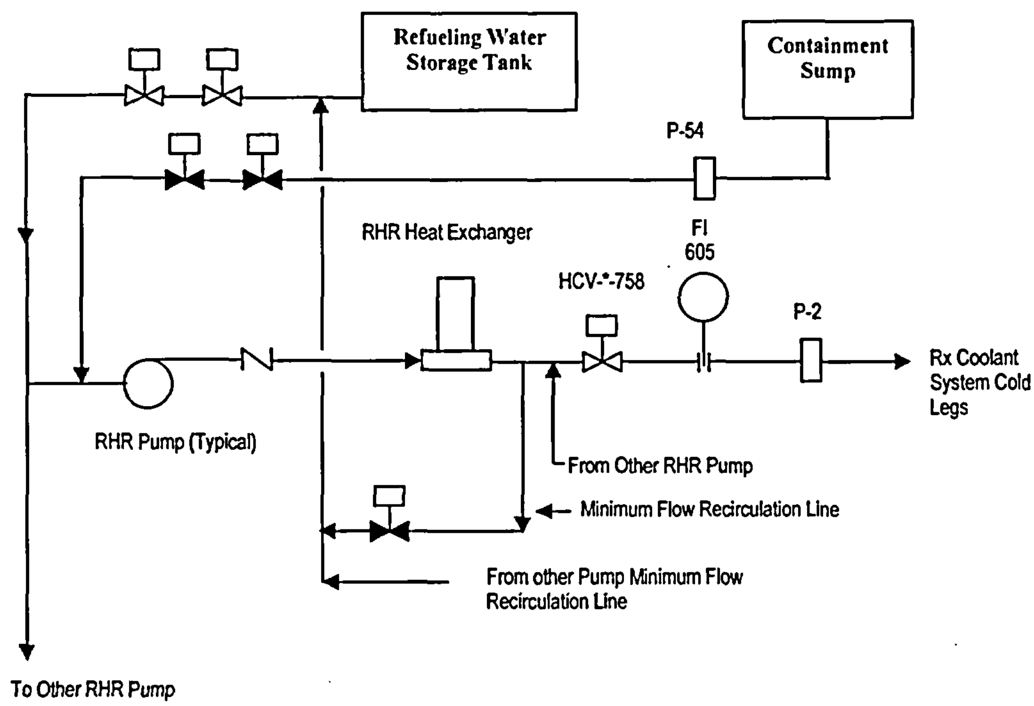
Similar relief request PR-12 was previously approved for Calvert Cliffs Nuclear Power Plant on May 16, 2002.

Docket Nos. 50-317 and 50-318
TAC Nos. MB3782 and MB3783

10 CFR 50.55a Request Number PR-06
(Continued)

Attachment 1

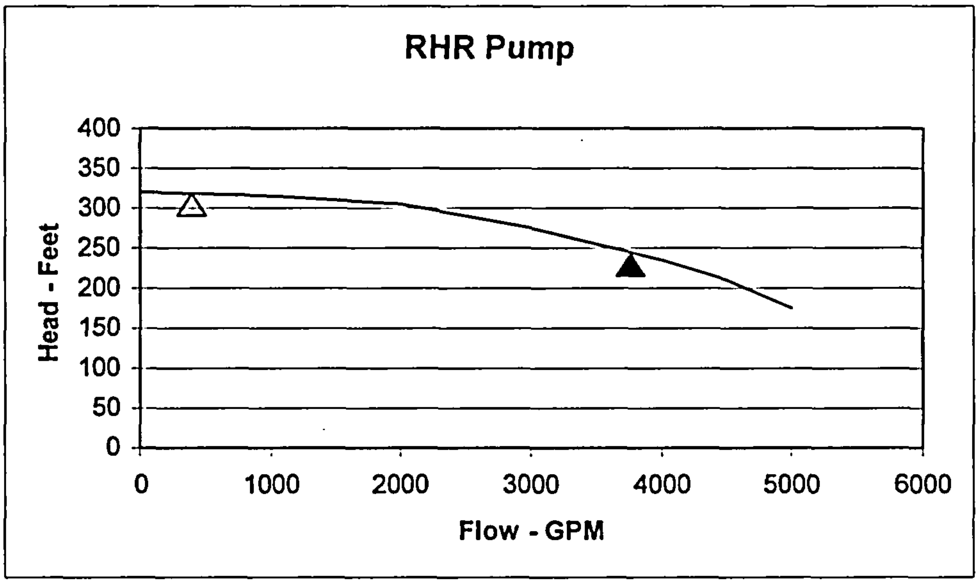
RHR System Diagram



10 CFR 50.55a Request Number PR-06
(Continued)

Attachment 2

RHR Pump Characteristic Curve



▲ - Full Flow Test Point (3750 gpm @ 240 feet of developed head)

△ - Minimum Flow Test Point (Approximately 300 gpm)

ATTACHMENT 4

VALVE RELIEF REQUEST INDEX

(Page 1 of 1)

Relief Request No.	Description	NRC Approval Date
VR-01	Exercise Testing of Option B Check Valves with Only a Closed Safety Function	
VR-02	Position Indication Verification Performed in Accordance with Appendix J Seat Leakage Testing Frequency for Solenoid Operated Valves	
VR-03	Auxiliary Feedwater Pump Discharge Check Valve, 20-143, Exercise Frequency	

ATTACHMENT 5

VALVE RELIEF REQUESTS

10 CFR 50.55a Request Number VR-01

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. **ASME Code Component(s) Affected**

Valve Number	Class	Category	Function
BA-3-201	2	AC	Containment Breathing Air Isolation Check Valve
3-40-340A	2	AC	Instrument Air to Containment Check Valve
3-40-336	2	AC	Instrument Air to Containment Check Valve
3-10-567	2	AC	Primary Water to Containment Check Valve
3-298A	1	AC	Reactor Coolant Pump Seal Injection Check Valve
3-298B	1	AC	Reactor Coolant Pump Seal Injection Check Valve
3-298C	1	AC	Reactor Coolant Pump Seal Injection Check Valve
3-945E	2	AC	Nitrogen Supply to Accumulators Check Valve
3-518	2	AC	Nitrogen Supply to Pressurizer Relief Tank
3-519	2	AC	Nitrogen Supply to Pressurizer Relief Tank
BA-4-201	2	AC	Containment Breathing Air Isolation Check Valve
4-40-340A	2	AC	Instrument Air to Containment Check Valve
4-40-336	2	AC	Instrument Air to Containment Check Valve
4-10-567	2	AC	Primary Water to Containment Check Valve
4-298A	1	AC	Reactor Coolant Pump Seal Injection Check Valve
4-298B	1	AC	Reactor Coolant Pump Seal Injection Check Valve
4-298C	1	AC	Reactor Coolant Pump Seal Injection Check Valve
4-945E	2	AC	Nitrogen Supply to Accumulators Check Valve
4-518	2	AC	Nitrogen Supply to Pressurizer Relief Tank
4-519	2	AC	Nitrogen Supply to Pressurizer Relief Tank

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTC-3510 Exercising Test Frequency, states that "Active Category A, Category B, and Category C check valves shall be exercised nominally every 3 months, except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC 3560, ISTC-5221, and ISTC-5222.".

Specifically, relief is requested from performing both the open and closed exercise tests in accordance with ISTC-3510. These valves will be exercised open and closed commensurate Appendix J Option B test frequency requirements.

10 CFR 50.55a Request Number VR-01
(Continued)

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTC-3510. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The subject valves are all categorized as AC and are all considered containment isolation valves per the plant safety analysis. All of the subject valves have a safety function to close in order to isolate containment from their respective non-safety related systems during a Loss of Coolant Accident (LOCA) requiring containment isolation. The open function for each of these valves is considered a non-safety function since the systems are not required to shut the plant down to a safe shutdown condition, maintain safe shutdown or mitigate the consequences of an accident (See IST Basis Documents – Safety Function in Attachment 1). However, the current ASME OM Code requirements complied with by Turkey Point (1998 Edition through 2000 Addenda) for the 4th 120-Month Interval, requires testing of the non-safety "open" direction function of each of these check valves. The Code required frequency specified in ISTC-3520 is once every quarter with the exceptions listed above. Those exceptions which apply to check valves are ISTC-3520, ISTC-5221 and ISTC-5222.

Since these valves can be exercised adequately with flow in the open direction and seat leakage tested in the reverse direction, they are not candidates for a disassembly and examination program or condition monitoring program as delineated in ISTC-5221 and ISTC-5222 respectively.

Therefore the frequency requirements of ISTC-3520 would typically apply. That is, if exercising is not practicable during normal power operations the exercising shall be performed during cold shutdowns. If exercising is not practicable during normal power operations and cold shutdown, exercising shall be performed during refueling outages.

Each of the subject valves is required to be exercised both open and closed and seat leakage tested in accordance with the inservice testing requirements of Table ISTC-3500-1, INSERVICE TESTING REQUIREMENTS. For all of the subject valves, the seat leakage test constitutes the exercise closed test. This frequency is in accordance with the Appendix J frequency, since the only safety function of the valves in the closed direction is for containment isolation only. (See ISTC-3620 and Attachment 1, IST Basis Documents – Safety Function)

The open, non-safety direction test, can only be performed using flow when the containment isolation seat leakage test is performed, and only during refueling outages when containment entry is possible. Since the individual valve being tested must have its system properly drained, vented, and aligned correctly prior to performing the seat leakage test, an opportune window will exist to perform the open check valve test using flow. Additionally, test personnel, radiation exposure, and time/labor involved will be significantly reduced by performing the open exercise test along with the seat leakage/closure test (keeping in mind that this open test is the non-safety position test).

On October 4, 1996, Turkey Point received a Safety Evaluation with approval to implement Option B of the 10CFR50 Appendix J Program. (Technical Specification

10 CFR 50.55a Request Number VR-01
(Continued)

Amendments 192/186 for Unit #3 and #4 respectively). This program permits the extension of the Appendix J seat leakage testing to a frequency corresponding to the specific valve performance. Valves whose leakage test results indicate good performance may have their interval of testing increased based on these test results. The Turkey Point administrative program which implements Appendix J Option B requires individual containment isolation valves to pass four successful seat leakage tests before it can be included in the Option B program.

5. **Proposed Alternative and Basis for Use**

For the subject valves, Turkey Point Nuclear Plant will perform the check valve closure test in conjunction with the seat leakage test at a frequency in accordance with 10CFR50 Appendix J. The corresponding check valve open test (non-safety direction) will be performed at the same interval as the check valve closure test. This interval may be adjusted to a frequency of testing commensurate with Option B of 10CFR50 Appendix J Type C leakage testing based on valve seat leakage performance.

The only safety function of these valves is to provide a containment isolation barrier. Since they are not connected to any ECCS system and the open function is not required for safe shutdown or accident mitigation, a seat leakage test is their primary functional test. By verification of forward flow, along with a seat leakage test, an adequate assessment of valve health may be determined.

Performance of the both the open and closed tests during the same frequency has been endorsed by the ASME OM Code as stated in ISTC-3522(a), which states that "open and closed tests need only be performed at an interval when it is practicable to perform both tests". Additionally, performance of the check valve open test will include verification of fluid flow to open the check valve. This test will be performed during the same surveillance which seat leakage tests the valve (*-OSP-51.5) and will be scheduled and documented in the plant record system. Corrective actions will be taken in accordance with ISTC-5224 as stated.

Additionally, all of the subject check valves are included in the plant Check Valve Program which monitors check valve test performance, work history, industry experience and vendor correspondence to determine preventive maintenance (PM) activities. The Turkey Point Option B program further monitors the performance of the valve in that the allowable seat leakage limits for each individual valve are administratively set well below the Appendix J limit.

Therefore, the ability to detect degradation and ensure the operational readiness of the subject check valves to perform their intended function is not jeopardized by performing the open and closed check valve tests at the same frequency as specified by Option B. This frequency of testing provides reasonable assurance of the operational readiness of the subject check valves and provides an acceptable level of quality and safety.

10 CFR 50.55a Request Number VR-01
(Continued)

6. Duration of Proposed Alternative

This proposed alternative will be utilized for the entire 4^{th} 120 month interval.

7. Precedents

None

10 CFR 50.55a Request Number VR-01
(Continued)

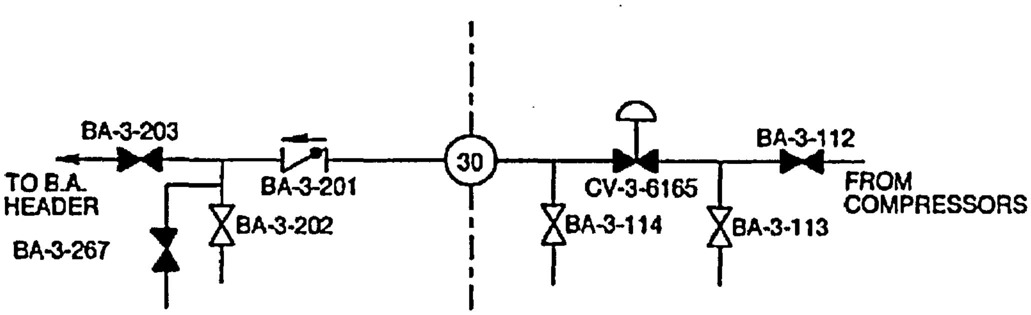
Attachment 1
IST Basis Documents – Safety Function

Valve Group – BA-201, Containment Breathing Air Isolation Check Valve

This check valve must close to isolate containment from the breathing air system. This valve provides containment isolation for Penetration 30. Penetration 30 is considered a non essential penetration which is not required to be in service post accident [UFSAR Table 6.6-1].

This valve opens to provide a flow path from the breathing air receiver to containment during cold shutdown or refueling [5613/5614-M-3101-1]. This function is not required for safe shutdown or accident mitigation. The breathing air system is only required to function during cold shutdown or refueling [0-OP-101]. Additionally, upstream air operated valve CV-*-6165 outside containment is administratively maintained in the locked and pinned closed position during normal plant operation [0-OSP-205].
This penetration is isolated during all modes of operation when containment integrity is required and is not in service during any emergency or post accident conditions [0-OP-101]. Therefore, this valve only performs a containment isolation function and is not required to open or close for any other safety function. Since the valve is normally closed, with the upstream piping administratively locked and pinned closed by CV-*-6165, and a dead leg exists downstream, this valve is considered passive. No exercising is required.

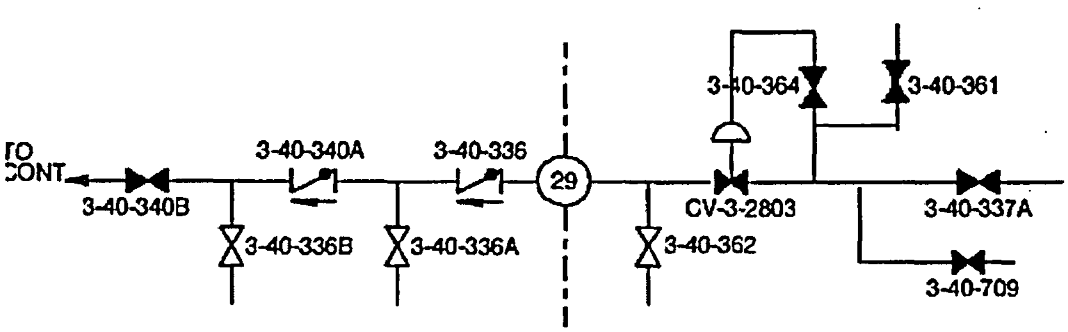
Penetration 30



Valve Group – 340A, Instrument Air to Containment Check Valve

This check valve must close to isolate containment from the non safety instrument air system. This valve provides containment isolation for Penetration 29 [UFSAR Table 6.6-1]. The valve opens to provide a flow path of instrument air to the containment supply header when the instrument air system is operating. This function is not required safe shutdown or accident mitigation since the instrument air system is non safety related. Safety related equipment normally supplied by the instrument air system is designed to either fail to the required safe position or is provided with a safety related backup pneumatic supply. [UFSAR 9.17]

Penetration 29



10 CFR 50.55a Request Number VR-01
(Continued)

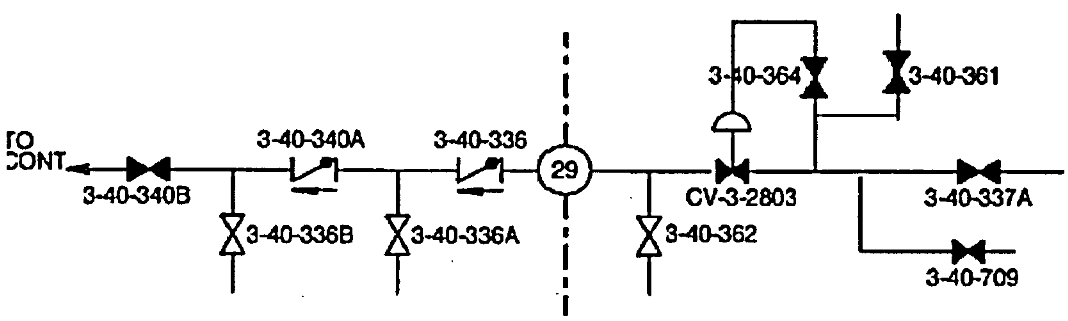
Attachment 1 (Continued)
IST Basis Documents – Safety Function

Valve Group – 336, Instrument Air to Containment Check Valve

This check valve must close to isolate containment from the non safety instrument air system. This valve provides containment isolation for Penetration 29 [UFSAR Table 6.6-1].

The valve opens to provide a flow path of instrument air to the containment supply header when the instrument air system is operating. This function is not required safe shutdown or accident mitigation since the instrument air system is non safety related. Safety related equipment normally supplied by the instrument air system is designed to either fail to the required safe position or is provided with a safety related backup pneumatic supply. [UFSAR 9.17]

Penetration 29

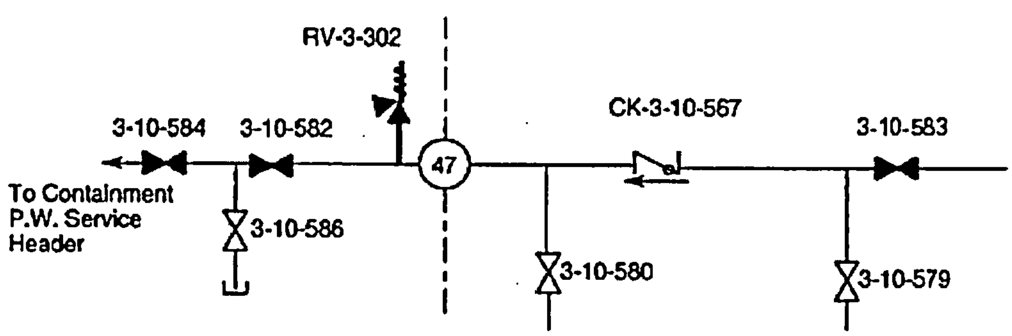


Valve Group – 567, Primary Water to Containment Check Valve

This check valve must close to isolate containment from the primary water system. This valve provides containment isolation for Penetration 47. Penetration 47 is considered a non essential penetration which is not required to be in service post accident [UFSAR Table 6.6-1].

This valve opens to provide a flow path from the primary water supply header to containment during cold shutdown or refueling. This function provides a supply source to facilitate maintenance and testing during outages [OP-020]. This function is not required for safe shutdown or accident mitigation. Additionally, downstream manual valve *-10-582 inside containment is administratively maintained in the locked closed position during normal power operations [OP-020/OSP-205]. The primary water system is not required for safe shutdown [UFSAR 9.6.2]. This penetration is isolated during all modes of operation when containment integrity is required and is not in service during any emergency or post accident conditions. Therefore this valve only performs a containment isolation function and not required to open or close for any other function. Since the valve is normally closed, since a dead leg exists downstream, this valve is considered passive. No exercising testing is required.

Penetration 47



10 CFR 50.55a Request Number VR-01
(Continued)

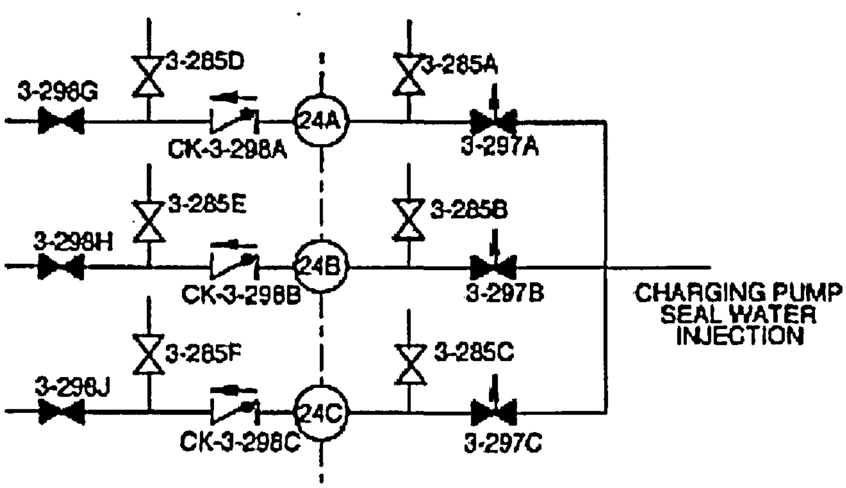
Attachment 1 (Continued)
IST Basis Documents – Safety Function

Valve Group – 298A/B/C, Reactor Coolant Pump Seal Injection Check Valve

This check valve must close to isolate containment from the chemical and volume control system during accident conditions when RCP seal injection flow is not required. The valve is considered a containment isolation valve for Penetration 24A/B/C [UFSAR Table 6.6-1].

This check valve opens to provide a flow path from the charging pump to the reactor coolant pump seals during normal plant operation [UFSAR 9.2.2]. This function is not required for safe shutdown or accident mitigation since the reactor coolant pumps are not required for safe shutdown or accident mitigation. [UFSAR 4.1.1] Additionally, the seal injection return valves (MOV-*-381 and MOV-8-6386) receive automatic closure signal to isolate the seal injection return flow path during a safety injection [UFSAR Table 6.6-1]

Penetration 24A, B and C



10 CFR 50.55a Request Number VR-01
(Continued)

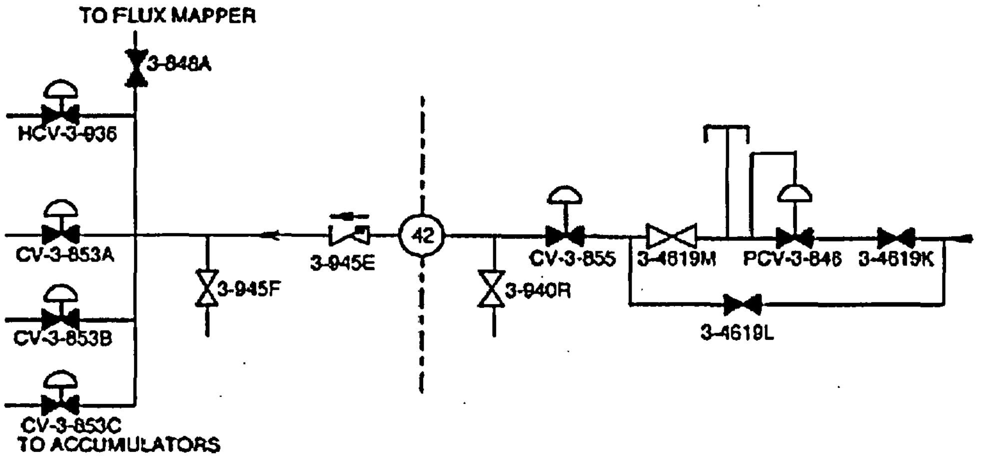
Attachment 1 (Continued)
IST Basis Documents – Safety Function

Valve Group – 945E, Nitrogen Supply to Accumulators Check Valve

This check valve must close to isolate containment from the non safety related nitrogen supply system during accident conditions. This valve is considered a containment isolation valve for Penetration 42 [UFSAR Table 6.6-1].

The valve opens to support safety injection accumulator refill to recharge and maintain the accumulators pressurized during normal power operations [*-OP-064]. This function is not required for safe shutdown or accident mitigation since the safety injection accumulators are considered a passive injection system and tank pressure is continuously monitored during normal plant operations [UFSAR 6.2].

Penetration 42

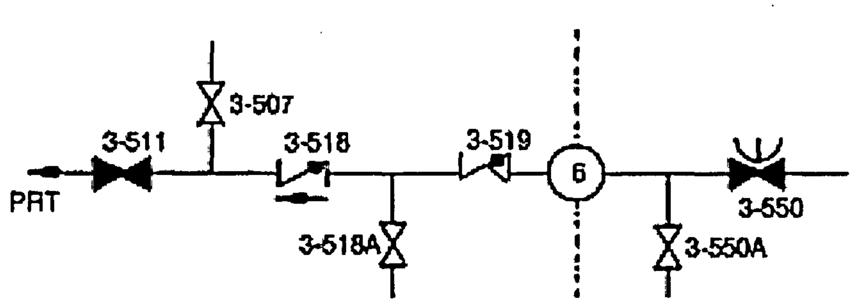


Valve Group – 518/519, Nitrogen Supply to Pressurizer Relief Tank

This check valve must close to isolate containment from the non safety nitrogen supply system. This valve provides containment isolation for Penetration 6 [UFSAR Table 6.6-1].

The valve opens to provide a flow path from the nitrogen supply header to the pressurizer relief tank. This function is not required safe shutdown or accident mitigation since the nitrogen system is non safety related. The pressurizer relief tank is designed for full vacuum conditions to prevent tank collapse if the tank contents cool without nitrogen being supplied. [UFSAR 4.2]

Penetration 6



10 CFR 50.55a Request Number VR-02

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i)

Alternative Provides Acceptable Level of Quality and Safety

1. ASME Code Component(s) Affected

Valve Number	Class	Category	Function
SV-3-6385	2	A	Pressurizer Relief Tank Vent Sample Isolation
SV-3-6427A	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-3-6427B	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-3-6428	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-3-2911	2	A	Continuous Containment Air Monitor Isolation
SV-3-2912	2	A	Continuous Containment Air Monitor Isolation
SV-3-2913	2	A	Continuous Containment Air Monitor Isolation
SV-4-6385	2	A	Pressurizer Relief Tank Vent Sample Isolation
SV-4-6427A	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-4-6427B	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-4-6428	2	A	Reactor Coolant System Hot Leg Sample Isolation
SV-4-2911	2	A	Continuous Containment Air Monitor Isolation
SV-4-2912	2	A	Continuous Containment Air Monitor Isolation
SV-4-2913	2	A	Continuous Containment Air Monitor Isolation

2. Applicable Code Edition and Addenda

ASME OM Code 1998 Edition through 2000 Addenda

3. Applicable Code Requirement

ISTC-3700 Position Verification Testing, states "Valves with remote position indicators shall be observed locally at least once every 2 years to verify that valve operation is accurately indicated."

Specifically, relief is requested from performing the position indication verification on a 2 year frequency. Position indication verification will be performed at a frequency commensurate with the Option B test frequency for performing leakage rate testing.

4. Reason for Request

Pursuant to 10 CFR 50.55a, "Codes and Standards", paragraph (a)(3), relief is requested from the requirement of ASME OM Code ISTC-3700. The basis of the relief request is that the proposed alternative would provide an acceptable level of quality and safety.

The subject valves are all categorized as AC and are all considered containment isolation valves per the plant safety analysis. All of the subject valves have a safety function to close in order to isolate containment from their respective non-safety related systems during a Loss of Coolant Accident (LOCA) requiring containment isolation.

10 CFR 50.55a Request Number VR-02
(Continued)

Since these valves are considered containment isolation valves, they are each individually seat leakage testing in accordance with 10CFR50 Appendix J. The test arrangement for each valve is listed in Attachment 1 – Local Leak Rate Test Diagrams. Note that only the test arrangements for Unit #3 are provided in the attachment. Unit #4 is typical.

Each of the subject valves is a solenoid operated valve designed such that the position of the valve is not locally observable. The design of these valves is such that the coil position is internal to the valve body and not observable in either the energized or de-energized state. See Attachment 2 – Typical Solenoid Valve Diagram, which is typical for the subject valves.

In accordance with ISTC-3700, where local observation is not possible, other indications shall be used to verify valve position. The method used a Turkey Point is a pressure test using the local leakage rate testing equipment. This method involves pressurizing the containment penetration volume to approximately 40 psia, and verifying the penetration remains pressurized while the valve is indicating closed on the main control room board. The valve is then opened using the control switch in the main control room. A decrease in pressure is then verified along with valve position indicating open in the main control room. This method satisfies the requirement for position indication verification and ensures that the indicating system accurately reflects the valve position.

Since each of these valves is seat leakage tested using local leakage rate testing equipment during refueling outages, the current leakage rate tests have been modified to also perform the position indication verification test at the same time. Since the individual valve being tested must have its system properly drained, vented, and aligned correctly prior to performing the seat leakage test, an opportune window exists to perform the position indication verification. Additionally, test personnel, radiation exposure, and time/labor involved will be significantly reduced by performing the position indication verification test along with the seat leakage test.

On October 4, 1996, Turkey Point received a Safety Evaluation with approval to implement Option B of the 10CFR50 Appendix J Program. (Technical Specification Amendments 192/186 for Unit #3 and #4 respectively. This program permits the extension of the Appendix J seat leakage testing to a frequency corresponding to the specific valve performance. Valves whose leakage test results indicate good performance may have their interval of testing increased based on these test results. The Turkey Point administrative program which implements Appendix J Option B requires individual containment isolation valves to pass four successful seat leakage tests before it can be included in the Option B program.

5. <u>Proposed Alternative and Basis for Use</u>

For the subject valves, Turkey Point Nuclear Plant will perform the position indication verification in conjunction with the seat leakage test at a frequency in accordance with 10CFR50 Appendix J. This interval may be adjusted to a frequency of testing commensurate with Option B of 10CFR50 Appendix J Type C leakage testing based on valve seat leakage performance.

10 CFR 50.55a Request Number VR-02
(Continued)

Additionally, each of these subject valves is exercised on a quarterly frequency and their stroke times measured and compared to the ASME OM Code acceptance criteria. By continuing quarterly valve exercising and performance of the position indication verification and seat leakage test in accordance 10CFR50 Appendix J, an adequate assessment of valve health may be determined..

Therefore, the ability to detect degradation and ensure the operational readiness of the subject valves to perform their intended function is not jeopardized by performing the position indication verification test at the same frequency as specified by Option B. This frequency of testing provides reasonable assurance of the operational readiness of the subject valves and provides an acceptable level of quality and safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4^{th} 120 month interval.

7. **Precedents**

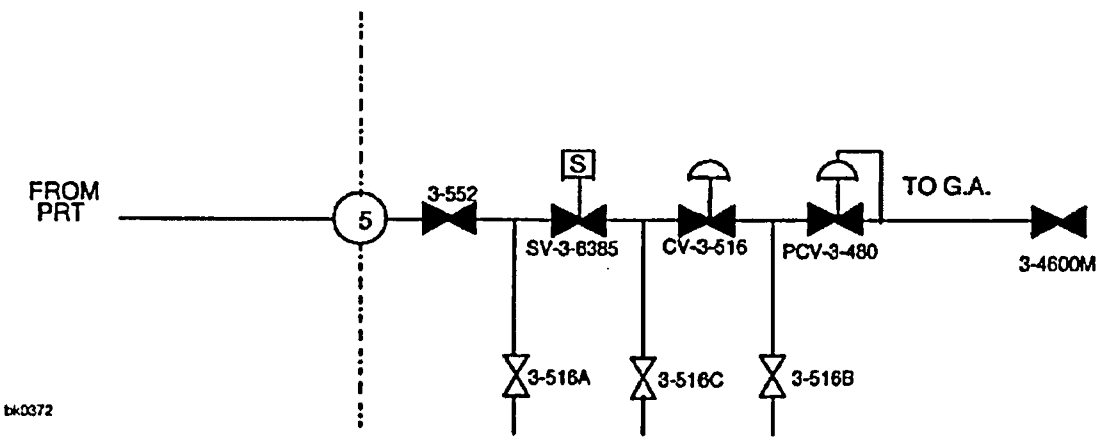
None

10 CFR 50.55a Request Number VR-02
(Continued)

Attachment 1
Local Leak Rate Test Diagrams

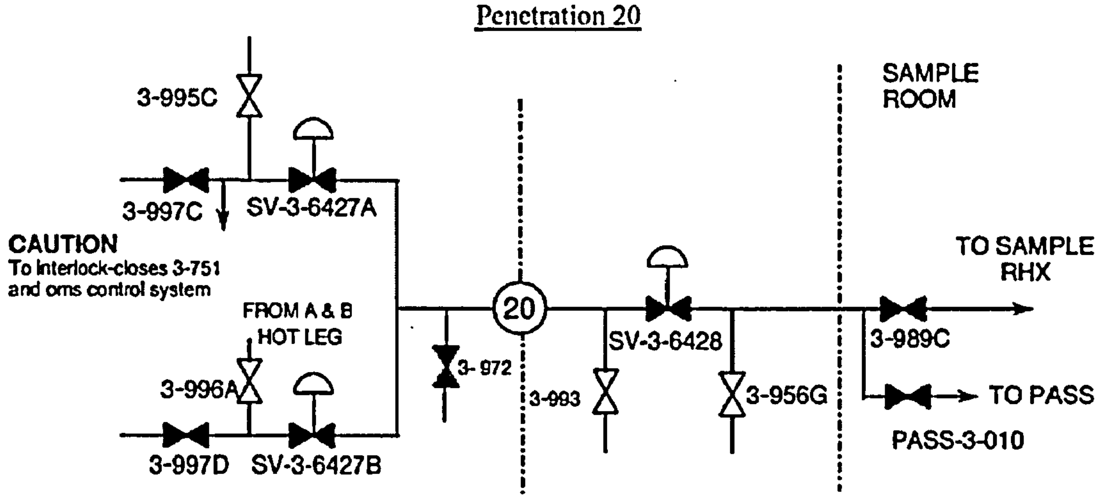
Valve Group – SV-*-6385

Penetration 5



Valve Group – SV-*-6427A/B and SV-*-6428

Penetration 20

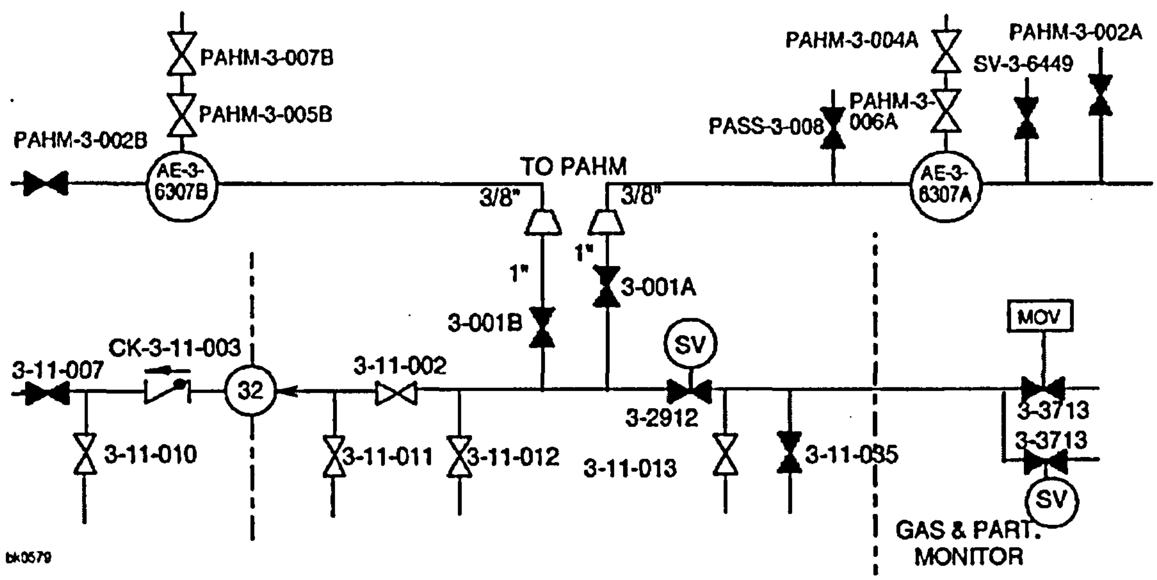


10 CFR 50.55a Request Number VR-02
(Continued)

Attachment 1
Local Leak Rate Test Diagrams (Continued)

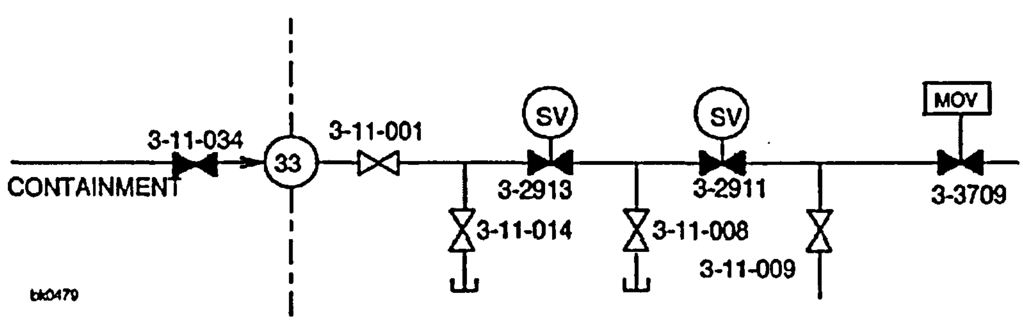
Valve Group – SV-*-2912

Penetration 32



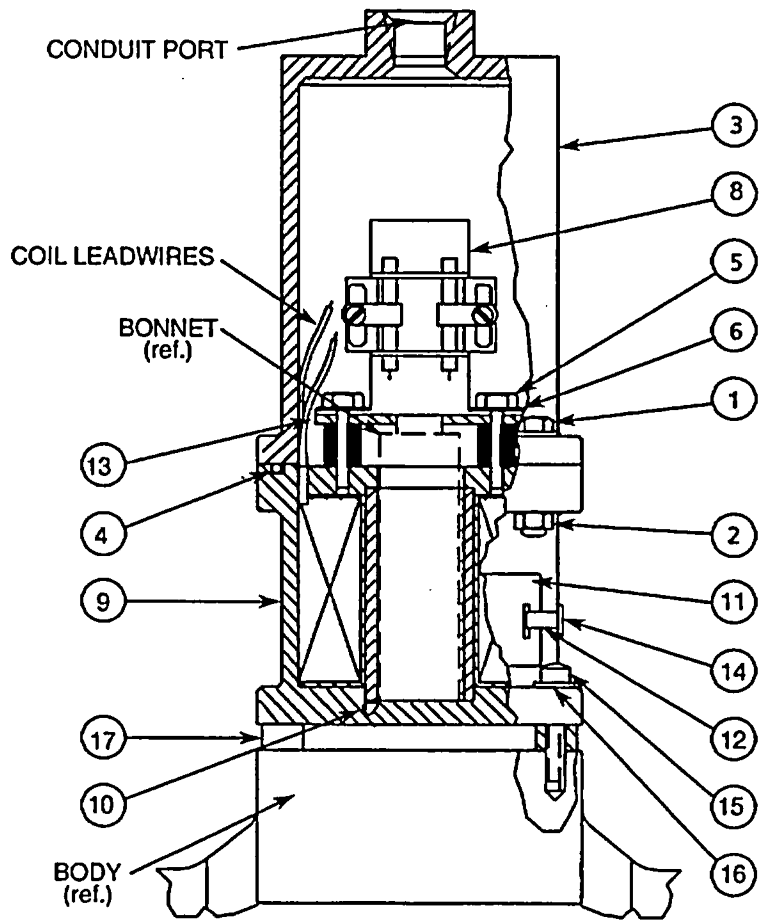
Valve Group – SV-*-2911/2912

Penetration 33



10 CFR 50.55a Request Number VR-02
(Continued)

Attachment 2
Typical Solenoid Valve Diagram



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Cover Bolts	10	Seal
2	Locknut	11	Nameplate
3	Cover	12	Strap
4	O-Ring	14	Buckle
5	Bolt	15	Bolt
6	Lockwasher	16	Lockwasher
8	Switch Block Assy.	17	Spacer
9	Coil Shell Assy.		

10 CFR 50.55a Request Number VR-03

Relief Requested
In Accordance with 10 CFR 50.55a(a)(3)(ii)

Hardship or Unusual Difficulty without Compensating Increase in Level of Quality or Safety

1. **ASME Code Component(s) Affected**

Valve Number	Class	Category	Function
20-143	3	C	Auxiliary Feedwater Pump Train A Discharge Check Valve

2. **Applicable Code Edition and Addenda**

ASME OM Code 1998 Edition through 2000 Addenda

3. **Applicable Code Requirement**

ISTC-3510 Exercising Test Frequency, states that "Active Category A, Category B, and Category C check valves shall be exercised nominally every 3 months, except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC 3560, ISTC-5221, and ISTC-5222.".

Specifically, relief is requested from performing the closed exercise test in accordance with ISTC-3510.

4. **Reason for Request**

Pursuant to 10 CFR 50.55a, "Codes and standards," paragraph (a)(3), relief is requested from the requirement of ASME OM Code, ISTC-3510. The basis of the relief request is that the Code requirement presents an undue hardship without a compensating increase in level of quality or safety.

The subject valve, 20-143 is categorized as C in the Inservice Testing Program with both an open and closed safety function. The following Inservice Testing Basis Document describes the valve functions in detail (See Attachment 1 – AFW System Diagram).

20-143 Basis

This check valve must open to provide a flow path from the auxiliary feedwater pump to the steam generators when the auxiliary feedwater pump is required to be operated. The auxiliary feedwater pump takes suction from the condensate storage tank. [UFSAR 9.11] This check valve must open to provide 466.8 gpm of auxiliary feedwater flow to the steam generators to maintain sufficient water level in the steam generators of both units. This flow rate is based on one AFW pump supplying a total of 233.4 gpm to three steam generators, the AFW system being shared between the units, and a loss of AC power simultaneously on both units. [UFSAR 14.1.12]

10 CFR 50.55a Request Number VR-03 (Continued)

20-143 Basis (continued)

This check valve must close to prevent diversion of flow when the Auxiliary Feedwater Pump C is supply the Train 1 discharge header. This function is necessary in the event that the Auxiliary Pump A is out of service with Pump C is supplying Train 1 auxiliary feedwater. This alignment is considered an infrequent operation (*-OP-75) and is not the preferred alignment of the system. Additionally, downstream manual isolation valve *-142 may be closed after alignment of the C pump to the Train 1 discharge header. However, for a brief period time, prior to closure of the manual valve, this check valve must close.

During normal system alignment, this check valve closes when the auxiliary feedwater pump is not in operation to prevent reverse flow. Since Train 1 is normally isolated from Train 2 closure of this valve to prevent diversion of flow is not required. [UFSAR 9.11] Isolation of the Train 1 auxiliary feedwater during a steam generator tube rupture event is accomplished by closing the downstream flow control valve on the affected steam generator [UFSAR 14.2.4/DBD-075]. Therefore the closure of this valve is not required for safe shutdown or accident mitigation during normal system alignment.

Inservice Testing Requirements – Exercise Open and Closed on a Quarterly Frequency

Check valve 20-143 is exercised open on a quarterly frequency with flow during the performance of the quarterly inservice test of the "A" Auxiliary Feedwater Pump. *-OSP-75.6 verifies that during pump testing, design accident flow rate is achieved downstream of the check valve (> 466.8 gpm). Achieving this flow rate verifies the ability of check valve 20-143 to open to the position required to fulfill its intended function and satisfies the open exercise test requirements.

To test check valve 20-143 closed requires removing the Train 1, (Auxiliary Feedwater Pump A) from service and performing a reverse flow test to verify check valve closure. Since the Auxiliary Feedwater System at Turkey Point is a shared system, when the Train 1 pump (AFW Pump A) is removed from service, both Unit #3 and #4 Train 1 is supplied by the C AFW pump. In accordance with Turkey Point Operating Procedure, OP-75, the C AFW pump is manually aligned to the Train 1 supply piping by alignment of manual valves (See Attachment 1). Prior to declaring the pump operable in this configuration the corresponding Inservice Test is performed on the C AFW pump to ensure AFW Train Operability requirements are met in accordance with plant Technical Specification Table 3.7-3. During this test the AFW Pump A Train 1 supply manual isolation valve *-142 may be left locked open to allow flow from the C AFW pump to close valve 10-142. Since this manual valve is the only isolation valve between the A AFW Pump Train 1 and AFW Pump C when it is aligned to Train 1, it is then closed to provide additional isolation should maintenance be required on the A AFW Pump. After testing is complete and the manual isolation valve (*-142) is closed, check valve 20-143 does not perform any safety function. Isolation of the out of service A AFW Pump is provided by the manual isolation valves.

10 CFR 50.55a Request Number VR-03
(Continued)

Therefore, check valve 20-143 performs a closed safety function only during a limited time period when the AFW system Train 1 is being aligned from C AFW Pump.

Manual isolation valves, *-142 are included in the Inservice Testing Program and tested in accordance with ISTC.

5. **Proposed Alternative and Basis for Use**

Turkey Point Nuclear Plant will continue to perform the full open exercise test on check valve 20-143 during the quarterly during performance of the A AFW pump inservice test. The closure test of 20-143 will be performed only when the A AFW pump is taken out of service for maintenance. Since the C AFW pump will be operated to verify operability of Train 1 in accordance with Technical Specification Table 3.7-3 during this period, check valve 20-143 may be tested close.

To test this check valve closed requires removing the A AFW Pump from service and operating the C AFW Pump to verify closure. Although this test is not difficult, it does place undue hardship on the plant by placing the Auxiliary Feedwater System in an undesirable configuration without the designed redundancy. Since no function exists for check valve 20-143 during normal system alignment, the frequency of testing provides reasonable assurance of the operational readiness of the subject valve and provides an acceptable level of quality and safety. Strict adherence to the Code test frequency for testing the valve closed does not provide any increase in the level of quality or safety.

6. **Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire 4th 120 month interval.

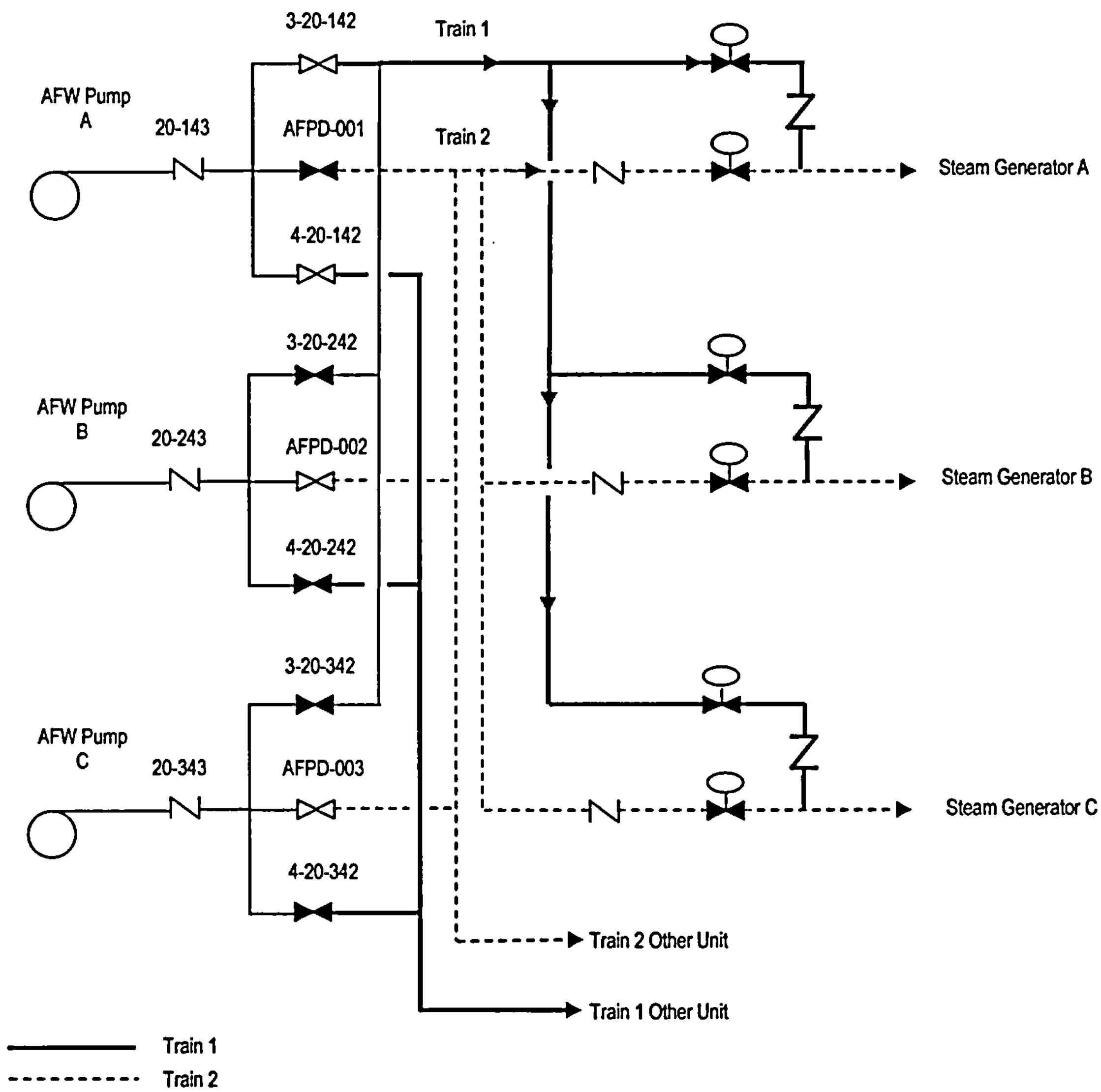
7. **Precedents**

None

10 CFR 50.55a Request Number VR-03
(Continued)

Attachment 1

AFW System Diagram



Note: Manual valves AFPD-001/002/003 and *-20-142/242/342 are normally locked in the positions shown.

ATTACHMENT 6

COLD SHUTDOWN JUSTIFICATION INDEX

(Page 1 of 1)

Cold Shutdown Justification No.	Description
CSJ-01	AFW Turbine Steam Supply Valve (381/382/383) Closure Testing
CSJ-02	Containment Purge Supply/Exhaust Valve Exercising
CSJ-03	Safety Injection Hot Leg Injection Valve (MOV-*-866A/B) Exercising
CSJ-04	Safety Injection Pump Discharge Header Cross Tie Valve (MOV-878A/B) Exercising
CSJ-05	SI/CS Recirc to RWST Valve (MOV-*-856A/B) Exercising
CSJ-06	RWST Outlet Isolation Valve (MOV-*-864A/B) Exercising
CSJ-07	SI Cold Leg Injection Check Valve (*-875A/B/C) Exercise Close Test
CSJ-08	RHR Cold Leg Injection Check Valve (*-876A/B/C) Exercise Close Test
CSJ-09	Component Cooling to Excess Letdown Hx Check Valve (*-738) Exercise Close Test
CSJ-10	CCW to Containment Cooler Valve (MOV-*-1417/1418) Exercising
CSJ-11	CCW to RCP Valve (MOV-*-626/716A/B/730) Exercising
CSJ-12	Main Steam Non-Return Check Valve (*-10-4/5/6) Close Exercise Test
CSJ-13	Main Steam Atmospheric Dump Valve (CV-*-1606/7/8) Exercising
CSJ-14	RHR to Cold Leg Injection Valve (MOV-*-744A/B) Exercising
CSJ-15	SI Accumulator Isolation Valve (MOV-*-865A/B/C) Exercising
CSJ-16	CVCS Letdown Line Isolation Valve (CV-*-204) Exercising
CSJ-17	Feedwater Control Valve (FCV-*-478/488/498) Exercising
CSJ-18	Feedwater Control Valve Bypass Valve (FCV-*-479/489/499) Exercising
CSJ-19	CVCS Charging to Regen Hx Valve (HCV-*-121) Exercising
CSJ-20	RWST to Charging Suction Valve (LCV-*-115B) Exercising
CSJ-21	CVCS VCT to Charging Valve (LCV-*-115C) Exercising
CSJ-22	Emergency Boration to Charging Check Valve (*-357) Open Exercise Test
CSJ-23	Power Operated Relief Valve (PCV-*-455C/456) Exercising
CSJ-24	Reactor Vessel Head Vent Valve (SV-*-6318A/B/6611/6612) Exercising
CSJ-25	Reactor Coolant Pump Return Valve (MOV-*-381/6386) Exercising
CSJ-26	RHR Suction from RWST Isolation Valve (MOV-*-862A/B) Exercising
CSJ-27	Reactor Coolant System RHR Suction Valve (MOV-*-750/751) Exercising
CSJ-28	RHR Alternate Discharge Isolation Valve (MOV-*-863A/B) Exercising
CSJ-29	RHR Pump Discharge Check Valve (*-753A/B) Open/Close Exercise Test
CSJ-30	Main Steam Isolation Valve (POV-*-2604/2605/2606)Close Exercise Test
CSJ-31	RHR Alternate Low Head Safety Injection Valve (MOV-*-872) Exercising

ATTACHMENT 7

COLD SHUTDOWN JUSTIFICATIONS

Cold Shutdown Justification CSJ-01

Component Tag	System	Safety Class	Category
3-10-381	075	3	C
3-10-382	075	3	C
3-10-383	075	3	C
4-10-381	075	3	C
4-10-382	075	3	C
4-10-383	075	3	C

Function

These check valves open to provide a flow path from the steam generators to the auxiliary feedwater pump turbine when the auxiliary feedwater pump is required to be operating. They close to prevent backflow in the event of a steam line rupture upstream of the valve and to prevent reverse flow between the units.

Justification

It is impracticable to exercise these check valves closed during normal power operation since closure testing at normal power imposes a significant safety hazard to plant personnel.

To verify closure of these valves requires isolation of the associated steam supply line from the steam generator and depressurization of the line on the upstream side of the valve. During normal operations, steam in excess of 800 psig is required to be vented to allow the valve to close. This testing imposes a significant safety hazard on plant personnel. Additionally, to perform this testing during normal plant operations, the auxiliary feedwater system would be required to be placed in an undesirable lineup.

Alternative Test

These check valves will be exercised closed during cold shutdowns when auxiliary steam at much lower pressure (approximately 250 psig) may be used to close the valve.

Cold Shutdown Justification CSJ-02

Component Tag	System	Safety Class	Category
POV-3-2600	053	2	A
POV-3-2601	053	2	A
POV-3-2602	053	2	A
POV-3-2603	053	2	A
POV-4-2600	053	2	A
POV-4-2601	053	2	A
POV-4-2602	053	2	A
POV-4-2603	053	2	A

Function

These normally closed, air operated valves must close/remain closed to isolate containment from the Containment Purge Supply line. The valve closes automatically upon receipt of a Containment Ventilation System (CVS) Isolation signal. Additionally, this valve fails closed on loss of electrical power or pneumatic supply. This valve is opened to purge containment to support personnel entry – during unit shutdowns.

Justification

It is impracticable to exercise these butterfly valves closed during normal power operation since closure testing at normal power imposes possible operational considerations regarding valve operability.

To verify closure of these valves requires opening of the valve to perform exercise and fail safe testing. Opening of the valve during normal plant operations may cause significant operability concerns based on the valve design. Due to the history of these valves with respect to operational-related seat leakage, the plant staff has imposed restrictions on valve operation whereby unnecessary cycling of the valves is to be avoided and additional leaktests are performed based on cycling frequency. The plant staff has administratively controlled the operating cycles (fuses not normally installed) such that cycling of these valves at power is allowed only when absolutely necessary.

Alternative Test

These valves will be exercised closed and fail safe tested during cold shutdowns when containment integrity is not required.

Cold Shutdown Justification CSJ-03

Component Tag	System	Safety Class	Category
MOV-3-866A	062	1	A
MOV-3-866B	062	1	A
MOV-4-866A	062	1	A
MOV-4-866B	062	1	A

Function

These motor operated valve must close or remain closed to isolate the hot leg injection line from the safety injection system during emergency conditions when hot leg injection is not required. This function ensures adequate core filling and cooling through the cold legs during a loss of coolant accident. The valve is maintained administratively locked closed with the breaker open to ensure valve closure since initial accident conditions require core cooling through the cold legs. This valve also receives a safety injection signal (SIS) to close to isolate containment from the safety injection system. The valve is required to open to provide a flow path from the safety injection pump to the reactor coolant system hot leg, during hot leg recirculation operation This function requires operator action to open the valve since it is normally closed with the breaker in the locked open position

Justification

It is impracticable to exercise these valves open or closed during normal power operation since opening of this valve during normal power operations places the plant in an undesirable configuration.

Exercising this valve open or closed requires aligning the system in a configuration where the Class 1 reactor coolant system is isolated from the lower pressure Class 2 safety injection system by only one valve (simple check). This configuration would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised open and closed during cold shutdowns when reactor coolant system pressure is below 600 psig.

Cold Shutdown Justification CSJ-04

Component Tag	System	Safety Class	Category
MOV-878A	062	2	B
MOV-878B	062	2	B

Function

These motor operated valves must remain open to provide a flow path from the safety injection pump to the opposite unit during the injection phase of safety injection following a loss of coolant accident. The valves are maintained in the open position during normal power operations due to single failure analysis requiring at least two safety injection pumps for injection into the reactor coolant system. These valves may be closed prior to switch over to the recirculation phase of safety injection to isolate the non accident unit piping from the contaminated recirculated water on the accident unit.

Justification

It is impracticable to exercise these valves closed during normal power operation since closure of this valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves closed places the plant in a condition where the shared safety injection pumps are not available as required. Closure of the valves solely for testing would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised closed during cold shutdowns when the safety injection system is not required to be operable for the opposite unit.

Cold Shutdown Justification CSJ-05

Component Tag	System	Safety Class	Category
MOV-3-856A	062	2	B
MOV-3-856B	062	2	B
MOV-4-856A	062	2	B
MOV-4-856B	062	2	B

Function

These motor operated valves must remain open to provide a flow path from the safety injection and containment spray pumps to the RWST during the injection phase of an accident to prevent potential pump damage. Theses valves are maintained in the open position during normal power operations and do not receive any automatic actuation signals. Theses valves may be closed prior to switch over to the recirculation phase of safety injection to isolate the RWST from the containment spray and safety injection pumps. This function prevents contamination of the RWST.

Justification

It is impracticable to exercise these valves closed during normal power operation since closure of this valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves closed places the plant in a condition where the associated safety injection pump may be damaged, if started, since the recirculation line would be isolated. Closure of the valves solely for testing would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised closed during cold shutdowns when the safety injection pumps and containment spray pumps are not required to be operable.

Cold Shutdown Justification CSJ-06

Component Tag	System	Safety Class	Category
MOV-3-864A	062	2	B
MOV-3-864B	062	2	B
MOV-4-864A	062	2	B
MOV-4-864B	062	2	B

Function

These normally open motor operated valves must remain open to provide a flow path from the RWST to the suction of the safety injection, containment spray, and residual heat removal pumps during the injection phase of an accident. These valves are maintained administratively locked open with their breakers open to ensure the valve remains open during the injection phase. The valves must close prior to switch over to the recirculation phase of safety injection to isolate the RWST from the containment spray, safety injection and residual heat removal pumps. This function prevents contamination of the RWST.

Justification

It is impracticable to exercise these valves closed during normal power operation since closure of this valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves closed places the plant in a condition where the associated safety injection, residual heat removal, and containment spray pumps would all be inoperable due to an isolated suction path. Closure of the valves solely for testing would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised closed during cold shutdowns when the safety injection pumps, containment spray pumps, and residual heat removal pumps are not required to be operable.

Cold Shutdown Justification CSJ-07

Component Tag	System	Safety Class	Category
3-875A	064	1	AC
3-875B	064	1	AC
3-875C	064	1	AC
4-875A	064	1	AC
4-875B	064	1	AC
4-875C	064	1	AC

Function

These check valves open to provide flow path from the safety injection pump to the reactor coolant system cold leg injection points during the injection phase of an accident, and to provide a flow path from the safety injection tank accumulator to the cold leg injection points when the reactor coolant system decreases below 660 psig, and must open to provide a flow path from the residual heat removal pump to the cold leg injection point during a large break LOCA when the RCS is rapidly depressurized, and during the alternate low head injection during the recirculation phase of an accident These check valves must close or remain closed to isolate the reactor coolant system from the lower pressure safety injection and residual heat removal systems during normal operations and emergency conditions when cold leg injection is not required. These valves are considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valves must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these valves closed during normal power operation since closure of this valve during normal power operations places the plant in an undesirable configuration along with an increase in personnel radiation exposure to perform testing.

Exercising this valve closed requires isolation and depressurization of the safety injection system accumulators to perform a leakage test to verify closure. Isolation of the accumulator during normal power operation places the plant in an undesirable condition. Personnel entry into containment would be required to perform the leakage test. This would result in an increase in personnel radiation exposure.

Alternative Test

These valves will be exercised closed during cold shutdowns when the safety injection system accumulators are not required and radiation levels permit entry into containment.

Cold Shutdown Justification CSJ-08

Component Tag	System	Safety Class	Category
3-876A	064	1	AC
3-876B	064	1	AC
3-876C	064	1	AC
4-876A	064	1	AC
4-876B	064	1	AC
4-876C	064	1	AC

Function

These check valves open to provide flow path from the residual heat removal system to the cold leg injection points during a large break LOCA when the RCS is rapidly depressurized. These valves must also open to provide normal low head injection during the injection phase of an accident. These check valves must close or remain closed to prevent reverse flow when the safety injection pump or accumulators are required to inject flow to the cold leg. The valves are also required to close when RHR is in service for alternate low head injection during the recirculation phase of an accident. The valves are required to close to isolate the reactor coolant system from the lower pressure residual heat removal system during emergency conditions when the residual heat removal system is not required. These valves are considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valves must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these valves closed during normal power operations since closure of these valves during normal power operations places the plant in an undesirable and unanalyzed configuration along with an increase in personnel radiation exposure to perform testing.

Exercising these valves closed during normal power operations requires isolation of the refueling water storage tank and depressurizing and draining of the residual heat removal system to perform leakage testing to verify closure. Isolation of the refueling water storage tank during normal operation would require defeating the normal safety injection interlocks and require declaring the low head residual heat removal system inoperable. Considering the amount of piping required to be drained, and the various LCO entered, this testing would place the plant in an unanalyzed and undesirable condition. This testing requires containment entry and significant test preparation, which may cause a delay in plant startup. Additionally, entry into containment for test preparation, performance and restoration imposes a significant increase in radiation exposure to plant personnel.

Alternative Test

These valves will be exercised closed during cold shutdowns when the residual heat removal system is not required and the RWST may be isolated.

Cold Shutdown Justification CSJ-09

Component Tag	System	Safety Class	Category
3-738	030	2	C
4-738	030	2	C

Function

This check valve must close to isolate containment from the component cooling water system. This valve is exempt from Appendix J testing since it is connected to a closed system inside containment. The valve provides containment isolation for Penetration 12. In the open position this valve opens to provide component cooling water to the excess letdown heat exchanger during normal plant operating modes. This open function is not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise this valve closed during normal power operations since significant plant piping would be required to be drained to perform a backflow test to verify closure. Additionally, performance of this test places the plant in an undesirable condition during plant operations.

To exercise this check valve closed requires performance of a backflow/leakage test. This test requires draining of the piping upstream and downstream of the check valve. Since the component cooling water is chemical treated with a corrosion inhibitor, a significant amount of time and labor is necessary to manage the disposal of this chemically treated water. Considering the amount of piping required to be drained, and the various LCO entered, this testing would place the plant in an undesirable condition during plant power operations.

Alternative Test

These valves will be exercised closed during cold shutdowns when component cooling water and excess letdown are not required.

Cold Shutdown Justification CSJ-10

Component Tag	System	Safety Class	Category
MOV-3-1417	030	2	B
MOV-3-1418	030	2	B
MOV-4-1417	030	2	B
MOV-4-1418	030	2	B

Function

These valves must close to provide containment isolation for the component cooling water supply/return line to the normal containment coolers and CRDM coolers. These valves close automatically on a Phase A containment isolation signal. The valve provides containment isolation for Penetrations 21 and 22. The valves are normally open to provide component cooling water to the normal containment coolers and CRDM coolers during normal plant operating modes and during plant fires. This open function is not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these valves closed during normal power operations since damage to plant equipment may occur.

Exercising these valves closed during normal power operations would isolate the normal cooling water supply to the normal containment coolers, control rod drive mechanism coolers, and the primary shield cooling coils. Isolation of the cooling water supply to this equipment may cause severe damage due to overheating of the equipment. Failure of this equipment due to overheating during normal power operations would result in potential equipment damage and subsequent plant shutdown.

Alternative Test

These valves will be exercised closed during cold shutdowns when the associated equipment being cooled is not required to be in operation.

Cold Shutdown Justification CSJ-11

Component Tag	System	Safety Class	Category
MOV-3-626	030	2	B
MOV-3-716A	030	3	B
MOV-3-716B	030	2	B
MOV-3-730	030	2	B
MOV-4-626	030	2	B
MOV-4-716A	030	3	B
MOV-4-716B	030	2	B
MOV-4-730	030	2	B

Function

These valves close to provide containment isolation for the component cooling water supply/return line from the RCP bearing coolers. The valves close automatically on a Phase B containment isolation signal. These valves are normally open to provide cooling water to the reactor coolant pump seals and the main drive motors. The open function is not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these valves closed during normal power operations since damage to plant equipment may occur.

Exercising these valves closed during normal power operations would isolate the normal cooling water supply to reactor coolant pump seals and the main drive motors. Isolation of the cooling water supply to this equipment may result in degradation of the reactor coolant pump seals and motors, eventually resulting in potential damage to the reactor coolant pump and subsequent plant shutdown.

Alternative Test

These valves will be exercised closed during cold shutdowns when the associated reactor coolant pumps are not required to be in operation.

Cold Shutdown Justification CSJ-12

Component Tag	System	Safety Class	Category
3-10-004	072	SR	C
3-10-005	072	SR	C
3-10-006	072	SR	C
4-10-004	072	SR	C
4-10-005	072	SR	C
4-10-006	072	SR	C

Function

These check valves must close to prevent reverse flow due to a rupture upstream of the check valve. This prevents a single line rupture from affecting other Steam Generators by preventing uncontrolled blow down of the intact Steam Generators. This valve is open during normal operations by system flow to provide steam to the turbine. This function is not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these valves closed during normal power operations since closure may result in a plant trip.

Exercising these valves closed during normal power operations to perform testing would require the steam generator to be isolated. Isolation of the steam generators during normal operation would cause a severe transient in the reactor coolant system and a subsequent trip of the reactor.

Alternative Test

These check valves will be exercised closed during cold shutdowns when the steam generator may be isolated.

Cold Shutdown Justification CSJ-13

Component Tag	System	Safety Class	Category
CV-3-1606	072	2	B
CV-3-1607	072	2	B
CV-3-1608	072	2	B
CV-4-1606	072	2	B
CV-4-1607	072	2	B
CV-4-1608	072	2	B

Function

This valve is an air operated relief valve with a controllable setpoint. This valve is opened (non-faulted S/G) after a SGTR with a concurrent loss of offsite power to control reactor coolant system cooldown. The RCS cooldown allows RCS depressurization which will limit radioactive release to the faulted S/G. Theses valves are considered containment isolation valves for Penetrations 26A/B/C. They are considered secondary system barrier since the Steam Generators are a closed loop inside containment. During accidents requiring the use of the AFW Turbine, these valves must remain closed to prevent diverting steam from the AFW Turbine. The valves must close or remain closed to isolate the Steam Generator from atmosphere during a SGTR (faulted S/G) because this mitigates the release of radioactivity to atmosphere. These valves also fail to the closed position on loss of power. The valves are opened during normal operations, and their setpoints are modulated, to control RCS cooldown to RHR entry conditions.

Justification

It is impracticable to exercise these valves open or closed during normal power operations since exercising these valves may result in a plant transient and subsequent reactor trip.

Exercising these valves during normal power operations to perform testing would cause a power transient during normal plant operations due to the amount of steam released when the valve is opened. Exercising the valve may be performed with the block valve closed to limit the amount of steam released, however, this alignment places the plant in an undesirable condition. Normal operations with the block valve closed would limit the capability of the plant to limit a pressure transient and prevent lifting of a safety valve in the event of a pressure transient.

Alternative Test

These valves will be exercised open and closed during cold shutdowns when overpressure protection the reactor coolant system is not required.

Cold Shutdown Justification CSJ-14

Component Tag	System	Safety Class	Category
MOV-3-744A	064	2	B
MOV-3-744B	064	2	B
MOV-4-744A	064	2	B
MOV-4-744B	064	2	B

Function

These valves must open automatically upon receipt of a safety injection signal to provide a flow path from the RHR pump to the reactor coolant system cold legs during the injection phase of an accident. These valves are also required to be opened/closed by remote manual operations during the recirculation phase of an accident to support hot/cold leg recirculation depending on reactor coolant system pressure. The valves are also opened during normal shutdown cooling operations to facilitate normal decay heat removal. These valves are required to close by remote manual operation to isolate the RHR system when the system is aligned for hot leg injection and alternate low head injection. However, this function is redundant to downstream check valves which are required to close to isolate the reactor coolant system pressure boundary.

Justification

It is impracticable to exercise these valves open or closed during normal power operation since opening of this valve during normal power operations places the plant in an undesirable configuration.

Exercising these valves open or closed requires aligning the system in a configuration where the Class 1 reactor coolant system is isolated from the lower pressure Class 2 residual heat removal system by two check valves. This configuration would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised open and closed during cold shutdowns when reactor coolant system pressure is below residual heat removal system design pressure (600 psig).

Cold Shutdown Justification CSJ-15

Component Tag	System	Safety Class	Category
MOV-3-865A	064	2	B
MOV-3-865B	064	2	B
MOV-3-865C	064	2	B
MOV-4-865A	064	2	B
MOV-4-865B	064	2	B
MOV-4-865C	064	2	B

Function

These valves must remain open to provide a flow path from the safety injection accumulator to the reactor coolant system during injection when the reactor coolant system pressure falls below the accumulator pressure. During normal operation, this valve is maintained in the open position with it's power removed to prevent inadvertent operation. Since these valves are not required to change positions to perform this function, the open position is considered passive. These valves must close by remote manual operation to isolate the safety injection accumulator from the reactor coolant system after injection is complete to assist in maintaining the safe shutdown condition.

Justification

It is impracticable to exercise these valves open or closed during normal power operation since closing this valve during normal power operations places the plant in an undesirable configuration.

Exercising these valves closed during normal plant operations requires the safety injection accumulator to be isolated. Isolating the a safety injection accumulator during normal power operations places the plant in an undesirable plant configuration and an unanalyzed condition.

Alternative Test

These valves will be exercised closed during cold shutdowns when the safety injection accumulators are not required.

Cold Shutdown Justification CSJ-16

Component Tag	System	Safety Class	Category
CV-3-204	047	2	A
CV-4-204	047	2	A

Function

This air operated valve must close automatically to isolate containment from the chemical volume control system letdown line. This valve provides containment isolation for Penetration 14. The valve closes automatically upon receipt of a Phase A containment isolation signal and fails closed on loss of electrical power or pneumatic supply. The valve is open during normal power operations to provide a letdown flow path from the reactor coolant system and regenerative heat exchanger to the non regenerative heat exchanger via the letdown orifices.

Justification

It is impracticable to exercise this valve closed during normal power operation since closing this valve during normal power operations may result in a plant trip.

Exercising this valve closed during normal plant operations would causes pressurizer level fluctuations and potential chemical volume and control system transients which would result in a potential trip of the plant.

Alternative Test

These valves will be exercised closed and fail safe tested during cold shutdowns when reactor coolant system normal letdown is not required.

Cold Shutdown Justification CSJ-17

Component Tag	System	Safety Class	Category
FCV-3-478	074	2	B
FCV-3-488	074	2	B
FCV-3-498	074	2	B
FCV-4-478	074	2	B
FCV-4-488	074	2	B
FCV-4-498	074	2	B

Function

These normally open valves must close automatically on a Feedwater Isolation Signal (FWIS) during accident conditions requiring feedwater isolation. The valves are required to close within 9.0 seconds upon receipt of a Safety Injection signal and they fail closed on loss of pneumatic supply or electrical power. The valves are used to throttle flow in response to a signal from the Steam Generator Water Level Control System. These valves are opened to allow flow into the associated steam generator during normal power operations.

Justification

It is impracticable to exercise these valves closed during normal power operation since closing this valve during normal power operations would result in a plant trip.

Exercising these valves closed during normal plant operations would causes a severe steam generator level transient and subsequent reactor trip.

Alternative Test

These valves will be exercised closed and fail safe tested during cold shutdowns when feedwater flow control is not required.

Cold Shutdown Justification CSJ-18

Component Tag	System	Safety Class	Category
FCV-3-479	074	2	B
FCV-3-489	074	2	B
FCV-3-499	074	2	B
FCV-4-479	074	2	B
FCV-4-489	074	2	B
FCV-4-499	074	2	B

Function

These valves must close automatically on a Feedwater Isolation Signal (FWIS) during accident conditions requiring feedwater isolation. These valves are required to close within 13.0 seconds upon receipt of a safety injection signal and fails closed on loss of electrical power or pneumatic supply. The valves are opened to bypass the main feedwater regulating valve to allow flow into the associated S/G during low power operations.

Justification

It is impracticable to exercise these valves closed during normal power operation since exercising this valve during normal power operations would result in a plant trip.

To exercise these valves closed requires opening the valve to perform the close and fail safe tests. Opening of these valves during normal plant operations may cause a severe steam generator level transient and subsequent reactor trip. Additionally, this testing requires the installation of electrical jumpers to defeat various safeguards logic which could also lead to an inadvertent plant transient or trip.

Alternative Test

These valves will be exercised closed and fail safe tested during cold shutdowns when feedwater flow control is not required.

Cold Shutdown Justification CSJ-19

Component Tag	System	Safety Class	Category
HCV-3-121	047	2	B
HCV-4-121	047	2	B

Function

This air operated valve opens to provide a flow path from the charging pump to the reactor coolant system via the regenerative heat exchanger during emergency boration. The valve is required to open to provide a flow path to the RCS during a rod cluster control assembly accident requiring emergency boration. During normal power operation, this valve is open to provide the normal return flow path from the charging pump to the reactor coolant system via the regenerative heat exchanger to support processing of the water let down from the reactor coolant system. The valve does not receive any automatic actuation signals and fails open on loss of electrical power or pneumatic supply. The valve is closed when the charging system is removed from service (charging pumps not operating).

Justification

It is impracticable to exercise this valve open during normal power operation since exercising this valve during normal power operations would result in a potential plant trip.

To exercise this valve open requires closing the valve to perform the open stroke time and fail safe open tests. Closing of this valve during normal plant operations would disrupt the normal charging return flow and result in reactor coolant pump seal flow loss and pressurizer level oscillations which may result in a reactor trip.

Alternative Test

These valves will be exercised open and fail safe tested during cold shutdowns when charging is not required and the charging pumps are not in operation.

Cold Shutdown Justification CSJ-20

Component Tag	System	Safety Class	Category
LCV-3-115B	047	2	B
LCV-4-115B	047	2	B

Function

This normally closed air operated valve must open during emergency boration to provide a backup borated water suction source from the RWST to the charging pumps. This valve is opened by remote manual operation in the event that the boric pumps fail to start. This valve opens automatically upon receipt of a low level in the volume control tank to provide a flow path from the RWST to the charging pump suction for automatic makeup of borated water to the reactor coolant system. Upon initiation of a low volume control tank level the normal suction for the charging pumps is isolated by LCV-*-115C, which closes. To ensure a suction path is available to the charging pumps, the valve is interlocked such that LCV-*-115C will not begin to close until LCV-*-115B is full open. The valve may also be opened by remote manual operation. This valve must remain closed to isolate the charging pump suction piping from the RWST during normal power operations and during emergency boration when the boric acid pumps are providing emergency boration. This function is considered passive since the valve is not required to change position to perform this function. The valve fails closed on loss of electrical power or pneumatic supply.

Justification

It is impracticable to exercise this valve open during normal power operation since exercising this valve during normal power operations would cause a power transient and potential plant trip.

To exercise this valve open requires injection of refueling water storage tank borated water into the reactor coolant system. During normal power operations, this test would cause a severe power transient which may lead to a plant trip.

Alternative Test

These valves will be exercised open and fail safe tested during cold shutdowns when the chemical volume and control system is not required to be in operation.

Cold Shutdown Justification CSJ-21

Component Tag	System	Safety Class	Category
LCV-3-115C	047	2	B
LCV-4-115C	047	2	B

Function

This valve closes automatically upon receipt of a low level in the volume control tank to isolate the volume control tank. Valve LCV-*-115B opens to provide a flow path from the RWST to the charging pump suction for automatic makeup of borated water to the reactor coolant system. To ensure a suction path is available to the charging pumps, the valve is interlocked such that LCV-*-115C will not begin to close until LCV-*-115B is full open. The valve is required to be closed by remote manual operation during emergency boration in the event of a failure of the boric acid pumps, when the RWST is aligned to the charging pump suction. The valve opens/remains open during normal operations to provide a flow path from the VCT to the charging pump suction.

Justification

It is impracticable to exercise this valve closed during normal power operation since exercising this valve during normal power operations would cause a power transient and potential plant trip.

To exercise this valve closed requires aligning the charging pumps take suction from the refueling water storage tank during normal operation. This would cause injection of refueling water storage tank borated water into the reactor coolant system. During normal power operations, this test would cause a severe power transient which may lead to a plant trip.

Alternative Test

This valve will be exercised closed during cold shutdowns when the chemical volume and control system is not required to be in operation.

Cold Shutdown Justification CSJ-22

Component Tag	System	Safety Class	Category
3-357	047	2	C
4-357	047	2	C

Function

This check valve opens to provide a flow path from the RWST to the charging pump suction when a low level in the volume control tank automatically opens LCV-*-115B for automatic makeup of borated water to the reactor coolant system. Upon initiation of a low volume control tank level the normal suction for the charging pumps is isolated by LCV-*-115C, which closes. This valve closes to isolate the charging pump suction piping from the RWST during normal power operations and during emergency boration when the boric acid pumps are providing emergency boration. However, normally closed downstream valves LCV-*115B and *-358 are relied upon for isolating the emergency boration flow path when it is not required.

Justification

It is impracticable to exercise this valve open during normal power operation since exercising this valve during normal power operations would cause a power transient and potential plant trip.

To exercise this valve open requires aligning the charging pumps take suction from the refueling water storage tank during normal operation. This would cause injection of refueling water storage tank borated water into the reactor coolant system. During normal power operations, this test would cause a severe power transient which may lead to a plant trip.

Alternative Test

This valve will be exercised open during cold shutdowns when the chemical volume and control system is not required to be in operation.

Cold Shutdown Justification CSJ-23

Component Tag	System	Safety Class	Category
PCV-3-455C	041	1	B
PCV-3-456	041	1	B
PCV-4-455C	041	1	B
PCV-4-456	041	1	B

Function

This normally closed air operated valve must close to maintain the RCS pressure boundary in order to contain the coolant under operating temperature and pressure conditions. This valve must open during reactor heat up and cooldown when the Overpressure Mitigation System is in operation. During OMS operation, the reactor temperature and pressure are below normal operating bands. The lower temperature of the RCS requires lower relief setpoints to avoid brittle fracture. During these conditions the PORV setpoints are varied by the OMS according to system conditions. The subject valve must open to allow a relief path since the Safety Valve setpoints are too high to provide protection during these conditions. This valve will also automatically open at 2335 psig during normal operations (normal operating temperature and pressure) to mitigate pressure transients during a SGTR or an Appendix R fire. This function is considered important to safety but does not support safe shutdown or accident mitigation since the Pressurizer Safety Valves (RV-*-551A/B/C) are relied upon for overpressure protection of the reactor coolant system.

Justification

It is impracticable to exercise this valve open and closed during normal power operation since exercising this valve during normal power operations may cause equipment damage or a plant trip.

Exercising this valve during normal power operations would cause a rapid depressurization of the reactor coolant system causing a pressure transient and subsequent trip of the plant. Additionally, exercising this valve each quarter at power would eventually damage the valve seat.

Alternative Test

This valve will be exercised open and closed and fail safe tested during cold shutdowns when the reactor coolant system pressure is depressurized.

Cold Shutdown Justification CSJ-24

Component Tag	System	Safety Class	Category
SV-3-6318A	041	2	B
SV-3-6318B	041	2	B
SV-3-6611	041	2	B
SV-3-6612	041	2	B
SV-4-6318A	041	2	B
SV-4-6318B	041	2	B
SV-4-6611	041	2	B
SV-4-6612	041	2	B

Function

Valves SV-*-6318A/B must open during post-accident conditions to vent the vessel head so that the non-condensible gas bubble does not disrupt cooling to the core by inhibiting natural circulation. The reactor vessel head vent system provides a means of venting the vessel head to either the containment sump or the pressurizer relief tank. These valves must remain closed during normal operations to establish the RCS pressure boundary. These valves are administratively maintained closed when RCS temperature exceeds 200F by locking their control switches and removing the fuses to the valves' power supply. These valves isolate the reactor vessel head from downstream piping which leads to the containment sump, containment atmosphere, pressurizer relief tank or a sample connection. Since these valves are not required to change position to perform the closed safety function they are considered passive in the closed direction.

Valves SV-*-6611/6612 must open during post-accident conditions to vent the vessel head so that the non-condensible gas bubble does not disrupt cooling to the core by inhibiting natural circulation. The reactor vessel head vent system provides a means of venting the vessel head to either the containment sump or the pressurizer relief tank. These valves isolate the reactor vessel head vent from piping which leads to either the containment sump or containment atmosphere. This closed function is considered passive since the valves are administratively maintained closed when RCS temperature exceeds 200F by locking its control switch and removing the fuses to the valve's power supply. These valve fail closed on loss of electrical power.

Justification

It is impracticable to exercise these valves during normal power operation since exercising these valves during normal power operations may result in a loss of coolant in excess of allowable limits. Exercising these valves during normal power operations may lead to a loss of coolant in excess of allowable limits and potential plant shutdown. These valves are administratively maintained closed to isolate the Class 1 reactor coolant system pressure boundary. Failure of these valves during testing at normal power conditions would require a containment entry and potential shutdown of the plant.

Alternative Test

The SV-*-6318A/B will be exercised open during cold shutdowns when the reactor coolant system pressure is depressurized. Valves SV-*-6611/6612 will be exercised open and fail safe tested open during cold shutdowns when the reactor coolant system pressure is depressurized.

Cold Shutdown Justification CSJ-25

Component Tag	System	Safety Class	Category
MOV-3-381	047	2	A
MOV-3-6386	047	2	A
MOV-4-381	047	2	A
MOV-4-6386	047	2	A

Function

These motor operated valve must close automatically to isolate containment from the chemical volume and control system seal water injection return line. These valves provide containment isolation for Penetration 25. The valves close automatically upon receipt of a Phase A containment isolation signal. These valves may also be closed by remote manual operation.

The valves are open during normal power operations to provide a return flow path from the reactor coolant pump seal injection system (and excess letdown if in operation) to the volume control tank. This function is not required for safe shutdown or accident mitigation since the reactor coolant pumps (and letdown) are not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these valves during normal power operation since exercising these valves during normal power operations may result in damage to the reactor coolant pump seals.

Exercising these valves closed during normal power operations would interrupt flow from the reactor coolant pump seals. Loss of reactor coolant pump seal flow with the reactor coolant pump in operation would damage the seals due to overheating.

Alternative Test

These valves will be exercised closed during cold shutdowns when the reactor coolant pumps are not in operation.

Cold Shutdown Justification CSJ-26

Component Tag	System	Safety Class	Category
MOV-3-862A	050	2	B
MOV-3-862B	050	2	B
MOV-4-862A	050	2	B
MOV-4-862B	050	2	B

Function

These normally locked open motor operated valves must remain open to provide a flow path from the RWST to the suction of the residual heat removal pumps during the injection phase of an accident. These valves are maintained administratively locked open with the breaker open to ensure the valves remain open during the injection phase. The valves are maintained in the open position during normal power operations and does not receive any automatic actuation signals. After the valves are closed during the recirculation phase, they are not required to be reopened to support any accident analysis events. Therefore, the open function is considered passive.

These valves must close prior to switch over to the recirculation phase of safety injection to isolate the RWST from the residual heat removal pumps. This function prevents contamination of the RWST. The valves are closed by remote manual operation in accordance with procedure. These valves are also closed when RHR is initiated for normal plant cooldown (shutdown cooling). The valves are interlocked such that when they ares open, the shutdown cooling isolation valves (MOV-*-750/751) are closed.

Justification

It is impracticable to exercise these valves closed during normal power operation since closure of either valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves closed places the plant in a condition where the shared residual heat removal pumps are not available as required. Closure of the valves solely for testing would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised closed during cold shutdowns when the residual heat removal pumps are not required to be in operation.

Cold Shutdown Justification CSJ-27

Component Tag	System	Safety Class	Category
MOV-3-750	050	1	A
MOV-3-751	050	1	A
MOV-4-750	050	1	A
MOV-4-751	050	1	A

Function

These normally closed motor operated valves must open to provide a flow path from the reactor coolant system hot leg to the suction of the residual heat removal pumps during alternate hot leg recirculation operations. This function is initiated by the operator following switchover from the RWST to containment sump and requires opening the valve by remote manual operation. These valves are also opened when RHR is initiated for normal plant cooldown (shutdown cooling). The valves are maintained in the closed position during normal power operations and do not receive any automatic actuation signals. The valves are interlocked such that they can not be opened until the RWST suction isolation valves (MOV-*-862A/B) are closed. Additionally, the valves are interlocked with reactor pressure such that they will automatically close and can not be opened with reactor pressure greater than 525 psig.

These valves must close to isolate the reactor coolant system from the lower pressure residual heat removal system during emergency conditions when hot leg recirculation is not required to be in service. These valves are considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valves must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these valves open or closed during normal power operation since exercising this valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves open/closed during normal operations would require defeating the reactor pressure interlock and RWST suction valve interlocks to cycle the valves open and closed. This testing would place the plant in an undesirable alignment and cause undue risk.

Alternative Test

These valves will be exercised open and closed during cold shutdowns when the residual heat removal system is not required to be in operation and reactor pressure is less than 525 psig.

Cold Shutdown Justification CSJ-28

Component Tag	System	Safety Class	Category
MOV-3-863A	050	2	B
MOV-3-863B	050	2	B
MOV-4-863A	050	2	B
MOV-4-863B	050	2	B

Function

These normally locked closed motor operated valves must open by remote manual operation to provide a flow path from the discharge of the RHR heat exchanger to the suction of the safety injection pumps during recirculation. This function is initiated by the operator following switchover from the RWST to containment sump and requires opening the valve by remote manual operation after the RWST suction valves (MOV-*-862A/B and MOV-*-864A/B) are closed. These valves are also opened to provide a flow path to the containment spray pumps and/or alternate low head injection path in the event that the safety injection pump can not be started.

The valves are required to remain closed to prevent divergence of injection flow to the RHR pump suction during the injection phase of an accident. These valves do not receive any automatic actuation signals and are administratively maintained closed with the breaker locked in the off position. Since these valves are not required to be closed to support any accident conditions after being open during recirculation, the closed position is considered passive.

Justification

It is impracticable to exercise these valves open during normal power operation since exercising these valves during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising these valves open during normal operations would require alignment of the plant in a undesirable configuration in which the residual heat removal system could not perform its function.

Alternative Test

These valves will be exercised open during cold shutdowns when the residual heat removal system is not required to be in operation.

Cold Shutdown Justification CSJ-29

Component Tag	System	Safety Class	Category
3-753A	050	2	C
3-753B	050	2	C
4-753A	050	2	C
4-753B	050	2	C

Function

These check valves must open to provide a flow path from the residual heat removal pump to the reactor coolant system during ECCS injection and recirculation modes of operation.

These valves must close to prevent backflow through an idle pump during ECCS injection and recirculation modes of operation. Closure of these valves ensures adequate flow to the reactor coolant system in the event of a failure of the respective residual heat removal pump to start.

Justification

It is impracticable to fail safe test these valves during normal power operation since exercising these valve during normal power operations would require injection into the reactor coolant system.

To perform the necessary check valve open and closed testing requires operating the residual heat removal pump at full flow conditions. This testing can only be performed by injection into the reactor coolant system. During normal power operations, this test would require injection of borated refueling water storage tank water into the reactor. During normal power operations, this test would cause a severe power transient which may lead to a plant trip.

Alternative Test

These check valves will be exercised open and closed during cold shutdowns when the residual heat removal system is not required to be in operation and full flow testing may be performed.

Cold Shutdown Justification CSJ-30

Component Tag	System	Safety Class	Category
POV-3-2604	072	2	B
POV-3-2605	072	2	B
POV-3-2606	072	2	B
POV-4-2604	072	2	B
POV-4-2605	072	2	B
POV-4-2606	072	2	B

Function

These valves must close to isolate containment from the Steam Generators (closed loop inside containment) from the Main Steam Header. These valves are a secondary system barrier since the Steam Generators are a closed loop inside containment. These valves are required to close in the event of a Main Steam Line Break or Steam Generator Tube Rupture. The valves will close in response to a Main Steam Isolation Signal. These valves open during normal operation. These valves held open by an air actuator. The open function does not support safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these valves closed during normal power operation since exercising this valve during normal power operations would cause a plant trip.

Closing these valves for testing during normal power operations would interrupt steam flow from the steam generator to the main steam/turbine systems. Exercising these valves closed would isolate the steam generator which would result in a severe power transient in the steam and reactor coolant systems which would lead to a subsequent trip of the plant.

Alternative Test

These valves will be exercised closed during cold shutdowns when the main steam system is not required to be in operation.

Cold Shutdown Justification CSJ-31

Component Tag	System	Safety Class	Category
MOV-3-872	050	2	B
MOV-4-872	050	2	B

Function

These normally closed motor operated valves must open by remote manual operation to provide a flow path from the discharge of the RHR heat exchanger to the alternate low head safety injection points in the event that the safety injection pump can not be started. This function is initiated by the operator following switchover from the RWST to containment sump and requires opening the valves by remote manual operation after the RWST suction valves (MOV-*-862A/B and MOV-*-864A/B) are closed.

The valves are considered containment isolation valves for penetration 11, however, they are exempt from Appendix J Type C testing since they are connected to a penetration which is considered essential and may be in service post accident. These valves do not receive any automatic actuation signals and are operated by remote manual operation.. Since the valves are not required to be closed to support any accident conditions after being open to support alternate low head injection, the closed position is considered passive.

Justification

It is impracticable to exercise these valves open during normal power operation since exercising this valve during normal power operations places the plant in an undesirable and unanalyzed configuration.

Exercising this valve open during normal operations would require alignment of the plant in a undesirable configuration in which the residual heat removal system could not perform its function.

Alternative Test

These valves will be exercised open during cold shutdowns when the residual heat removal system is not required to be in operation.

ATTACHMENT 8

REFUELING OUTAGE JUSTIFICATION INDEX

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Refueling Outage Justification No.	**Description**
RJ-01	Service Air to Containment Check Valve (3-40-205) Closure Testing
RJ-02	Instrument Air to Containment Check Valve (*-40-336) Closure Testing
RJ-03	Instrument Air to Containment Check Valve (*-40-340A) Closure Testing
RJ-04	Boric Acid Pump Discharge Check Valve (3-397A/B,4-397C/D) Open Testing
RJ-05	N2 to PRT Check Valve (*-518/519) Closure Testing
RJ-06	SI Hot-Leg Injection Check Valve (*-874A/B) Open/Close Testing
RJ-07	SI Pump Discharge Check Valve (*-879A/B/C/D) Open Testing
RJ-08	SI Cold Leg Branch Injection Check Valve (*-873A/B/C) Open/Close Testing
RJ-09	SI Cold Leg Injection Check Valves (*-875A/B/C) Open Testing
RJ-10	SI Accumulator Discharge Check Valves (*-875D/E/F)
RJ-11	Containment Atmosphere Sample Return Check Valve (*-11-003) Closure Testing
RJ-12	Alternate Low Head Injection Check Valve (*-876D/E) Closure Testing
RJ-13	CCW Supply to RCP Thermal Barrier Check Valve (8-721A/B/C) Closure Testing
RJ-14	Charging Header Containment Isolation Check Valve (*-312C) Closure Testing
RJ-15	Emergency Boration Check Valve (*-351) Open Testing
RJ-16	RCP Seal Water Containment Isolation Check Valve (*-298A/B/C) Closure Testing
RJ-17	Containment Spray Suction Relief Discharge Check Valve (*-2052) Open/Close Testing
RJ-18	Safety Injection N2 Supply Check Valve (*-945E) Closure Testing
RJ-19	Low Head Injection Check Valve (*-876A/B/C) Open Testing

ATTACHMENT 9

REFUELING OUTAGE JUSTIFICATIONS

Refueling Outage Justification RJ-01

Component Tag	System	Safety Class	Category
3-40-205	013	2	AC

Function

This check valve must close to isolate containment from the non safety related service air system. This valve provides containment isolation for penetration 34. This valve opens to provide service air to containment in order to facilitate testing and maintenance. This function is not required for safe shutdown or accident mitigation since the penetration is normally isolated by upstream locked closed manual valve 3-40-204.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure.

To verify closure of this valve requires a backflow/leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-02

Component Tag	System	Safety Class	Category
3-40-336	013	2	AC
4-40-336	013	2	AC

Function

This check valve must close to isolate containment from the non safety instrument air system. This valve provides containment isolation for penetration 29.

The valve opens to provide a flow path of instrument air to the containment supply header when the instrument air system is operating. This function is not required safe shutdown or accident mitigation since the instrument air system is non safety related.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To exercise this valve open/closed requires a forward flow test coupled with a backflow or leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, the instrument air supply to containment would be required to be isolated. Isolation of the instrument air system during normal operations or during cold shutdown periods would essentially require all components served by the system to be out of service causing the unit to be shutdown.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-03

Component Tag	System	Safety Class	Category
3-40-340A	013	2	AC
4-40-340A	013	2	AC

Function

This check valve must close to isolate containment from the non safety instrument air system. This valve provides containment isolation for penetration 29.

The valve opens to provide a flow path of instrument air to the containment supply header when the instrument air system is operating. This function is not required safe shutdown or accident mitigation since the instrument air system is non safety related.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since exercise testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To exercise this valve open/closed requires a forward flow test coupled with a backflow or leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, the instrument air supply to containment would be required to be isolated. Isolation of the instrument air system during normal operations or during cold shutdown periods would essentially require all components served by the system to be out of service causing the unit to be shutdown.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-04

Component Tag	System	Safety Class	Category
3-397A	046	2	C
3-397B	046	2	C
4-397C	046	2	C
4-397D	046	2	C

Function

These check valves are required to open to provide a flow path from the boric acid transfer pump to the charging pumps suction header in the event that emergency boration is required. The valves also open during normal power operation to support normal boric acid batching/transfer. This function is not required for safe shutdown or accident mitigation. These valves must close to prevent backflow when the associated pump is idle and the other pump is required for emergency boration.

Justification

It is impracticable to exercise these check valves open during normal power operations or cold shutdowns since testing during power operations may cause a plant trip. Testing during cold shutdowns would delay a unit startup.

To exercise open these check valves requires operating the boric acid transfer pump at conditions which provide full design accident flow through the check valve. During normal power operations this testing would lead to the injection of high concentrations of boric acid into the reactor coolant system which may cause a plant trip. During cold shutdown periods this testing would cause a potential delay in unit startup due to the high boric acid concentrations in the reactor coolant system.

Alternative Test

These check valves will be exercised open closed during each refueling outage.

Refueling Outage Justification RJ-05

Component Tag	System	Safety Class	Category
3-518	065	2	AC
3-519	065	2	AC
4-518	065	2	AC
4-519	065	2	AC

Function

This check valve must close to isolate containment from the non safety nitrogen supply system. This valve provides containment isolation for Penetration 6. The valve opens to provide a flow path from the nitrogen supply header to the pressurizer relief tank. This function is not required safe shutdown or accident mitigation since the nitrogen system is non safety related. The pressurizer relief tank is designed for full vacuum conditions to prevent tank collapse if the tank contents cool without nitrogen being supplied.

Justification

It is impracticable to exercise these check valves open or closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To exercise this valve open/closed requires a forward flow test coupled with a backflow or leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, the nitrogen supply to the pressurizer relief tank would be interrupted, which may cause a pressure transient in the tank.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-06

Component Tag	System	Safety Class	Category
3-874A	062	1	AC
3-874B	062	1	AC
4-874A	062	1	AC
4-874B	062	1	AC

Function

These check valves must open to provide flow path from the safety injection pump to the reactor coolant system hot leg during the hot leg recirculation phase of operation following a loss of coolant accident. The hot leg recirculation phase is initiated by manual operation since the upstream motor operated valve MOV-*-866A/B is maintained closed with power source removed during normal operation. These check valves must close or remain closed to isolate the reactor coolant system from the lower pressure safety injection system during emergency conditions when hot leg recirculation is not required to be in service. These valves are considered a pressure isolation valve, required to maintain the RCS pressure boundary.

Justification

It is impracticable to exercise these check valves open during normal power operations or cold shutdowns since open testing requires injection of borated water into the reactor coolant system. It is impracticable to exercise these check valves closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To verify check valve full open position requires operation of the safety injection pump and injection in to the reactor coolant system. This test can not be performed during normal power operations since the safety injection pump discharge pressure is lower than the normal reactor coolant system pressure. This test can not be performed during cold shutdowns since injection into the reactor coolant system requires placing the plant in a configuration outside of design. Additionally, injection of borated refueling water storage tank water may cause a delay in plant startup due to the high concentration of boric acid in the reactor coolant system.

Verification of valve closure requires the performance of a leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, due the amount of piping required to be isolated, drained, and vented to perform a leakage test, a delay in plant startup from the cold shutdown condition would be incurred.

Alternative Test

These check valves will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-07

Component Tag	System	Safety Class	Category
3-879A	062	2	C
3-879B	062	2	C
4-879C	062	2	C
4-879D	062	2	C

Function

These check valves must open to provide a flow path from the safety injection pump to the reactor coolant system during ECCS injection and recirculation modes of operation. These valves must close to prevent backflow through an idle pump during ECCS injection and recirculation modes of operation. Closure of this valve ensures adequate flow to the reactor coolant system in the event of a failure of the respective safety injection pump to start.

Justification

It is impracticable to exercise these check valves open during normal power operations or cold shutdowns since open testing requires injection of borated water into the reactor coolant system.

To verify check valve full open position requires operation of the safety injection pump at design accident conditions, and injection in to the reactor coolant system. This test can not be performed during normal power operations since the safety injection pump discharge pressure is lower than the normal reactor coolant system pressure. This test can not be performed during cold shutdowns since injection into the reactor coolant system requires placing the plant in a configuration outside of design. Additionally, injection of borated refueling water storage tank water may cause a delay in plant startup due to the high concentration of boric acid in the reactor coolant system.

Alternative Test

These check valves will be exercised open during each refueling.

Refueling Outage Justification RJ-08

Component Tag	System	Safety Class	Category
3-873A	064	1	AC
3-873B	064	1	AC
3-873C	064	1	AC
4-873A	064	1	AC
4-873B	064	1	AC
4-873C	064	1	AC

Function

This check valve must open to provide flow path from the safety injection pump to the reactor coolant system cold leg injection points during the injection phase of an accident. This check valve must close or remain closed to isolate the reactor coolant system from the lower pressure safety injection system during emergency conditions when cold leg injection is not required. This valve is considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valve must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these check valves open during normal power operations or cold shutdowns since open testing requires injection of borated water into the reactor coolant system. It is impracticable to exercise these check valves closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To verify check valve full open position requires operation of the safety injection pump and injection in to the reactor coolant system. This test can not be performed during normal power operations since the safety injection pump discharge pressure is lower than the normal reactor coolant system pressure. This test can not be performed during cold shutdowns since injection into the reactor coolant system requires placing the plant in a configuration outside of design. Additionally, injection of borated refueling water storage tank water may cause a delay in plant startup due to the high concentration of boric acid in the reactor coolant system.

Verification of valve closure requires the performance of a leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, due the amount of piping required to be isolated, drained, and vented to perform a leakage test, a delay in plant startup from the cold shutdown condition would be incurred.

Alternative Test

These check valves will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-09

Component Tag	System	Safety Class	Category
3-875A	064	1	AC
3-875B	064	1	AC
3-875C	064	1	AC
4-875A	064	1	AC
4-875B	064	1	AC
4-875C	064	1	AC

Function

This check valve must open to provide flow path from the safety injection pump to the reactor coolant system cold leg injection points during the injection phase of an accident. The valve must also open to provide a flow path from the safety injection tank accumulator to the cold leg injection points when the reactor coolant system decreases below 660 psig. Additionally, this check valve must open to provide a flow path from the residual heat removal pump to the cold leg injection point during a large break LOCA when the RCS is rapidly depressurized and during the alternate low head injection during the recirculation phase of an accident. This check valve must close or remain closed to isolate the reactor coolant system from the lower pressure safety injection and residual heat removal systems during normal operations and emergency conditions when cold leg injection is not required. This valve is considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valve must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these check valves open during normal power operations or cold shutdowns since open testing requires injection of borated water into the reactor coolant system which would cause a delay in plant startup.

To verify check valve full open position requires injection of the safety injection accumulator to verify full design accident flow through the subject valve. This test can not be performed during normal power operations since the safety injection accumulator pressure is lower than the normal reactor coolant system pressure. This test can not be performed during cold shutdowns since injection into the reactor coolant system from the safety injection accumulators requires significant plant preparation to perform the test. Additionally, injection of borated safety injection accumulator water during cold shutdowns would cause a delay in plant startup due to the high concentration of boric acid in the reactor coolant system. Additionally, the performance of this test during cold shutdowns would result in an increase in personnel radiation exposure.

Alternative Test

These check valves will be exercised open during each refueling outage.

Refueling Outage Justification RJ-10

Component Tag	System	Safety Class	Category
3-875D	064	1	C
3-875E	064	1	C
3-875F	064	1	C
4-875D	064	1	C
4-875E	064	1	C
4-875F	064	1	C

Function

This check valve must open to provide a flow path from the safety injection tank accumulator to the reactor coolant system cold leg during accident conditions whenever the reactor coolant system pressure decreases below 660 psig. This valve must close to prevent reverse flow during the injection phase of an accident when the safety injection pump is providing flow to the reactor coolant system cold leg injection path. The valve must also close when the residual heat removal pump is providing flow to the cold leg injection path or during recirculation when the alternate low head injection path is used.

Justification

It is impracticable to exercise these check valves open or closed during normal power operations or cold shutdowns since open testing requires injection of borated water into the reactor coolant system which would cause a delay in plant startup. It is impracticable to exercise these check valves closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and requires significant system off normal alignments to perform testing which may delay a unit startup.

To verify check valve full open position requires injection of the safety injection accumulator to verify full design accident flow through the subject valve. This test can not be performed during normal power operations since the safety injection accumulator pressure is lower than the normal reactor coolant system pressure. This test can not be performed during cold shutdowns since injection into the reactor coolant system from the safety injection accumulators requires significant plant preparation to perform the test. Additionally, injection of borated safety injection accumulator water during cold shutdowns would cause a delay in plant startup due to the high concentration of boric acid in the reactor coolant system.

Verification of valve closure requires the performance of a leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, due the amount of piping required to be isolated, drained, and vented to perform a leakage test, a delay in plant startup from the cold shutdown condition would be incurred.

Alternative Test

These check valves will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-11

Component Tag	System	Safety Class	Category
3-11-003	094	2	AC
4-11-003	094	2	AC

Function

This check valve must close to isolate containment Penetration 32 from the exhaust of the Containment Air Monitor. The valve will close due to reverse flow if the associated containment isolation valves do not close or the line ruptures. This check valve must open to establish a flow path from the exhaust of the Containment Air Monitor and Hydrogen Monitors back to containment. This function is required to allow operators to monitor post accident conditions and take necessary actions to mitigate the consequences of an accident. The Containment Air Monitor takes a suction from the Containment Cooler Exhaust Header.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure.

To exercise this valve open/closed requires a forward flow test coupled with a backflow or leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-12

Component Tag	System	Safety Class	Category
3-876D	064	1	AC
3-876E	064	1	AC
4-876D	064	1	AC
4-876E	064	1	AC

Function

This check valve must open to provide flow path from the residual heat removal system to the cold leg injection points. The valve opens to provide alternate low head injection during the recirculation phase of an accident. This check valve must close or remain closed to prevent reverse flow when the safety injection pump or accumulators are required to inject flow to the cold leg. The valve is also required to close when RHR is in service for low head injection during the recirculation phase of an accident. The valve is required to close to isolate the reactor coolant system from the lower pressure residual heat removal system during emergency conditions when the residual heat removal system is not required. This valve is considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valve must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and may delay plant startup.

To exercise this valve open/closed requires a forward flow test coupled with a backflow or leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure along with a high potential for delaying plant startup due to the significant amount of piping required to be filled and vented.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-13

Component Tag	System	Safety Class	Category
3-721A	030	3	C
3-721B	030	3	C
3-721C	030	3	C
4-721A	030	3	C
4-721B	030	3	C
4-721C	030	3	C

Function

These check valves must close to prevent uncontrolled RCS blowdown into the low pressure CCW system in the event of a RCP thermal barrier cooling coil rupture. The piping downstream of these check valves is designed for full RCS pressure, whereas the piping upstream is designed to CCW system pressure requirements. These valves open to allow cooling water flow to the reactor coolant pumps and motors during normal plant operating modes. This function prevents RCP pump damage and degradation of the pump seals that could result because a blockage of RCP cooling water. This function is not required for safe shutdown or accident mitigation.

Justification

It is impracticable to exercise these check valves closed during normal power operations or cold shutdowns since closure testing imposes an increase in personnel radiation exposure and may delay plant startup.

To verify closure of this valve requires a backflow/leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure along with a high potential for delaying plant startup due to the significant amount of piping required to be filled and vented.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-14

Component Tag	System	Safety Class	Category
3-312C	047	1	AC
4-312C	047	1	AC

Function

This check valve must open to provide a flow path from the charging pump to the reactor coolant system during emergency boration. The valve must open to provide a flow rate of 45 gpm during a rod cluster control assembly accident requiring emergency boration. During normal power operation, this valve opens to provide the normal return flow path from the charging pump to the reactor coolant system to support processing of the water let down from the reactor coolant system. This valve must close to isolate containment from the chemical and volume control system during accident conditions when the charging line is not required. The valve is considered a containment isolation valve for Penetration 15.

Justification

It is impracticable to exercise this check valve closed during normal power operations since interruption of charging flow may result in a plant trip. During cold shutdowns it is impracticable to exercise this check valve closed since closure testing imposes an increase in personnel radiation exposure and may delay plant startup.

To verify closure of this valve requires a backflow/leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure along with a high potential for delaying plant startup due to the significant amount of piping required to be filled and vented.

Alternative Test

This check valve will be exercised closed during each refueling outage.

Refueling Outage Justification RJ-15

Component Tag	System	Safety Class	Category
3-351	047	2	C
4-351	047	2	C

Function

This check valve must open to provide a flow path from the boric acid pumps to the suction of the charging pumps during emergency conditions requiring emergency boration. The valve closes to prevent backflow and isolate the emergency boration flow path during normal operations and during emergency conditions when the RWST is supplying the charging pump suction for emergency boration However, normally closed upstream motor operated valve MOV-*-350 is relied upon for isolating the emergency boration flow path when it is not required. Therefore, this check valve does not perform a safety function in the closed position.

Justification

It is impracticable to exercise this check valve open during normal power operations since injection of highly concentrated boric acid into the reactor coolant system may lead to a plant trip. During cold shutdowns it is impracticable to exercise this check valve open since injection of highly concentrated boric acid into the reactor coolant system may lead to a delay in plant startup.

To exercise open position this check valve requires operation of the boric acid transfer pump at design accident flow conditions (60 gpm) to verify the check valve full open position. Performing this test during normal power operations would result in highly concentrated boric acid being injected into the reactor coolant system resulting in a power transient and possible trip of the plant. Performance of this test during cold shutdowns would result in a potential delay of plant startup due to the high boric acid concentration in the reactor coolant system.

Alternative Test

This check valve will be exercised open during each refueling outage.

Refueling Outage Justification RJ-16

Component Tag	**System**	**Safety Class**	**Category**
3-298A	047	1	AC
3-298B	047	1	AC
3-298C	047	1	AC
4-298A	047	1	AC
4-298B	047	1	AC
4-298C	047	1	AC

Function

These check valves must close to isolate containment from the chemical and volume control system during accident conditions when RCP seal injection flow is not required. The valves are considered containment isolation valves for Penetrations 24A/B/C. These check valves open to provide a flow path from the charging pump to the reactor coolant pump seals during normal plant operation. This function is not required for safe shutdown or accident mitigation since the reactor coolant pumps are not required for safe shutdown or accident mitigation. Additionally, the seal injection return valves (MOV-*-381 and MOV-8-6386) receive automatic closure signal to isolate the seal injection return flow path during a safety injection.

Justification

It is impracticable to exercise these check valves closed during normal power operations since interrupting seal injection flow would damage the reactor coolant pump seals. During cold shutdowns it is impracticable to exercise these check valves closed since closure testing imposes an increase in personnel radiation exposure and may delay plant startup.

To verify closure of this valve requires a backflow/leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure along with a high potential for delaying plant startup due to the significant amount of piping required to be filled and vented.

Additionally, interrupting reactor coolant pump seal injection flow when the reactor coolant pumps are in operation would damage the pump seal and ultimately the pump.

Alternative Test

These check valves will be exercised closed during each refueling outage.

Refueling Outage Justification RJ-17

Component Tag	System	Safety Class	Category
3-2052	050	2	C
4-2052	050	2	C

Function

This check valve must open to provide a flow path from the containment spray suction relief line to the containment recirculation sump. The containment spray suction relief valve (RV-*-871) opens to prevent overpressurization of the containment spray pump suction piping. Overpressurization could occur due to thermal expansion should the piping become isolated with fission products in the water. This valve must close to isolate containment from the containment spray system. This valve is considered a containment isolation valve for penetration 54A.

Justification

It is impracticable to exercise this check valve open or closed during normal power operations or cold shutdowns since testing requires leakage testing (to verify closure) and forward flow testing (to verify open) which would result in airborne contamination in the containment sump resulting in significant clean up efforts. which would delay unit startup. Additionally, this testing would impose an increase in personnel radiation exposure.

To verify check valve full open position requires injection of either water or air into the containment sump at 25 gpm to verify full design accident flow. This testing would cause the containment to be breached and requires the containment spray system to be aligned in an unanalyzed condition. The addition of air or water to the containment sump to perform this test would create a significant cleanup effort due to the potential for airborne contamination, thus personnel radiation exposure would be increased.

Verification of valve closure requires the performance of a leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure. Additionally, due the amount of piping required to be isolated, drained, and vented to perform a leakage test, a delay in plant startup from the cold shutdown condition would be incurred.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-18

Component Tag	System	Safety Class	Category
3-945E	064	2	AC
4-945E	064	2	AC

Function

This check valve must close to isolate containment from the non safety related nitrogen supply system during accident conditions. This valve is considered a containment isolation valve for Penetration 42. The valve opens to support safety injection accumulator refill to recharge and maintain the accumulators pressurized during normal power operations. This function is not required for safe shutdown or accident mitigation since the safety injection accumulators are considered a passive injection system and tank pressure is continuously monitored during normal plant operations.

Justification

It is impracticable to exercise this check valve closed during normal power operations or during cold shutdowns since closure testing imposes an increase in personnel radiation exposure and may delay plant startup due the significant amount of piping required to isolated.

To verify closure of this valve requires a backflow/leakage test. This testing requires entry into containment for test alignment and performance. During normal power operations and during cold shutdown periods this testing would result in an increase in personnel radiation exposure along with a high potential for delaying plant startup due to the significant amount of piping required to be realigned, drained, and vented.

Additionally, interrupting nitrogen supply would cause all of the safety injection accumulator tanks to be inoperable which would place the plant in an unanalyzed condition.

Alternative Test

This check valve will be exercised open and closed during each refueling outage.

Refueling Outage Justification RJ-19

Component Tag	System	Safety Class	Category
3-876A	064	1	AC
3-876B	064	1	AC
3-876C	064	1	AC
4-876A	064	1	AC
4-876B	064	1	AC
4-876C	064	1	AC

Function

These check valves open to provide flow path from the residual heat removal system to the cold leg injection points during a large break LOCA when the RCS is rapidly depressurized. The valve must also open to provide normal low head injection during the injection phase of an accident. These check valves must close or remain closed to prevent reverse flow when the safety injection pump or accumulators are required to inject flow to the cold leg. The valve is also required to close when RHR is in service for alternate low head injection during the recirculation phase of an accident. The valve is required to close to isolate the reactor coolant system from the lower pressure residual heat removal system during emergency conditions when the residual heat removal system is not required. This valve is considered a pressure isolation valve, required to maintain the RCS pressure boundary. The valve must close to limit leakage to <1.0 gpm.

Justification

It is impracticable to exercise these valves open during normal power operations or during cold shutdowns since injection into the reactor is required to perform open exercise testing. The residual heat removal system is not designed to inject at elevated pressures and testing imposes an increase in personnel radiation exposure and may cause a delay in plant startup.

Exercising these valves open requires the residual heat removal pump to deliver flow to the reactor vessel, thereby, exercising open the subject check valves. This testing cannot be performed during normal power operations since the reactor vessel is at approximately 2000 psig. The design discharge pressure of the residual heat removal pump is approximately 600 psig. Additionally, injection into the vessel would cause severe thermal transients resulting in a trip of the reactor. Since these valves do not have individual flow instruments, non-intrusive techniques are required to verify the full open exercise. This testing requires containment entry and significant test preparation, which may cause a delay in plant startup. Additionally, entry into containment for test preparation, performance and restoration even during cold shutdowns imposes a significant increase in radiation exposure to plant personnel.

Alternative Test

These valves will be exercised open during each refueling outage.

ATTACHMENT 10

STATION TECHNICAL POSITION INDEX

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Technical Position No.	Description
TPv-01	Bi-directional Testing of Check Valves
TPv-02	Check Valve Condition Monitoring
TPv-03	Passive Valves Without Test Requirements
TPv-04	Fail Safe Testing of Valves
TPv-05	Classification of Skid Mounted Components
TPv-06	D/E of AFW Pump Lube Oil Cooling Water Return Check Valves
TPv-07	Primary Water Check Valve Considered Passive
TPv-08	Check Valve Closure Verification in Conjunction with Appendix J Seat Leakage Testing
TPv-09	Testing of Power Operated Valves with both Active and Passive Safety Functions
TPv-10	Breathing Air Check Valve Considered Passive
TPv-11	Manual Valve Exercise Frequency
TPv-12	Method for Establishing Acceptance Criteria for Power Operated Valves
TPp-01	Containment Spray Pump Category B Pump Testing
TPp-A	Categorization of IST Pumps (Group A or B)

ATTACHMENT 11

STATION TECHNICAL POSITIONS

Technical Position TPv-01
(Page 1 of 3)

Bi-directional Testing of Check Valves

Purpose

The purpose of this Technical Position is to establish the station position for the verification of the non-safety direction exercise testing of check valves by normal plant operations.

Applicability

This Technical Position is applicable to testing of the non-safety function (direction) of check valves which are included in the Inservice Testing Program. This position applies to those check valves required to be tested in accordance with Subsection ISTC (ASME OM Code 1998 Edition through 2000 Addenda) and Appendix II - Condition Monitoring (ASME OM Code 1995 Edition through 1996 Addenda). This Technical Position does not apply to testing of the safety function (direction) of check valves included in the Inservice Testing Program.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-3550, "Valves in Regular Use", states:

> "Valves that operate in the course of plant operation at a frequency that would satisfy the exercising requirements of this Subsection need not be additionally exercised, provided that the observations otherwise required for testing are made and analyzed during such operation and recorded in the plant record at intervals no greater than specified in ISTC-3510."

Section ISTC-3510 requires that check valves shall be exercised nominally every 3 months with exceptions (for extended periods) referenced.

Section ISTC-5221(a)(2) states:

> "Check valves that have a safety function in only the open direction shall be exercised by initiating flow and observing that the obturator has traveled to either the full open position or to the position required to perform its intended function(s) (see ISTC-1100), and verify closure."

Section ISTC-5221(a)(3) states:

> "Check valves that have a safety function in only the close direction shall be exercised by initiating flow and observing that the obturator has traveled [to] at least the partially open position,[2] and verify that on cessation or reversal of flow, the obturator has traveled to the seat."

> "[2]The partially open position should correspond to the normal or expected system flow."

Technical Position TPv-01

Normal or expected system flow may vary with plant configuration and alignment, however, the open "safety function" of a check valve typically requires a specified design accident flow rate. Since Turkey Point Operations staff is trained in recognizing normal plant conditions, Operator judgment is acceptable in determining the check valve non-safety direction by obtaining normal or expected flow rates for the plant operating condition.

In summary, check valve non-safety function direction is satisfactorily demonstrated by verifying closure or passing normal or expected flow as applicable.

Position

Turkey Point will verify the non-safety position of check valves included in the Inservice Testing Program using the plant surveillance program. In lieu of a dedicated surveillance to perform the non-safety direction testing, the following alternate verifications may be performed as follows:

1. An appropriate means shall be determined which establishes the method for determining the open/closed non-safety function of the check valve during normal operations. The position determination may be by direct indicator, or by other positive means such as changes in system pressure, flow rate, level, temperature, seat leakage, etc. This determination shall be documented in the respective Condition Monitoring Plan for the specific check valve group. For check valves included in the Inservice Testing Program and not included in the Condition Monitoring Plan, this determination shall be documented in the IST Bases Document for the specific check valve group.

2. Observation and analysis of plant processes that a check valve is satisfying its' non-safety direction function may used. As an example, a check valve that has a safety function only in the closed direction and normally provides a flow path to maintain plant operations. If the check valve is not open to pass flow, an alarm or indication would identify a problem to the operator. The operator would respond to take appropriate actions. A Condition Report would then be generated for the abnormal plant condition which would identify the check valve failure.

3. Observation and analysis of plant logs and other records satisfied by Operator or Engineering reviews may be an acceptable method for verifying a check valves non-safety direction during normal plant operations.

The open/closed non-safety function shall be recorded at a frequency required by ISTC-3510, nominally every 3 months, with exceptions as provided, in plant records such as Turkey Point Operating Logs, Electronic Rounds, chart recorders, automated data loggers, etc. The safety function direction testing requires a Quality Record in the form of a surveillance test. Records as indicated above in 1 through 3 are satisfactory for the non-safety direction testing. A condition report shall be generated for any issues regarding check valve operability.

Technical Position TPv-01

Justification

This Technical Position requires that the method of determining the non-safety position be established and documented in either the Condition Monitoring Plan or the IST Bases Document. The plant systems and operator actions provide for the observations and analysis that the valve is satisfying its' non-safety function. Additionally, the recording of parameters which demonstrate valve position is satisfied at a frequency in accordance with ISTC-3510. These actions collectively demonstrate the non-safety position of Inservice Testing Program check valves in regular use as required by ISTC-3550.

Technical Position TPv-02

Check Valve Condition Monitoring

Purpose

The purpose of this Technical Position is to document Turkey Point's position on establishing and implementing a Check Valve Condition Monitoring Program in accordance with mandatory Appendix II of the ASME OM Code 1995 Edition through 1996 Addenda and the associated modifications delineated in the Federal Register Volume 64, No. 183. The Condition Monitoring Program specified in Appendix II provides certain flexibility in establishing test types, examinations, and preventive maintenance activities along with their associated intervals, when justified based on check valve performance and operating condition.

Applicability

This Technical Position is applicable to certain valves or groups of valves as permitted by ISTC-5222, Condition Monitoring Program.

Background

10CFR50.55a was revised 9/22/99 to endorse the ASME OMa-1995 Edition with 1996 Addenda with modifications. This edition of the ASME OM Code provides provisions to implement a check valve condition monitoring program for selected valves or groups of valves in accordance with mandatory Appendix II. Turkey Point's Inservice Testing Program for the 4th Ten Year Interval has been developed in accordance with the ASME OM Code 1998 Edition through 2000 Addenda. This edition of the Code provides an alternative in section ISTC-5222, Condition Monitoring Program, to the testing requirements of ISTC-3510, ISTC-3520, ISTC-3540 and ISTC-5221. This section specifies that the program shall be implemented in accordance with Appendix II, Check Valve Condition Monitoring Program and the modifications stated in the Federal Register.

Position

Turkey Point will implement a Check Valve Condition Monitoring program for selected valves or groups of valves in accordance with ISTC-5222 and Appendix II. The following guidelines will be adhered to for administering this program. Additionally, if the Appendix II program is discontinued for a valve or group of valves, then the requirements of ISTC-3510, ISTC-3520, ISTC-3550, and ISTC-3521 shall be implemented.

1. Purpose

   The purpose of the Check Valve Condition Monitoring Program is to improve check valve performance and to optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select valve or group of valves.

Technical Position TPv-02

2. Scope

The Turkey Point Valve Check Valve Condition Monitoring Program will be applied to individual check valves or groups of check valves which are either candidates for improved performance or candidates which will be monitored for improved valve performance.

a. Candidates for improved valve performance are those check valves which may exhibit one or more of the following attributes:

   i. The valve(s) exhibits an unusually high failure rate during inservice testing or operations;

   ii. The valve(s) can not be exercised under normal operating conditions or during shutdown;
   iii. The valve(s) exhibits unusual, abnormal, or unexpected behavior during exercising or operations.

b. Candidates for monitoring for improved valve performance using optimization techniques, examination, and preventive maintenance activities are those check valves with documented acceptable performance that:

   i. Have had their performance improved under this program;
   ii. Cannot be exercised or are not readily exercised during normal operating condition or during shutdown;
   iii. Can only be disassembled and examined; or
   iv. It is decided that all of the associated activities of the valve or group will be optimized.

3. Groupings

For valves which are grouped together the following valve attributes shall be considered:

a. Valves shall be of the same manufacturer, design, size, service media, materials of construction, and orientation.
b. Maintenance and modification history shall be reviewed.
c. Test history and results shall be reviewed.
d. System design shall be considered to determine potential flow instabilities, degree of disassembly, and the need for tolerance and dimensional measurements

Technical Position TPv-02
(Page 3 of 5)

4. Analysis

An analysis of the test and maintenance history shall be performed to establish the basis for specifying inservice testing, examination, and preventive maintenance activities. This analysis shall include the following:

a. Identify any common failure mode or corrective maintenance patterns.
b. Analyze these common patterns to determine their significance and to identify potential failure mechanisms:

    i. Determine if certain preventive maintenance activities would mitigate the failure or maintenance patterns;
    ii. Determine if certain condition monitoring activities are possible and effective in monitoring for these failure mechanisms;
    iii. Determine if periodic disassembly and examination would be an effective method in monitoring for these failure mechanisms.
    iv. Determine if the valve grouping is required to be changed.

5. Condition Monitoring Activities

a. Performance Improvement Activities

    i. If sufficient information is not available or the results of the analysis performed in 4 above are not conclusive, an interim period not to exceed 2 refueling outages shall be established to determine the cause of the failure or maintenance patterns. The following activities shall be performed at sufficient intervals over the interim period.

        1. Identify interim tests (e.g. nonintrusive) to assess the performance of the valve of group of valves.
        2. Identify interim examinations to evaluate potential degradation mechanisms.
        3. Identify other types of analysis to be performed which will assess check valve condition.
        4. Identify which of these activities will be performed on each valve.
        5. Identify the interval of each activity.

    ii. Complete or revise the condition monitoring test plans to document the check valve program performance improvement activities and their associated frequencies.

    iii. Perform these activities at their assigned intervals unit:

        1. Sufficient information is obtained to permit an adequate analysis.
        2. Until the end of the interim period (2 refueling outages or 3 years, whichever is longer).

iv. After performance, a review shall be performed for each activity to determine if changes to the program are required. If changes are required, the program shall be revised before the next performance of the activity.

b. Optimization of Condition Monitoring Activities

i. If sufficient information is available to assess the performance adequacy of the check valve or group, then the following activities shall be performed:

1. Identify appropriate preventive maintenance activities including the intervals that are required to maintain the continued acceptable performance of the check valve or group of check valves.
2. Identify the applicable examination activities including the interval that will be used to periodically assess the condition of each check valve or group of check valves.
3. Identify the applicable test activities including intervals that will be used to periodically verify the acceptable performance of each check valve or group of check valves.
4. Identify which of these activities, including the interval, will be performed on each valve in the group.

ii. Revise the condition monitoring plans to document the optimized condition monitoring program activities and associated intervals for each activity.
iii. Continue performance of these activities at their associated intervals.
iv. Review the results of the performance of each activity to determine if changes to the optimized condition monitoring program are required.

6. Test Requirements and Frequency

The following requirements apply when implementing the above plans for a single valve or group of valves

a. Valve opening and closing functions must be demonstrated when flow testing or examination methods (nonintrusive, or disassembly and inspection) are used.

b. The initial interval for tests and associated examinations may not exceed two fuel cycles or 3 years, whichever is longer.

c. Extension of the initial interval may not exceed one fuel cycle per extension with the maximum interval not to exceed 10 years.

Technical Position TPv-02

d. Trending and evaluation of existing data must be used to reduce or extend the time interval between tests.

7. Documentation

The condition monitoring program shall be documented per the Check Valve Condition Monitoring Administrative Procedure. The plan for each check valve or group of check valves shall be documented in the Condition Monitoring Tab and shall contain as a minimum the following information:

a. The list of valves in each group including the group basis.
b. Date the valve or group of valves was evaluated for inclusion or exclusion from the condition monitoring program.
c. Safety function of valve or valve group.
d. Analysis/justification which forms the basis for the program.
e. Identification of the failure or maintenance patterns for each valve
f. Condition monitoring activities including intervals for each valve or valve group.
g. Expert Panel review results and comments

Technical Position TPv-03
(Page 1 of 1)

Passive Valves Without Test Requirements

Purpose

The purpose of this Technical Position is to establish the station position for valves which perform a passive safety function, however, no testing in accordance with ISTC is required.

Applicability

This Technical Position is applicable to valves which perform a passive function in accordance with ISTC-2000 and do not have inservice testing requirements per Table ISTC-3500-1. This position is typical of Category B, passive valves which do not have position indication.

> "An example is a manual valve which must remain in its normal position during an accident, to perform its intended function."

Typically, manual valves which perform a safety function, are locked in their safety position and administratively controlled by TPN procedures. These valves would be considered passive. If they do not have remote position indicating systems and categorized as B, they would not be subjected to any test requirements in accordance with Table ISTC-3500-1.

Position

The TPNP Inservice Testing Program, Valve Tables - Attachment 13, will not list valves which meet the following criteria.

- The valve is categorized B (seat leakage in the closed position is inconsequential for fulfillment of the valves' required function(s)) in accordance with ISTC-1300.
- The valve is considered passive (valve maintains obturator position and is not required to change obturator position to accomplish the required function(s)) in accordance with ISTC-2000.
- The valve does not have a remote position indicating system which detects and indicates valve position.

Justification

Valves which meet this position will not be listed in the TPNP Inservice Testing Program, Valve Tables - Attachment 13, however, the basis for categorization and consideration of active/passive functions shall be documented in the IST Program Basis Document.

Technical Position TPv-04

Fail Safe Testing of Valves

Purpose

The purpose of this Technical Position is to establish the station position for fail safe testing of valves in conjunction with stroke time exercising or position indication testing.

Applicability

This Technical Position is applicable to valves with fail safe actuators required to be tested in accordance with ISTC-3560.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-3560 requires;

> "Valves with fail-safe actuators shall be tested by observing the operation of the actuator upon loss of valve actuating power in accordance with the exercising frequency of ISTC-3510."

Section ISTC-3510 states;

> "Active Category , Category B, and Category C check valves shall exercised nominally every 3 months..."

Position

In cases where normal valve operator action moves the valve to the open or closed position by de-energizing the operator electrically, by venting air, or both, the exercise test will satisfy the fail safe test requirements and an additional test specific for fail safe testing will not be performed.

Turkey Point Nuclear Plant will also use remote position indication as applicable to verify proper fail safe operation, provided that the indication system for the valve is periodically verified in accordance with ISTC-3700.

Justification

Turkey Point Nuclear Plant Inservice Testing Program valves that fail open or closed upon loss of actuator power use the fail safe mechanism to stroke the valve to its safety position. For example, an air operated valve that fails closed may use air to open the valve against spring force. When the actuator control switch is placed in the closed position, air is vented from the diaphragm and the spring moves the obturator to the closed position.

Classification of Skid Mounted Components

Purpose

The purpose of this technical position is to clarify requirements for classification of various skid mounted components, and to clarify the testing requirements of these components.

Background

The ASME Code allows classification of some components as skid mounted when their satisfactory operation is demonstrated by the satisfactory performance of the associated major components. Testing of the major component is sufficient to satisfy Inservice Testing requirements for skid mounted components. In section 3.4 of NUREG 1482, the NRC supports the designation of components as skid mounted:

> "The staff has determined that the testing of the major component is an acceptable means for verifying the operational readiness of the skid-mounted and component subassemblies if the licensee documents this approach in the IST Program. This is acceptable for both Code class components and non-Code class components tested and tracked by the IST Program."

In the 1996a addenda to the ASME OM Code (endorsed by 10CFR50.55(a) in October 2000), the term skid-mounted was clarified by the addition of ISTA paragraph 1.7:

> ISTA 1.7 Definitions
>
> *Skid mounted components and component sub assemblies* – components integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these components are supplied by the manufacturer of the major component. Examples include: diesel skid-mounted fuel oil pumps and valves, steam admission and trip throttle valves for high-pressure coolant injection or auxiliary feedwater turbine-driven pumps, and solenoid-operated valve provided to control the air-operated valve.

This definition was further clarified in the 1998 Edition of the ASME Code:

> ISTA-2000 DEFINITIONS
>
> *Skid mounted pumps and valves* – pumps and valves integral to or that support operation of major components, even though these components may not be located directly on the skid. In general, these pumps and valves are supplied by the manufacturer of the major component. Examples include:
> (a) diesel fuel oil pumps and valves;
> (b) steam admission and trip throttle valves for high-pressure coolant injection pumps;
> (c) steam admission and trip throttle valves for auxiliary feedwater turbine driven pumps;
> (d) solenoid-operated valves provided to control an air-operated valve.

Technical Position TPv-05

Additionally the Subsections pertaining to pumps (ISTB) and valves (ISTC) includes exclusions/exemptions for skid mounted components;

ISTB-1200(c) Exclusions

Skid-mounted pumps that are tested as part of the major component and are justified by the Owner to be adequately tested.

ISTC-1200 Exemptions

Skid-mounted valves are excluded from this Subsection provided they are tested as part of the major component and are justified by the Owner to be adequately tested.

Position

The 1998 ASME OM Code definition of skid mounted should be used for classification of components in the Turkey Point Inservice Testing Program. In addition, for a component to be considered skid mounted:

- The major component associated with the skid mounted component must be surveillance tested at a frequency sufficient to meet ASME Code test frequency for the skid mounted component.
- Satisfactory operation of the skid mounted component must be demonstrated by satisfactory operation of the major component.
- The IST Bases Document should describe the bases for classifying a component as skid mounted, and the IST Program Plan should reference this technical position for the component.

Justification

Classification of components as skid mounted eliminates the need for testing of sub components that are redundant with testing of major components provided testing of the major components demonstrates satisfactory operation of the "skid mounted" components.

Technical Position TPv-06

Disassembly and Examination of AFW Pump Lube Oil Cooling Water Return Check Valves

Purpose

The purpose of this Technical Position is to establish the station position for the sample disassembly and examination program for groups of check valves which are impractical to test using flow, system pressure, level, temperature, seat leakage or nonintrusive techniques in accordance with ISTC-5221(a) and ISTC-5221(b).

Applicability

This Technical Position is applicable to Auxiliary Feedwater Pump Lube Oil Cooling Water Return Check Valves

AFWU-3-017
AFWU-4-016

This check must open to provide a return flow path of cooling water from the auxiliary feedwater pump lube oil cooler to the condensate storage tank when the auxiliary feedwater pump is required to be operated. Lube oil cooling water is required to ensure proper AFW pump operation. The valve must open to provide 60 gpm (20 gpm per pump) of return flow when three auxiliary feedwater pumps are operating. This check valve is required to close to prevent backflow from the condensate storage tank to the lube oil cooling water return header when the auxiliary feedwater pumps are not in operation. This function is necessary to conserve condensate storage tank inventory.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-3510 requires check valves to be exercised nominally every 3 months, except as provided in ISTC-5221 and ISTC-5222. ISTC-5221(c) states that,

> "If the test methods in ISTC-5221(a) and ISTC-5221(b) are impractical for certain check valves, or if sufficient flow cannot be achieved or verified, a sample disassembly examination program shall be used to verify valve obturator movement."

Position

For the subject valves, TPNP will verify check valve obturator movement using a disassembly and examination program in accordance with the following:

- Check valves are grouped in accordance with ISTC-5221(c) such that the valve in the group are of similar design, application and service condition. In accordance with ISTC-5221(c)(1) the grouping of check valves shall consider as a minimum, valve manufacturer, design, service, size, material of construction , and orientation.

Technical Position TPv-06

- In accordance with ISTC-5221(c)(2) during the disassembly process, the full stroke motion of the obturator shall be verified. Immediately prior to reassembly, the full stroke motion of the obturator shall be reverified. Check valves that have their obturator disturbed before full stroke motion is verified shall be examined to determine if a condition exists that could prevent full opening or reclosure of the obturator.

- At least one valve from the group shall be disassembled and examined at each refueling outage with all valves in the group being disassembled and examined at least once every 8 years in accordance with ISTC-5221(c)(3).

- Per the requirements of ISTC-5221(c)(4), before return to service, valves that were disassembled for examination or that have received maintenance that could affect their performance, shall be exercised full or partial stroke, if practicable, with flow. Those valves shall also be tested for other requirements if applicable (closure verification or seat leakage testing) before returning them to service.

- The corrective actions of ISTC-5224 shall be applied. Check valves in a sample disassembly and examination program that are not capable of full stroke movement, or have failed or have unacceptably degraded valve internals, shall have the cause of failure analyzed and the condition corrected. Other check valves in the sample group that may also be affected by this failure mechanism shall be examined or tested during the same refueling outage to determine the condition of internal components and their ability to function.[1]

  [1]An evaluation should be made to determine if there are valves outside the sampling group that could be affected by the failure mechanism. Valves that are determined to be directly affected by the failure mechanism should be examined or tested.

Justification

To full stroke exercise these check valves requires operation of the design accident flow conditions. This test is impracticable to perform during any operating or non operating condition due to the extensive amount of cleanup required.

These valves will be included in a sample disassembly and examination program in accordance with ISTC-5221(c).

Technical Position TPv-07
(Page 1 of 2)

Primary Water Check Valve Considered Passive

Purpose

The purpose of this Technical Position is to establish the station position for classification and categorization of the Primary Water to Containment Check Valve as Passive category A.

Applicability

This Technical Position is applicable to Primary Water to Containment Check Valve:

3-10-567
4-10-567

This check valve must close to isolate containment from the primary water system. This valve provides containment isolation for Penetration 47. Penetration 47 is considered a non essential penetration which is not required to be in service post accident. This valve opens to provide a flow path from the primary water supply header to containment during cold shutdown or refueling. This function provides a supply source to facilitate maintenance and testing during outages. This function is not required for safe shutdown or accident mitigation. Additionally, downstream manual valve *-10-582 inside containment is administratively maintained in the locked closed position during normal power operations. The primary water system is not required for safe shutdown or accident mitigation.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-2000 provides a definition of passive valves.

> "*passive valves*: valves that maintain obturator position and are not required to change obturator position to accomplish the required function(s)"

The Code also provides valve category definitions as follows:

> "Category A – valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required function"

> "Category C – valves that are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves) for fulfillment of the required functions"

Position

Turkey Point Nuclear Plant classifies this valve as passive since it is not required to change position to perform its intended function. The valve has been categorized as Category A since it is not self actuated due to the downstream line being isolated.

Technical Position TPv-07
(Page 2 of 2)

Justification

This penetration is isolated during all modes of operation when containment integrity is required and is not in service during any emergency or post accident conditions. Therefore this valve only performs a containment isolation function and not required to open or close for any other function. Since the valve is normally closed, and since a dead leg exists downstream, this valve is considered passive. No exercising testing is required since the valve is considered a category A valve based on ISTC-1300, Valve Categories.

The valve is seat leakage tested in accordance with Appendix J requirements.

Technical Position TPv-08
(Page 1 of 1)

Check Valve Closure Verification in Conjunction with Appendix J Seat Leakage Testing

Purpose

The purpose of this Technical Position is to establish the station position for the verification of check valve closure in conjunction with Appendix J leakage testing.

Applicability

This Technical Position is applicable check valves included in the IST Program which are categorized as AC and are Containment Isolation Valves:

Background

These check valves are categorized as AC in accordance with ASME OM Code ISTC-1300, Valve Categories:

> "Category A – valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required function"

> "Category C – valves that are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves) for fulfillment of the required functions"

Based on the valve category, the following test requirements of Table ISTC-3500-1 apply:

Category A test	Leakage Test in accordance with Appendix J Program
Category C test	Check Valve Exercise Test Open and Closed

Position

These valves require a seat leakage test in accordance with 10CFR50 Appendix J and a closure verification in accordance with ISTC-3522. Turkey Point Nuclear Plant will perform the Category C testing in accordance with the frequency requirements of ISTC-3510 where practicable. If testing is not practicable during quarterly operations or during shutdowns, the check valve will be tested during refueling outages.

The verification of check valve closure will be performed as the seat leakage test required by Appendix J.

Justification

All valves for this position will be documented in the IST Program Plan as category AC. A deferred testing justification shall also be documented describing the impracticability of performing a closure test during normal operations or during cold shutdowns.

Technical Position TPv-09
(Page 1 of 2)

Testing of Power Operated Valves with Both Active and Passive Safety Functions

Purpose

The purpose of this Technical Position is to establish the testing requirements for power operated valves which have both an active and passive safety function.

Applicability

This Technical Position is applicable to power operated valves which have an active safety function in one direction while performing a passive safety function in the other direction. The following valves apply to this situation at TPNP:

Valve Tag No.	Active Safety Direction	Passive Safety Direction
LCV-*-115B	Open	Closed
MOV-*-350	Open	Closed
MOV-*-535	Closed	Open
MOV-*-536	Closed	Open
MOV-*-749A/B	Open	Closed
MOV-*-856A/B	Closed	Open
MOV-*-860A/B	Open	Closed
MOV-*-861A/B	Open	Closed
MOV-*-862A/B	Closed	Open
MOV-*-863A/B	Open	Closed
MOV-*-864A/B	Closed	Open
MOV-*-865A/B/C	Closed	Open
MOV-*-872	Open	Closed
MOV-878A/B	Closed	Open
SV-*-6318A/B	Closed	Open
SV-*-6611	Open	Closed
SV-*-6612	Open	Closed

Background

The IST Program requires valves to be exercised to the position(s) required to fulfill their safety function(s). In addition, valves with remote position indication shall have their position indication verified. The Code does not restrict position indication to active valves.

Position

Several valves included in the plant are designed to perform passive safety functions during accident conditions, and then based on plant accident response, are designed to change positions to perform another (active) function. Once in their final position, there exist no conditions in which they would be required to be placed in their original passive position.

Technical Position TPv-09

These valves are typically emergency core cooling system valves, which require changing position during different phases of the accident. After the original passive safety function (e.g. provide flow path) is performed, the valves are repositioned to perform the active safety function (e.g. provide containment isolation or to allow injection from another water source). The valves are not required to return to their original position.

Power operated valves with passive functions in one direction and active in the other, will be exercised and stroke timed to only their active position. If these valves have position indication, the position indication verification will include verification of both positions.

Justification

Code Interpretation 01-02 (response to inquiry OMI 99-07) addressed this issue.

Question: If a valve has safety functions in both the open and closed positions and is maintained in one of these positions, but is only required to move from the initial position to the other and is not required to return to the initial position, is stroke timing in both directions required?

Reply: No

Technical Position TPv-10

Breathing Air Check Valve Considered Passive

Purpose

The purpose of this Technical Position is to establish the station position for classification and categorization of the Containment Breathing Air Check Valve as Passive category A.

Applicability

This Technical Position is applicable to Containment Breathing Air Check Valve:

BA-3-201
BA-4-201

This check valve must close to isolate containment from the breathing air system. This valve provides containment isolation for Penetration 30. Penetration 30 is considered a non essential penetration which is not required to be in service post accident. This valve opens to provide a flow path from the breathing air receiver to containment during cold shutdown or refueling. This function is not required for safe shutdown or accident mitigation. The breathing air system is only required to function during cold shutdown or refueling. Additionally, upstream air operated valve CV-*-6165 outside containment is administratively maintained in the locked and pinned closed position during normal plant operation.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-2000 provides a definition of passive valves.

> "*passive valves*: valves that maintain obturator position and are not required to change obturator position to accomplish the required function(s)"

The Code also provides valve category definitions as follows:

> "Category A – valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their required function"

> "Category C – valves that are self-actuating in response to some system characteristic, such as pressure (relief valves) or flow direction (check valves) for fulfillment of the required functions"

Position

TNPP classifies this valve as passive since it is not required to change position to perform its intended function. The valve has been categorized as Category A since it is not self actuated due to the downstream line being isolated.

Technical Position TPv-10

Justification

This penetration is isolated during all modes of operation when containment integrity is required and is not in service during any emergency or post accident conditions [0-OP-101]. Therefore, this valve only performs a containment isolation function and is not required to open or close for any other safety function. Since the valve is normally closed, with the upstream piping administratively locked and pinned closed by CV-*-6165, and a dead leg exists downstream, this valve is considered passive. No exercising testing is required since the valve is considered a category A valve based on ISTC-1300, Valve Categories.

The valve is seat leakage tested in accordance with Appendix J requirements.

Technical Position TPv-11
(Page 1 of 2)

Manual Valve Exercise Frequency

Purpose

The purpose of this Technical Position is to establish the station position for the frequency of exercising those manual valves which are required to be exercised.

Applicability

This Technical Position is applicable to the manual valves included in the Inservice Testing Program.

Background

The ASME OM Code 1998 through 2000 Addenda section ISTC-3540 states;

> "Manual valves shall be full-stroke exercised at least once every 5 years, except where adverse conditions[1] may require the valve to be tested more frequently to ensure operational readiness."
>
> [1]Harsh service environment, lubricant hardening, corrosive or sediment laden process fluid, or degraded valve components are some examples of adverse conditions.

In the Federal Register for the Proposed Rule Change dated September 26, 2002, the NRC stated the following with regards to manual valve exercise frequency;

> "Section 50.55a(b)(3)(vi) in the proposed rule would require an exercise interval of 2 years for manual valves within the scope of the ASME OM Code rather than the exercise interval of 5 years specified in the 1999 and the 2000 Addenda of the ASME Code. The 1998 Edition of the ASME OM Code specified an interval of 3 months for manual valves within the scope of the Code. The 1999 Addenda to the ASME OM Code revised ISTC-3540 to extend the exercise frequency for manual valves to 5 years."

The NRC goes further to state that;

> "Section 50.55a(b)(3)(vi) is revised to clarify that the interval for exercising manual valves may not exceed 2 years when using the 1999 Addenda and 2000 Addenda of ISTC-3540"

Technical Position TPv-11

Position

Turkey Point Nuclear Plant will perform exercising of manual valves within the scope of the IST Program at a frequency not to exceed 2 years.

Justification

The NRC Rule Change will be adopted for the frequency of exercising manual valves at least once every 2 years. This interval is more frequent than required by the Edition of the Code used by TPNP, therefore no other justification is required.

Technical Position TPv-12
(Page 1 of 2)

Method for Establish Acceptance Criteria for Power Operated Valves

Purpose

The purpose of this Technical Position is to establish the station position for establishing the stroke time acceptance criteria for power operated valves, including the Limiting Stroke time.

Applicability

Power Operated Valves Requiring Stroke Time Testing

Background

The IST Program requires that a valves' stroke time reference value be established in accordance with ASME OM Code 1998 through 2000 Addenda section ISTC-3300. In accordance with the definition in ISTC-2000, reference values are defined as follows:

> "one or more values of test parameters measure when the equipment is know to be operating acceptably."

Acceptable ranges are then determined based on these reference values in accordance with ISTC-5114 for Power Operated Relief Valves, ISTC-5122 for Motor Operated Valves, ISTC-5132 for Pneumatically Operated Valves, ISTC-5142 for Hydraulically Operated Valves, and ISTC-5152 for Solenoid Operated Valves.

In accordance with the Valve Stroke Testing requirements for the various operator types, the limiting value(s) of full-stroke time of each valve shall be specified by the Owner. Subsection ISTC does not provide specific guidance on determining the limiting value(s). In accordance with NRC Generic Letter 89-04, "Guidance on Developing Acceptable Inservice Testing Programs"

> "the limiting value should be a reasonable deviation from this reference stroke time based on the valve size, valve type, and actuator type. The deviation should not be so restrictive that it results in a valve being declared inoperable due to reasonable stroke time variations. However, the deviation used to establish the limit should be such that corrective action would be taken for a valve that may not perform its intended function. When the calculated limiting value for a full-stroke is greater than a Technical Specification (TS) or safety analysis limit, the TS or safety analysis limit should be used as the limiting value of full-stroke time.

Position

Turkey Point Nuclear Plant will use Table TPv-12-1 to establish Acceptable Ranges in accordance with ISTC-5114 for Power Operated Relief Valves, ISTC-5122 for Motor Operated Valves, ISTC-5132 for Pneumatically Operated Valves, ISTC-5142 for Hydraulically Operated Valves, and ISTC-5152 for Solenoid Operated Valves. Table TPv-12-1 will also be used as general guidance to establish the Limiting Value(s) for power-operated valves. Establishment of Acceptable Ranges and Limiting Value(s) will be as follows:

Technical Position TPv-12
(Page 2 of 2)

- T_{Ref} is the reference value in seconds of a valve when it is know to be operating acceptably

- Reference values may be rounded off to the nearest tenth of a second. Acceptable Ranges may be rounded off to the nearest tenth of a second. Calculated IST Limiting Values may be rounded off to the nearest whole number. Standard rounding techniques are used when rounding (e.g., 10.45 rounds to 10.5, and 10.44 round to 10.4).

- The most conservative limiting value between the IST calculated limit (as determined from Table TPv-12-1), UFSAR limit, or Technical Specification limit should be used as the Maximum/Limiting stroke time. Any deviations from this criteria will be evaluated.

- When a valve or its control system has been replace, repaired, or has undergone maintenance[1] that could affect the valve's performance, a new reference value shall be determined or the previous value reconfirmed by an inservice test run before it is returned to service or immediately if not removed from service.

Table TPv-12-1

Valve Operator	**Reference Stroke Time (Seconds)**	**Acceptable Range**	**Limiting Stroke Time**
Motor	$T_{Ref} > 10.0$	$0.85T_{Ref}$ - $1.15T_{Ref}$	$1.25T_{Ref}$
Motor	$T_{Ref} \leq 10.0$	$0.75T_{Ref}$ - $1.25T_{Ref}$	$1.50T_{Ref}$
Pneumatic[2]	$T_{Ref} > 10.0$	$0.75T_{Ref}$ - $1.25T_{Ref}$	$1.75T_{Ref}$
Pneumatic[2]	$T_{Ref} \leq 10.0$	$0.50T_{Ref}$ - $1.50T_{Ref}$	$2.00T_{Ref}$
All (Optional)	$T_{Ref} < 2.0$	≤ 2.0 seconds	> 2.0 seconds

[1]Adjustment of stem packing, limit switches, or control system valves, and removal of the bonnet, stem assembly, actuator, obturator, or control system components are examples of maintenance that could affect valve performance.

[2]Pneumatic operators are air, hydraulic or solenoid operator types.

Technical Position TPp-01

(Page 1 of 2)

Containment Spray Pump Category B Pump Testing

Purpose

The purpose of this Technical Position is to establish the station position for performing the quarterly Containment Spray Pump test at conditions less than 20 % of Design Flow Rate.

Applicability

This Technical Position is applicable to the following pumps

Pump Number	Class	Group	Function
3P214A	2	B	Containment Spray
3P214B	2	B	Containment Spray
4P214A	2	B	Containment Spray
4P214B	2	B	Containment Spray

Background

The IST Program requires that each pump required to tested to the rules of Subsection ISTB, be categorized as either a Group A or Group B pump. ISTB-2000, SUPPLEMENTAL DEFINITIONS defines these groupings as follows:

> *group A pumps*: pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations.
>
> *group B pumps*: pumps in standby systems that are not operated routinely except for testing.

The Containment Spray pumps are categorized as Group B pumps since they are in a standby system and not operated routinely except for testing.

In accordance with ISTB-3300(e)(2);

> Reference values shall be established within ± 20% of pump design flow for the group A and group B tests, if practicable. If not practicable, the reference point flow rate shall be established at the highest practical flow.

Position

It is not practicable to test the Containment Spray pumps within ± 20% of pump design flow during normal power operations. Turkey Point Nuclear Power Plant will perform the category B pump test at a reference flow point as high as practical.

Technical Position TPp-01

Justification

To test the containment spray pumps at ± 20% of design pump flow conditions (1450 gpm) requires operating the pump in a range of 1160 – 1740 gpm. Since a downstream recirculation flow path capable of this flow range does not exist, injection of borated water from the Refueling Water Storage Tank into the containment is the only possible flow path to perform this test to satisfy these conditions.

This test is impracticable to perform during any mode of operation due to the extensive system alteration and amount of cleanup required.

Technical Position TPp-A

Position

Turkey Point Nuclear Power Plant has categorized the pumps required to be included in the Inservice Testing Program as either Group A or B in accordance with the requirements of ISTB-1300/2000.

Group A pumps are pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. The following pumps are categorized as Group A at Turkey Point Nuclear Power Plant:

Pump Number	Class	Group	Function
3P201A	2	A	Charging
3P201B	2	A	Charging
3P201C	2	A	Charging
3P203A	2	A	Boric Acid Transfer
3P203B	2	A	Boric Acid Transfer
3P210A	2	A	Residual Heat Removal
3P210B	2	A	Residual Heat Removal
3P211A	3	A	Component Cooling Water
3P211B	3	A	Component Cooling Water
3P211C	3	A	Component Cooling Water
3P9A	3	A	Intake Cooling Water
3P9B	3	A	Intake Cooling Water
3P9C	3	A	Intake Cooling Water
4P201A	2	A	Charging
4P201B	2	A	Charging
4P201C	2	A	Charging
4P203A	2	A	Boric Acid Transfer
4P203B	2	A	Boric Acid Transfer
4P210A	2	A	Residual Heat Removal
4P210B	2	A	Residual Heat Removal
4P211A	3	A	Component Cooling Water
4P211B	3	A	Component Cooling Water
4P211C	3	A	Component Cooling Water
4P9A	3	A	Intake Cooling Water
4P9B	3	A	Intake Cooling Water
4P9C	3	A	Intake Cooling Water

Technical Position TPp-A

Group B pumps are those pumps in standby systems that are not operated routinely except for testing. The following pumps are categorized as Group B at Turkey Point Nuclear Power Plant:

Pump Number	Class	Group	Function
P2A	3	B	Auxiliary Feedwater
P2B	3	B	Auxiliary Feedwater
P2C	3	B	Auxiliary Feedwater
3P214A	2	B	Containment Spray
3P214B	2	B	Containment Spray
3P214C	2	B	Containment Spray
3P215A	2	B	Safety Injection
3P215B	2	B	Safety Injection
3P215C	2	B	Safety Injection
4P214A	2	B	Containment Spray
4P214B	2	B	Containment Spray
4P214C	2	B	Containment Spray
4P215A	2	B	Safety Injection
4P215B	2	B	Safety Injection
4P215C	2	B	Safety Injection

Group A Pump Tests – Group A tests are performed quarterly for each pump categorized as A. The following inservice test parameters are measured for each Group A pump test:

- Speed (if pump is variable speed)
- Differential Pressure
- Discharge Pressure, (for positive displacement pumps)
- Flow Rate
- Vibration

Group B Pump Tests - Group B tests are performed quarterly for each pump categorized as B. The following inservice test parameters are measured for each Group B pump test.

- Speed (if pump is variable speed)
- Differential Pressure(1)
- Flow Rate(1)

(1) For positive displacement pumps, flow rate shall be measured or determined, for all other pumps, differential pressure or flow rate shall be measured or determined.

Comprehensive Pump Tests – Comprehensive pump tests are performed biennially for all pumps in the Inservice Testing Program. The following inservice test parameters are measured for each Comprehensive pump test:

- Speed (if pump is variable speed)
- Differential Pressure
- Discharge Pressure, (for positive displacement pumps)
- Flow Rate

- Vibration

The following instrument accuracy requirements apply to each test type:

Parameter	Group A	Group B	Comprehensive
Pressure	+/- 2.0%	+/- 2.0%	+/- 0.5%
Flow Rate	+/- 2.0%	+/- 2.0%	+/- 2.0%
Speed	+/- 2.0%	+/- 2.0%	+/- 2.0%
Vibration	+/- 5.0%	+/- 5.0%	+/- 5.0%
Differential Pressure	+/- 2.0%	+/- 2.0%	+/- 0.5%

ATTACHMENT 12

INSERVICE TESTING PUMP TABLE

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
P2A	3	Centrifugal	Turbine	5900	5610-M-3075-2	B3	Group B	DPc	Y2		
								Nb	M3		
								Nc	Y2		
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	AFW Pump A									
P2B	3	Centrifugal	Turbine	5900	5610-M-3075-2	D3	Group B	DPc	Y2		
								Nb	M3		
								Nc	Y2		
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	AFW Pump B									
P2C	3	Centrifugal	Turbine	5900	5610-M-3075-2	F3	Group B	DPc	Y2		
								Nb	M3		
								Nc	Y2		
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	AFW Pump C									
3P201A	2	Positive Displacement	Motor	1745	5613-M-3047-2	G5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	3A Charging Pump									
3P201B	2	Positive Displacement	Motor	1745	5613-M-3047-2	F5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	3B Charging Pump									

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
3P201C	2	Positive Displacement	Motor	1745	5613-M-3047-2	D5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**3C Charging Pump**									
3P203A	2	Centrifugal	Motor	1800	5610-M-3046-1	D6	Group A	DPa	M3	PR-01,02	
								DPc	Y2	PR-02	
								Qc	Y2		
								Va	M3	PR-01	
								Vc	Y2		
	Pump Name:	**Boric Acid Transfer Pump 3A**									
3P203B	2	Centrifugal	Motor	1800	5610-M-3046-1	E5	Group A	DPa	M3	PR-01,02	
								DPc	Y2	PR-02	
								Qc	Y2		
								Va	M3	PR-01	
								Vc	Y2		
	Pump Name:	**Boric Acid Transfer Pump 3B**									
3P210A	2	Centrifugal	Motor	N/A	5613-M-3050-1	C3	Group A	DPa	CS	PR-04	
								DPb	M3	PR-04,06	
								DPc	Y2	PR-04	
								Qa	CS		
								Qc	Y2		
								Va	CS		
								Vc	Y2		
	Pump Name:	**3A Residual Heat Removal Pump**									
3P210B	2	Centrifugal	Motor	N/A	5613-M-3050-1	E3	Group A	DPa	CS	PR-04	
								DPb	M3	PR-04,06	
								DPc	Y2	PR-04	
								Qa	CS		
								Qc	Y2		
								Va	CS		
								Vc	Y2		
	Pump Name:	**3B Residual Heat Removal Pump**									

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
3P211A	3	Centrifugal	Motor	1800	5613-M-3030-1	F5	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 3A									
3P211B	3	Centrifugal	Motor	1800	5613-M-3030-1	F3	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 3B									
3P211C	3	Centrifugal	Motor	1800	5613-M-3030-1	F2	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 3C									
3P214A	2	Centrifugal	Motor	1800	5613-M-3068-1	D3	Group B	DPa	M3	PR-03	
								Qa	M3	PR-03	TPp-01
								Va	M3	PR-03	
	Pump Name:	Containment Spray Pump 3A									
3P214B	2	Centrifugal	Motor	1800	5613-M-3068-1	G3	Group B	DPa	M3	PR-03	
								Qa	M3	PR-03	TPp-01
								Va	M3	PR-03	
	Pump Name:	Containment Spray Pump 3B									
3P215A	2	Centrifugal	Motor	1800	5613-M-3062-1	E3	Group B	DPc	Y2	PR-02	
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	Safety Injection Pump 3A									
3P215B	2	Centrifugal	Motor	1800	5613-M-3062-1	G3	Group B	DPc	Y2	PR-02	
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	Safety Injection Pump 3B									

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
3P9A	3	Vertical	Motor		5613-M-3019-1	F2	Group A	DPa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**Intake Cooling Water Pump 3A**									
3P9B	3	Vertical	Motor		5613-M-3019-1	D2	Group A	DPa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**Intake Cooling Water Pump 3B**									
3P9C	3	Vertical	Motor		5613-M-3019-1	B2	Group A	DPa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**Intake Cooling Water Pump 3C**									
4P201A	2	Positive Displacement	Motor	1745	5614-M-3047-2	G5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**4A Charging Pump**									
4P201B	2	Positive Displacement	Motor	1745	5614-M-3047-2	F5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**4B Charging Pump**									
4P201C	2	Positive Displacement	Motor	1745	5614-M-3047-2	D5	Group A	Na	M3	PR-05	
								PDa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	**4C Charging Pump**									
4P203A	2	Centrifugal	Motor	1800	5610-M-3046-1	E5	Group A	Dpa	M3	PR-01,02	
								DPc	Y2	PR-02	
								Qc	Y2		
								Va	M3	PR-01	
								Vc	Y2		
	Pump Name:	**Boric Acid Transfer Pump 4A**									

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
4P203B	2	Centrifugal	Motor	1800	5610-M-3046-1	F4	Group A	Dpa	M3	PR-01,02	
								DPc	Y2	PR-02	
								Qc	Y2		
								Va	M3	PR-01	
								Vc	Y2		
	Pump Name:	Boric Acid Transfer Pump 4B									
4P210A	2	Centrifugal	Motor	N/A	5614-M-3050-1	C3	Group A	DPa	CS	PR-04	
								DPb	M3	PR-04,06	
								DPc	Y2	PR-04	
								Qa	CS		
								Qc	Y2		
								Va	CS		
								Vc	Y2		
	Pump Name:	4A Residual Heat Removal Pump									
4P210B	2	Centrifugal	Motor	N/A	5614-M-3050-1	E3	Group A	DPa	CS	PR-04	
								DPb	M3	PR-04,06	
								DPc	Y2	PR-04	
								Qa	CS		
								Qc	Y2		
								Va	CS		
								Vc	Y2		
	Pump Name:	4B Residual Heat Removal Pump									
4P211A	3	Centrifugal	Motor	1800	5614-M-3030-1	F5	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 4A									
4P211B	3	Centrifugal	Motor	1800	5614-M-3030-1	F3	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 4B									
4P211C	3	Centrifugal	Motor	1800	5614-M-3030-1	F2	Group A	DPa	M3	PR-02,05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Component Cooling Water Pump 4C									

Pump Tag	Safety Class	Pump Type	Pump Driver	Nominal Speed	P&ID	P&ID Coor.	Category	Test Type	Test Freq.	Relief Request	Tech. Pos.
4P214A	2	Centrifugal	Motor	1800	5614-M-3068-1	C3	Group B	DPa	M3	PR-03	
								Qa	M3	PR-03	TPp-01
								Va	M3	PR-03	
	Pump Name:	Containment Spray Pump 4A									
4P214B	2	Centrifugal	Motor	1800	5614-M-3068-1	F3	Group B	DPa	M3	PR-03	
								Qa	M3	PR-03	TPp-01
								Va	M3	PR-03	
	Pump Name:	Containment Spray Pump 4B									
4P215A	2	Centrifugal	Motor	1800	5614-M-3062-1	E3	Group B	DPc	Y2	PR-02	
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	Safety Injection Pump 4A									
4P215B	2	Centrifugal	Motor	1800	5614-M-3062-1	G3	Group B	DPc	Y2	PR-02	
								Qb	M3		
								Qc	Y2		
								Vc	Y2		
	Pump Name:	Safety Injection Pump 4B									
4P9A	3	Vertical	Motor		5614-M-3019-1	F2	Group A	DPa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Intake Cooling Water Pump 4A									
4P9B	3	Vertical	Motor		5614-M-3019-1	D2	Group A	DPa	M3	PR-05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Intake Cooling Water Pump 4B									
4P9C	3	Vertical	Motor		5614-M-3019-1	B2	Group A	DPa	M3	PR_05	
								Qa	M3	PR-05	
								Va	M3	PR-05	
	Pump Name:	Intake Cooling Water Pump 4C									

ATTACHMENT 13

INSERVICE TESTING VALVE TABLE

Instrument Air/Service Air (013)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-40-204	5610-M-3013-1	D6	2	A	2.0	GA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Serv Air to Cntmt Isol													
3-40-205	5610-M-3013-1	C7	2	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR		RJ-01	
											CO	RR		RJ-01	TPv-01
	Valve Name:	Service Air to Containment Check Valve													
3-40-336	5613-M-3013-7	B3	2	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-02	
											CO	RR	VR-01	RJ-02	TPv-01
	Valve Name:	Instrument Air to Containment Check Valve													
3-40-340A	5613-M-3013-7	B3	2	A/C	2.0	SCK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-03	
											CO	RR	VR-01	RJ-03	TPv-01
	Valve Name:	Instrument Air to Containment Check Valve													
HV-3-17	5610-M-3013-1	D7	2	A	2.0	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Hydrogen Recombiner Isolation Valve													
4-40-204	5610-M-3013-1	F6	2	A	2.0	GA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Serv Air to Cntmt Isol													
4-40-205	5610-M-3013-1	F7	2	A	2.0	GA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Service Air to Containment Manual Iso Valve													
4-40-336	5613-M-3013-7	D3	2	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-02	
											CO	RR	VR-01	RJ-02	TPv-01
	Valve Name:	Instrument Air to Containment Check Valve													
4-40-340A	5613-M-3013-7	D3	2	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-03	
											CO	RR	VR-01	RJ-03	TPv-01
	Valve Name:	Instrument Air to Containment Check Valve													

Condensate Storage (018)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-20-401	5613-M-3018-1	D3	3	C	8.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Condensate Storage Tank Outlet Check Valve													
4-20-401	5614-M-3018-1	E6	3	C	8.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Condensate Storage Tank Outlet Check Valve													

Intake Cooling Water (019)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-50-311	5613-M-3019-1	F3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICS Pump 3A Disch Check Valve													
3-50-315	5613-M-3019-1	B4	3	B	8.0	GA	MAN	A	C	C	BTC	Y2			TPv-11
	Valve Name:	ICW/TPCW Basket Strainer Isolation Valve													
3-50-321	5613-M-3019-1	D3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICW Pump 3B Disch Check Valve													
3-50-331	5613-M-3019-1	B3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICW Pump 3C Disch Check Valve													
3-50-335	5613-M-3019-1	F4	3	B	8.0	GA	MAN	A	C	C	BTC	Y2			TPv-11
	Valve Name:	ICW/TPCW Basket Strainer Isolation Valve													
POV-3-4882	5613-M-3019-1	B4	3	B	30.0	BTF	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	ICW/TPCW Isolation Valve to Hx 3A													
POV-3-4883	5613-M-3019-1	F4	3	B	30.0	BTF	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	ICW/TPCW Isolation Valve to Hx 3B													
4-50-311	5614-M-3019-1	F3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICW Pump 4A Disch Check Valve													
4-50-315	5614-M-3019-1	F4	3	B	8.0	GA	MAN	A	C	C	BTC	Y2			TPv-11
	Valve Name:	ICW/TPCW Basket Strainer Isolation Valve													
4-50-321	5614-M-3019-1	D3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICW Pump 4B Disch Check Valve													

Intake Cooling Water (019)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-50-331	5614-M-3019-1	B3	3	C	24.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	ICW Pump 4C Disch Check Valve													
4-50-335	5614-M-3019-1	C4	3	B	8.0	GA	MAN	A	C	C	BTC	Y2			TPv-11
	Valve Name:	ICW/TPCW Basket Strainer Isolation Valve													
POV-4-4882	5614-M-3019-1	F4	3	B	30.0	BTF	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	ICW/TPCW Isolation Valve to Hx 4A													
POV-4-4883	5614-M-3019-1	B4	3	B	30.0	BTF	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	ICW/TPCW Isolation Valve to Hx 4B													

Primary Water Makeup (020)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-10-567	5613-M-3020-2	C5	2	A/C	2.0	CK	SA	P	C	C	AT-01	App-J	VR-01		TPv-07
	Valve Name:	Primary Water to Containment Line Check Valve													
3-10-582	5613-M-3020-2	D6	2	A	2.0	GA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Primary Water to Containment Line Isolation Valve													
RV-3-302	5613-M-3020-2	D6	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Primary Water to Containment Line Relief Valve													
4-10-567	5614-M-3020-2	D5	2	A/C	2.0	CK	SA	P	C	C	AT-01	App-J	VR-01		TPv-07
	Valve Name:	Primary Water to Containment Line Check Valve													
4-10-582	5614-M-3020-2	C6	2	A	2.0	GA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Primary Water to Containment Line Isolation Valve													
RV-4-302	5614-M-3020-2	D6	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Primary Water to Containment Line Relief Valve													

Emergency Diesel Generator (022)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-70-274A	5613-M-3022-1	C2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	3A EDG Air Receiver Tanks C & D Inlet Check Valves													
3-70-274B	5613-M-3022-2	C2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	3B EDG Air Receiver Tanks C & D Inlet Check Valves													
3-70-276A	5613-M-3022-1	D2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	3A EDG Air Receiver Tanks A & B Inlet Check Valves													
3-70-276B	5613-M-3022-2	D2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	3B EDG Air Receiver Tanks A & B Inlet Check Valves													
RV-3-210A	5613-M-3022-1	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3A EDG Air Receiver Tank A Relief Valve													
RV-3-210B	5613-M-3022-2	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3B EDG Air Receiver Tank A Relief Valve													
RV-3-211A	5613-M-3022-1	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3A EDG Air Receiver Tank B Relief Valve													
RV-3-211B	5613-M-3022-2	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3B EDG Air Receiver Tank B Relief Valve													
RV-3-212A	5613-M-3022-1	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3A EDG Air Receiver Tank C Relief Valve													
RV-3-212B	5613-M-3022-2	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3B EDG Air Receiver Tank C Relief Valve													
RV-3-213A	5613-M-3022-1	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3A EDG Air Receiver Tank D Relief Valve													
RV-3-213B	5613-M-3022-2	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3B EDG Air Receiver Tank D Relief Valve													

Emergency Diesel Generator (022)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-214A	5613-M-3022-5	B6	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3A EDG Main Lube Oil Pump Disch Relief Valve													
RV-3-214B	5613-M-3022-6	B6	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	3B EDG Main Lube Oil Pump Disch Relief Valve													
4-70-530A	5614-M-3022-1	D2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	4A EDG Air Receiver Tanks A & B Inlet Check Valves													
4-70-530B	5614-M-3022-2	D2	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	4B EDG Air Receiver Tanks A & B Inlet Check Valves													
4-70-531A	5614-M-3022-1	D3	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	4A EDG Air Receiver Tanks C & D Inlet Check Valves													
4-70-531B	5614-M-3022-2	D3	SR	C	1.5	CK	SA	A	SYS	C	CC	M3			
											CO	OP			TPv-01
	Valve Name:	4B EDG Air Receiver Tanks C & D Inlet Check Valves													
RV-4-1451A	5614-M-3022-5	E4	SR	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Cooling Water Expansion Tank Relief Valve													
RV-4-1451B	5614-M-3022-5	E4	SR	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Cooling Water Expansion Tank Relief Valve													
RV-4-1452A	5614-M-3022-5	B5	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Main Lube Oil Pump Disch Relief Valve													
RV-4-1452B	5614-M-3022-6	B6	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4B EDG Main Lube Oil Pump Disch Relief Valve													
RV-4-1456A	5614-M-3022-1	B2	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Air Receiver Tank A Relief Valve													
RV-4-1456B	5614-M-3022-2	B2	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4B EDG Air Receiver Tank A Relief Valve													

Emergency Diesel Generator (022)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-1457A	5614-M-3022-1	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Air Receiver Tank B Relief Valve													
RV-4-1457B	5614-M-3022-2	B3	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4B EDG Air Receiver Tank B Relief Valve													
RV-4-1458A	5614-M-3022-1	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Air Receiver Tank C Relief Valve													
RV-4-1458B	5614-M-3022-2	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4B EDG Air Receiver Tank C Relief Valve													
RV-4-1459A	5614-M-3022-1	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4A EDG Air Receiver Tank D Relief Valve													
RV-4-1459B	5614-M-3022-2	B4	SR	C		RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	4B EDG Air Receiver Tank D Relief Valve													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-702A	5613-M-3030-1	E4	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 3A Discharge Check Valve													
3-702B	5613-M-3030-1	E3	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 3B Discharge Check Valve													
3-702C	5613-M-3030-1	E2	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 3C Discharge Check Valve													
3-721A	5613-M-3030-5	E6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													
3-721B	5613-M-3030-5	B6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													
3-721C	5613-M-3030-5	C6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													
3-738	5613-M-3030-5	D3	2	C	3.0	CK	SA	A	SYS	C	CC	CS		CSJ-09	
											CO	M3			TPv-01
	Valve Name:	CCW Check Valve to Excess Letdown Heat Exchanger													
CV-3-2903	5613-M-3030-4	D3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	3B Emergency Containment Cooler Inlet													
CV-3-2904	5613-M-3030-4	C3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	3C Emergency Containment Cooler Inlet													
CV-3-2905	5613-M-3030-4	B3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	3A Emergency Containment Cooler Inlet													
CV-3-2906	5613-M-3030-4	G3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	3B Emergency Containment Cooler Outlet													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-2907	5613-M-3030-4	F3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	3C Emergency Containment Cooler Outlet													
CV-3-2908	5613-M-3030-4	E3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	3A Emergency Containment Cooler Outlet													
CV-3-739	5613-M-3030-5	C2	2	B	3.0	GL	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Excess Letdown Heat Exchanger Outlet													
MOV-3-1417	5613-M-3030-5	B2	2	B	10.0	GA	MO	A	O	C	BTC	CS		CSJ-10	
											PIT	Y2			
	Valve Name:	CCW to Normal Containment Cooler													
MOV-3-1418	5613-M-3030-5	F2	2	B	10.0	GA	MO	A	O	C	BTC	CS		CSJ-10	
											PIT	Y2			
	Valve Name:	CCW to Normal Containment Cooler													
MOV-3-626	5613-M-3030-5	H3	2	B	3.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP Seal Cooling Water Outlet													
MOV-3-716A	5613-M-3030-5	E2	3	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP CCW Inlet													
MOV-3-716B	5613-M-3030-5	E2	2	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP CCW Inlet													
MOV-3-730	5613-M-3030-5	G3	2	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP Bearing CCW Outlet													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-3-749A	5613-M-3030-2	F7	3	B	16.0	GA	MO	A	C	O	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	3A RHR Heat Exchanger Component Cooling Outlet													
MOV-3-749B	5613-M-3030-2	F7	3	B	16.0	GA	MO	A	C	O	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	3B RHR Heat Exchanger Component Cooling Outlet													
RV-3-1423	5613-M-3030-4	D5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-3-1424	5613-M-3030-4	C5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-3-1425	5613-M-3030-4	B5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-3-1426	5613-M-3030-5	E4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-3-1427	5613-M-3030-5	E4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-3-1428	5613-M-3030-5	C4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-3-1429	5613-M-3030-5	A4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-3-1430	5613-M-3030-5	D4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Rod Drive Cooler Thermal Relief Valve													
RV-3-1431	5613-M-3030-5	B4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Rod Drive Cooler Thermal Relief Valve													
RV-3-707	5613-M-3030-1	C7	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Surge Tank Relief Valve													
RV-3-715	5613-M-3030-5	C3	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Excess Letdown Heat Exchanger Relief Valve													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-722A	5613-M-3030-5	E7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-3-722B	5613-M-3030-5	B7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-3-722C	5613-M-3030-5	C7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-3-729	5613-M-3030-5	F7	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Oil Coolers Relief Valve													
RV-3-747A	5613-M-3030-2	E7	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR Hx Thermal Relief Valve													
RV-3-747B	5613-M-3030-2	E8	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR Hx Thermal Relief Valve													
4-702A	5614-M-3030-1	E4	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 4A Discharge Check Valve													
4-702B	5614-M-3030-1	E3	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 4B Discharge Check Valve													
4-702C	5614-M-3030-1	E2	3	C	16.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	CCW Pump 4C Discharge Check Valve													
4-721A	5614-M-3030-4	E6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													
4-721B	5614-M-3030-4	B6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													
4-721C	5614-M-3030-4	D6	3	C	1.5	CK	SA	A	SYS	C	CC	RR		RJ-13	
											CO	M3			TPv-01
	Valve Name:	CCW Supply to Thermal Barrier Cooler Valve													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-738	5614-M-3030-4	D3	2	C	3.0	CK	SA	A	SYS	C	CC	CS		CSJ-09	
											CO	M3			TPv-01
	Valve Name:	CCW Check Valve to Excess Letdown Heat Exchanger													
CV-4-2903	5614-M-3030-3	D3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	4B Emergency Containment Cooler Inlet													
CV-4-2904	5614-M-3030-3	C3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	4A Emergency Containment Cooler Inlet													
CV-4-2905	5614-M-3030-3	B3	2	B	10.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	4C Emergency Containment Cooler Inlet													
CV-4-2906	5614-M-3030-3	G3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	4B Emergency Containment Cooler Outlet													
CV-4-2907	5614-M-3030-3	F3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	4A Emergency Containment Cooler Outlet													
CV-4-2908	5614-M-3030-3	E3	2	B	10.0	BTF	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	4C Emergency Containment Cooler Outlet													
CV-4-739	5614-M-3030-4	C2	2	B	3.0	GL	AO	A	O	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Excess Letdown Heat Exchanger Outlet													
MOV-4-1417	5614-M-3030-4	B2	2	B	10.0	GA	MO	A	O	C	BTC	CS		CSJ-10	
											PIT	Y2			
	Valve Name:	CCW to Normal Containment Cooler													
MOV-4-1418	5614-M-3030-4	F2	2	B	10.0	GA	MO	A	O	C	BTC	CS		CSJ-10	
											PIT	Y2			
	Valve Name:	CCW to Normal Containment Cooler													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-4-626	5614-M-3030-4	H3	2	B	3.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP Seal Cooling Water Outlet													
MOV-4-716A	5614-M-3030-4	E2	3	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP CCW Inlet													
MOV-4-716B	5614-M-3030-4	E2	2	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP CCW Inlet													
MOV-4-730	5614-M-3030-4	G3	2	B	6.0	GA	MO	A	O	C	BTC	CS		CSJ-11	
											PIT	Y2			
	Valve Name:	RCP Bearing CCW Outlet													
MOV-4-749A	5614-M-3030-2	F6	3	B	16.0	GA	MO	A	C	O	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	3A RHR Heat Exchanger Component Cooling Outlet													
MOV-4-749B	5614-M-3030-2	F7	3	B	16.0	GA	MO	A	C	O	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	3B RHR Heat Exchanger Component Cooling Outlet													
RV-4-1423	5614-M-3030-3	D5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-4-1424	5614-M-3030-3	C5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-4-1425	5614-M-3030-3	B5	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	ECC Relief Valve													
RV-4-1426	5614-M-3030-4	E4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-4-1427	5614-M-3030-4	D4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-4-1428	5614-M-3030-4	B4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													

Component Cooling Water (030)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-1429	5614-M-3030-4	A4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	NCC Thermal Relief Valve													
RV-4-1430	5614-M-3030-4	D4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Rod Drive Cooler Thermal Relief Valve													
RV-4-1431	5614-M-3030-4	C4	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Rod Drive Cooler Thermal Relief Valve													
RV-4-707	5614-M-3030-1	C7	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Surge Tank Relief Valve													
RV-4-715	5614-M-3030-4	C3	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Excess Letdown Heat Exchanger Relief Valve													
RV-4-722A	5614-M-3030-4	E7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-4-722B	5614-M-3030-4	B7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-4-722C	5614-M-3030-4	C7	3	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Thermal Barrier Cooler Thermal Relief Valve													
RV-4-729	5614-M-3030-4	F7	3	C	3.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RCP Oil Coolers Relief Valve													
RV-4-747A	5614-M-3030-2	E6	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR Hx Thermal Relief Valve													
RV-4-747B	5614-M-3030-2	E8	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR Hx Thermal Relief Valve													

Sampling (036)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-951	5613-M-3036-1	A2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Steam Space Sample Isolation Valve													
CV-3-953	5613-M-3036-1	B2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Liquid Space Sample Isolation Valve													
CV-3-955C	5613-M-3036-1	D2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3A Accumulator Sample Valve													
CV-3-955D	5613-M-3036-1	E2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3B Accumulator Sample Valve													
CV-3-955E	5613-M-3036-1	E2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3C Accumulator Sample Valve													
CV-3-956A	5613-M-3036-1	A3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Steam Space Sample Isolation Valve													

Sampling (036)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-956B	5613-M-3036-1	B3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Liquid Space Sample Isolation Valve													
CV-3-956D	5613-M-3036-1	E3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Accumulator Sample Isolation Valve													
RV-3-300	5613-M-3036-1	B3	2	A/C	0.375	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Pressurizer Liquid Space Sample Line Relief Valve													
RV-3-301	5613-M-3036-1	D3	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Accumulator Sample Line Relief Valve													
SV-3-6427A	5613-M-3036-1	C2	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Loop A Hot Leg Sample Isolation Valve													
SV-3-6427B	5613-M-3036-1	C2	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Loop B Hot Leg Sample Isolation Valve													
SV-3-6428	5613-M-3036-1	C3	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Hot Leg Sample Isolation Valve													

Sampling (036)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-951	5614-M-3036-1	A2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Steam Space Sample Isolation Valve													
CV-4-953	5614-M-3036-1	B2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Liquid Space Sample Isolation Valve													
CV-4-955C	5614-M-3037-1	D2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4A Accumulator Sample Valve													
CV-4-955D	5614-M-3036-1	E2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4B Accumulator Sample Valve													
CV-4-955E	5614-M-3036-1	E2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4C Accumulator Sample Valve													
CV-4-956A	5614-M-3036-1	A3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Steam Space Sample Isolation Valve													

Sampling (036)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-956B	5614-M-3036-1	B3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer Liquid Space Sample Isolation Valve													
CV-4-956D	5614-M-3036-1	E3	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Accumulator Sample Isolation Valve													
RV-4-300	5614-M-3036-1	B3	2	A/C	0.375	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Pressurizer Liquid Space Sample Line Relief Valve													
RV-4-301	5614-M-3036-1	D3	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Accumulator Sample Line Relief Valve													
SV-4-6427A	5614-M-3036-1	C2	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Loop A Hot Leg Sample Isolation Valve													
SV-4-6427B	5614-M-3036-1	C2	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Loop B Hot Leg Sample Isolation Valve													
SV-4-6428	5614-M-3036-1	C3	2	A	0.375	GL	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	RCS Hot Leg Sample Isolation Valve													

Reactor Coolant System (041)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-516	5613-M-3041-2	G2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cont Iso Vlv PRT to GA													
CV-3-519A	5613-M-3041-3	A8	2	A	3.00	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	PW Supply to Containment													
CV-3-519B	5613-M-3041-3	A2	2	A	3.00	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	PRT Makeup Valve													
CV-3-522A	5613-M-3041-3	B7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3A RCP Stand Pipe Fill													
CV-3-522B	5613-M-3041-3	B7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3B RCP Stand Pipe Fill													
CV-3-522C	5613-M-3041-3	C7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3C RCP Stand Pipe Fill													
MOV-3-535	5613-M-3041-2	B6	1	B	3.00	GA	MO	A	O	O/C	BTC	M3			TPv-09
											PIT	Y2			
	Valve Name:	Pressurizer PORV Stop Valve													

Reactor Coolant System (041)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-3-536	5613-M-3041-2	C6	1	B	3.00	GA	MO	A	O	O/C	BTC	M3			TPv-09
											PIT	Y2			
	Valve Name:	Pressurizer PORV Stop Valve													
PCV-3-455C	5613-M-3041-2	C7	1	B	3.00	GL	AO	A	C	O/C	BTC	CS		CSJ-23	
											BTO	CS		CSJ-23	
											FC	CS		CSJ-23	TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer PORV													
PCV-3-456	5613-M-3041-2	B7	1	B	3.00	GL	AO	A	C	O/C	BTC	CS		CSJ-23	
											BTO	CS		CSJ-23	
											FC	CS		CSJ-23	TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer PORV													
RV-3-551A	5613-M-3041-2	B5	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve A													
RV-3-551B	5613-M-3041-2	B4	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve B													
RV-3-551C	5613-M-3041-2	B3	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve C													
RV-3-6587	5613-M-3041-4	C4	SR	C	0.50	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	N2 Supply Relief													
RV-3-6588	5613-M-3041-4	F4	SR	C	0.50	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	N2 Supply Relief													
SV-3-6318A	5613-M-3041-2	D7	2	B	1.00	GA	SO	A	C	O/C	BTO	CS		CSJ-24	TPv-09
											PIT	Y2			
	Valve Name:	Reactor Vessel Head Vent													
SV-3-6318B	5613-M-3041-2	E7	2	B	1.00	GA	SO	A	C	O/C	BTO	CS		CSJ-24	TPv-09
											PIT	Y2			
	Valve Name:	Reactor Vessel Head Vent													

Reactor Coolant System (041)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
SV-3-6385	5613-M-3041-2	G2	2	A	0.375	GA	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	PRT to Gas Analyzer													
SV-3-6611	5613-M-3041-2	F7	2	B	1.00	GA	SO	A	C	O	BTO	CS		CSJ-24	TPv-09
											FO	CS		CSJ-24	TPv-04
											PIT	Y2			
	Valve Name:	RCS Vent to Atmosphere													
SV-3-6612	5613-M-3041-2	F6	2	B	1.00	DAM	SO	A	C	O	BTO	CS		CSJ-24	TPv-09
											FO	CS		CSJ-24	TPv-04
											PIT	Y2			
	Valve Name:	Vent to PRT													
CV-4-516	5614-M-3041-2	G2	2	A	0.375	GL	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cont Iso Vlv PRT to Gar													
CV-4-519A	5614-M-3041-3	A8	2	A	3.00	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC				TPv-04
											PIT	Y2			
	Valve Name:	PW Supply to Containment													
CV-4-519B	5614-M-3041-3	A2	2	A	3.00	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	PRT Makeup Valve													
CV-4-522A	5614-M-3041-3	B7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4A RCP Stand Pipe Fill													

Reactor Coolant System (041)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-522B	5614-M-3041-3	B7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4B RCP Stand Pipe Fill													
CV-4-522C	5614-M-3041-3	C7	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4C RCP Stand Pipe Fill													
MOV-4-535	5614-M-3041-2	B6	1	B	3.00	GA	MO	A	O	O/C	BTC	M3			TPv-09
											PIT	Y2			
	Valve Name:	Pressurizer PORV Stop Valve													
MOV-4-536	5613-M-3041-2	C6	1	B	3.00	GA	MO	A	O	O/C	BTC	M3			TPv-09
											PIT	Y2			
	Valve Name:	Pressurizer PORV Stop Valve													
PCV-4-455C	5614-M-3041-2	C7	1	B	3.00	GL	AO	A	C	O/C	BTC	CS		CSJ-23	
											BTO	CS		CSJ-23	
											FC	CS		CSJ-23	TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer PORV													
PCV-4-456	5614-M-3041-2	B7	1	B	3.00	GL	AO	A	C	O/C	BTC	CS		CSJ-23	
											BTO	CS		CSJ-23	
											FC	CS		CSJ-23	TPv-04
											PIT	Y2			
	Valve Name:	Pressurizer PORV													
RV-4-551A	5614-M-3041-2	B5	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve A													
RV-4-551B	5614-M-3041-2	B4	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve B													
RV-4-551C	5614-M-3041-2	B3	1	C	4.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Pressurizer Safety Valve C													

Reactor Coolant System (041)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-6587	5614-M-3041-4	C4	SR	C	0.50	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	N2 Supply Relief													
RV-4-6588	5614-M-3041-4	F4	SR	C	0.50	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	N2 Supply Relief													
SV-4-6318A	5614-M-3041-2	D7	2	B	1.00	GA	SO	A	C	O/C	BTO	CS		CSJ-24	TPv-09
											PIT	Y2			
	Valve Name:	Reactor Vessel Head Vent													
SV-4-6318B	5614-M-3041-2	E7	2	B	1.00	GA	SO	A	C	O/C	BTO	CS		CSJ-24	TPv-09
											PIT	Y2			
	Valve Name:	Reactor Vessel Head Vent													
SV-4-6385	5614-M-3041-2	G2	2	A	0.375	GA	SO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	PRT to Gas Analyzer													
SV-4-6611	5613-M-3041-2	F7	2	B	1.00	GA	SO	A	C	O	BTO	CS		CSJ-24	TPv-09
											FO	CS		CSJ-24	TPv-04
											PIT	Y2			
	Valve Name:	RCS Vent to Atmosphere													
SV-4-6612	5613-M-3041-2	F6	2	B	1.00	DAM	SO	A	C	O	BTO	CS		CSJ-24	TPv-09
											FO	CS		CSJ-24	TPv-04
											PIT	Y2			
	Valve Name:	Vent to PRT													

Boric Acid (046)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-397A	5610-M-3046-1	D7	2	C	2.0	CK	SA	A	SYS	O/C	CC	RR		RJ-04	
											CO	RR		RJ-04	
	Valve Name:	Boric Acid Pump Discharge Check Valve													
3-397B	5610-M-3046-1	E6	2	C	2.0	CK	SA	A	SYS	O/C	CC	RR		RJ-04	
											CO	RR		RJ-04	
	Valve Name:	Boric Acid Pump Discharge Check Valve													
HCV-105	5610-M-3046-1	C5	2	B	2.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
	Valve Name:	Boric Acid Storage Tank Recirculation Control Valv													
HCV-110	5610-M-3046-1	C7	2	B	2.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
	Valve Name:	Boric Acid Storage Tank Recirculation Control Valv													
4-397C	5610-M-3046-1	E5	2	C	2.0	CK	SA	A	SYS	O/C	CC	RR		RJ-04	
											CO	RR		RJ-04	
	Valve Name:	Boric Acid Pump Discharge Check Valve													
4-397D	5610-M-3046-1	F4	2	C	2.0	CK	SA	A	SYS	O/C	CC	RR		RJ-04	
											CO	RR		RJ-04	
	Valve Name:	Boric Acid Pump Discharge Check Valve													
HCV-104	5610-M-3046-1	C4	2	B	2.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
	Valve Name:	Boric Acid Storage Tank Recirculation Control Valv													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-298A	5613-M-3047-3	F4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	3A RCP Seal Injection Check Valve													
3-298B	5613-M-3047-3	B4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	3B RCP Seal Injection Check Valve													
3-298C	5613-M-3047-3	D4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	3C RCP Seal Injection Check Valve													
3-312A	5613-M-3047-2	C8	1	C	3.0	CK	SA	A	SYS	O	CCF	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Charging Line Check Valve													
3-312B	5613-M-3047-2	A8	1	C	3.0	CK	SA	A	SYS	O	CCF	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Loop C Charging Line Check Valve													
3-312C	5613-M-3047-2	E7	1	A/C	3.0	CK	SA	A	SYS	O/C	AT-01	App-J			
											CC	RR		RJ-14	TPv-08
											CO	M3			
	Valve Name:	Charging Line Check Valve													
3-351	5613-M-3047-2	F1	2	C	2.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM		RJ-15	TPv-02
	Valve Name:	Emergency Boration Check Valve													
3-357	5613-M-3047-2	F3	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM		CSJ-22	TPv-02
	Valve Name:	Emergency Makeup to Charging Pumps Check Valve													
CV-3-200A	5613-M-3047-1	A2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-200B	5613-M-3047-1	B2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													
CV-3-200C	5613-M-3047-1	C2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													
CV-3-204	5613-M-3047-1	C4	2	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-16	
											FC	CS		CSJ-16	TPv-04
											PIT	Y2			
	Valve Name:	Letdown Line Isolation Valve													
CV-3-310A	5613-M-3047-2	C7	1	B	2.0	GL	AO	A	O	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	Loop A Charging Isolation Valve													
CV-3-310B	5613-M-3047-2	A7	1	B	2.0	GL	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	Charging Line Stop Valve Loop C													
CV-3-311	5613-M-3047-2	B7	1	B	2.0	GA	AO	P	C	C	PIT	Y2			
	Valve Name:	Auxiliary Spray Isolation Valve													
CV-3-387	5613-M-3047-3	B8	1	B	0.75	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Excess Letdown Isolation Valve													
FCV-3-113B	5613-M-3047-2	D3	2	B	2.0	PLG	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Blender Flow to Charging Pump													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
FCV-3-114B	5614-M-3047-2	B2	SR	B	2.0	PLG	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Blender Flow to VCT													
HCV-3-121	5613-M-3047-2	F7	2	B	3.0	GL	AO	A	O	O	BTO	CS		CSJ-19	
											FO	CS		CSJ-19	TPv-04
	Valve Name:	Charging Flow to Regenerative Heat Exchanger													
LCV-3-115B	5613-M-3047-2	F4	2	B	4.0	BTF	AO	A	C	O/C	BTO	CS		CSJ-20	TPv-09
											FC	CS		CSJ-20	TPv-04
											PIT	Y2			
	Valve Name:	Emergency Makeup to Charging Pumps													
LCV-3-115C	5613-M-3047-2	C4	2	B	4.0	GL	MO	A	O	C	BTC	CS		CSJ-21	
											PIT	Y2			
	Valve Name:	VCT Outlet Isolation Valve													
MOV-3-350	5613-M-3047-2	F1	2	B	2.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Emergency Boration Valve													
MOV-3-381	5613-M-3047-3	H3	2	A	3.0	GA	MO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-25	
											PIT	Y2			
	Valve Name:	RCP Seal Water Return and Excess Letdown Isol													
MOV-3-6386	5613-M-3047-3	H5	2	A	3.0	GA	MO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-25	
											PIT	Y2			
	Valve Name:	RCP Seal Return Isol													
RV-3-203	5613-M-3047-1	A3	2	A/C	2.0	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Letddown Line Relief Valve													
RV-3-283A	5613-M-3047-2	G5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 3A Discharge Relief Valve													
RV-3-283B	5613-M-3047-2	E5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 3B Discharge Relief Valve													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-283C	5613-M-3047-2	C5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 3C Discharge Relief Valve													
RV-3-303	5613-M-3047-3	G4	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	RCP Seal Return Relief Valve													
RV-3-304	5613-M-3047-3	D8	1	C	0.75	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Excess Letdown Heat Exchanger Relief Valve													
4-298A	5614-M-3047-3	F4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	4A RCP Seal Injection Check Valve													
4-298B	5614-M-3047-3	B4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	4B RCP Seal Injection Check Valve													
4-298C	5614-M-3047-3	D4	1	A/C	2.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-16	TPv-08
											CO	RR	VR-01	RJ-16	TPv-01
	Valve Name:	4C RCP Seal Injection Check Valve													
4-312A	5614-M-3047-2	C8	1	C	3.0	CK	SA	A	SYS	O	CCF	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Charging Line Check Valve													
4-312B	5614-M-3047-2	A7	1	C	3.0	CK	SA	A	SYS	O	CCF	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Loop C Charging Line Check Valve													
4-312C	5614-M-3047-2	E7	1	A/C	3.0	CK	SA	A	SYS	O/C	AT-01	App-J			
											CC	RR		RJ-14	TPv-08
											CO	M3			
	Valve Name:	Charging Line Check Valve													
4-351	5614-M-3047-2	F1	2	C	2.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM		RJ-15	TPv-02
	Valve Name:	Emergency Boration Check Valve													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-357	5614-M-3047-2	F3	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM		CSJ-22	TPv-02
	Valve Name:	Emergency Makeup to Charging Pumps Check Valve													
CV-4-200A	5614-M-3047-1	A2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													
CV-4-200B	5614-M-3047-1	B2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													
CV-4-200C	5614-M-3047-1	C2	1	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Letdown Orifice Stop Valve													
CV-4-204	5614-M-3047-1	C4	2	A	2.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-16	
											FC	CS		CSJ-16	TPv-04
											PIT	Y2			
	Valve Name:	Letdown Line Isolation Valve													
CV-4-310A	5614-M-3047-2	C7	1	B	2.0	GL	AO	A	O	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	Loop A Charging Isolation Valve													
CV-4-310B	5614-M-3047-2	A7	1	B	2.0	GL	AO	A	C	O	BTO	M3			
											FO	M3			TPv-04
											PIT	Y2			
	Valve Name:	Charging Line Stop Valve Loop C													
CV-4-311	5614-M-3047-2	B7	1	B	2.0	GA	AO	P	C	C	PIT	Y2			
	Valve Name:	Auxiliary Spray Isolation Valve													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-387	5614-M-3047-3	B8	1	B	0.75	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Excess Letdown Isolation Valve													
FCV-4-113B	5614-M-3047-2	D3	2	B	2.0	PLG	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Blender Flow to Charging Pump													
FCV-4-114B	5613-M-3047-2	B2	SR	B	2.0	PLG	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Blender Flow to VCT													
HCV-4-121	5614-M-3047-2	F7	2	B	3.0	GL	AO	A	O	O	BTO	CS		CSJ-19	
											FO	CS		CSJ-19	TPv-04
	Valve Name:	Charging Flow to Regenerative Heat Exchanger													
LCV-4-115B	5614-M-3047-2	F4	2	B	4.0	BTF	AO	A	C	O/C	BTO	CS		CSJ-20	TPv-09
											FC	CS		CSJ-20	TPv-04
											PIT	Y2			
	Valve Name:	Emergency Makeup to Charging Pumps													
LCV-4-115C	5614-M-3047-2	C4	2	B	4.0	GL	MO	A	O	C	BTC	CS		CSJ-21	
											PIT	Y2			
	Valve Name:	VCT Outlet Isolation Valve													
MOV-4-350	5614-M-3047-2	F1	2	B	2.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Emergency Boration Valve													
MOV-4-381	5614-M-3047-3	H3	2	A	3.0	GA	MO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-25	
											PIT	Y2			
	Valve Name:	RCP Seal Water Return and Excess Letdown Isol													
MOV-4-6386	5614-M-3047-3	H5	2	A	3.0	GA	MO	A	O	C	AT-01	App-J			
											BTC	CS		CSJ-25	
											PIT	Y2			
	Valve Name:	RCP Seal Return Isol													

Chemical and Volume Control (047)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-203	5614-M-3047-1	A3	2	A/C	2.0	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	Letddown Line Relief Valve													
RV-4-283A	5614-M-3047-2	G5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 4A Discharge Relief Valve													
RV-4-283B	5614-M-3047-2	E5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 4B Discharge Relief Valve													
RV-4-283C	5614-M-3047-2	C5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Charging Pump 4C Discharge Relief Valve													
RV-4-303	5613-M-3047-3	G4	2	A/C	0.75	RV	SA	A	C	O/C	AT-01	App-J			
											RT	Y10			
	Valve Name:	RCP Seal Return Relief Valve													
RV-4-304	5614-M-3047-3	D8	1	C	0.75	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Excess Letdown Heat Exchanger Relief Valve													

Residual Heat Removal (050)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-2052	5613-M-3050-1	A7	2	C	1.0	CK	SA	A	SYS	O/C	CC	RR		RJ-17	
											CO	RR		RJ-17	
	Valve Name:	Containment Spray Suction Relief Line Check Valve													
3-741A	5613-M-3050-1	D7	2	B	2.0	GA	MAN	A	LC	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Recirc Line Isolation Valve													
3-752A	5613-M-3050-1	C2	2	B	14.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Pump 3A Manual Suction Stop Valve													
3-752B	5613-M-3050-1	E2	2	B	14.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Pump 3B Manual Suction Stop Valve													
3-753A	5613-M-3050-1	C4	2	C	10.0	CK	SA	A	SYS	O/C	CC	CS		CSJ-29	
											CO	CS		CSJ-29	
	Valve Name:	RHR Pump 3A Discharge Check Valve													
3-753B	5613-M-3050-1	E4	2	C	10.0	CK	SA	A	SYS	O/C	CC	CS		CSJ-29	
											CO	CS		CSJ-29	
	Valve Name:	RHR Pump 3B Discharge Check Valve													
HCV-3-758	5613-M-3050-1	C6	2	B	12.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	RHR Hx Outlet Flow Valve													
MOV-3-750	5613-M-3050-1	F8	1	A	14.0	GA	MO	A	C	O/C	AT-02	Y2			
											BTC	CS		CSJ-27	
											BTO	CS		CSJ-27	
											PIT	Y2			
	Valve Name:	Loop 3C RHR Pump Suction Stop Valve													
MOV-3-751	5613-M-3050-1	F7	1	A	14.0	GA	MO	A	C	O/C	AT-02	Y2			
											BTC	CS		CSJ-27	
											BTO	CS		CSJ-27	
											PIT	Y2			
	Valve Name:	Loop 3C RHR Pump Suction Stop Valve													

Residual Heat Removal (050)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-3-860A	5613-M-3050-1	A6	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment South Recirculation Sump Isol Valve													
MOV-3-860B	5613-M-3050-1	B6	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment North Recirculation Sump Isol Valve													
MOV-3-861A	5613-M-3050-1	A5	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment South Recirculation Sump Isol Valve													
MOV-3-861B	5613-M-3050-1	B5	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment North Recirculation Sump Isol Valve													
MOV-3-862A	5613-M-3050-1	E1	2	B	14.0	GA	MO	A	LO	O/C	BTC	CS		CSJ-26	TPv-09
											PIT	Y2			
	Valve Name:	RHR Suction from RWST													
MOV-3-862B	5613-M-3050-1	E1	2	B	14.0	GA	MO	A	LO	O/C	BTC	CS		CSJ-26	TPv-09
											PIT	Y2			
	Valve Name:	RHR Suction from RWST													
MOV-3-863A	5613-M-3050-1	F5	2	B	8.0	GA	MO	A	LC	O/C	BTO	CS		CSJ-28	TPv-09
											PIT	Y2			
	Valve Name:	RHR Alternate Disch Isol													
MOV-3-863B	5613-M-3050-1	F5	2	B	8.0	GA	MO	A	LC	O/C	BTO	CS		CSJ-28	TPv-09
											PIT	Y2			
	Valve Name:	RHR Alternate Disch Isol													
MOV-3-872	5613-M-3050-1	G6	2	B	8.0	GA	MO	A	C	O/C	BTO	CS		CSJ-31	TPv-09
											PIT	Y2			
	Valve Name:	Alternate Low Head SI													
4-2052	5614-M-3050-1	A7	2	C	1.0	CK	SA	A	SYS	O/C	CC	RR		RJ-17	
											CO	RR		RJ-17	
	Valve Name:	Containment Spray Suction Relief Line Check Valve													

Residual Heat Removal (050)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-741A	5614-M-3050-1	D7	2	B	2.0	GA	MAN	A	LC	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Recirc Line Isolation Valve													
4-752A	5614-M-3050-1	C2	2	B	14.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Pump 4A Manual Suction Stop Valve													
4-752B	5614-M-3050-1	E2	2	B	14.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	RHR Pump 4B Manual Suction Stop Valve													
4-753A	5614-M-3050-1	C4	2	C	10.0	CK	SA	A	SYS	O/C	CC	CS		CSJ-29	
											CO	CS		CSJ-29	
	Valve Name:	RHR Pump 4A Discharge Check Valve													
4-753B	5614-M-3050-1	E4	2	C	10.0	CK	SA	A	SYS	O/C	CC	CS		CSJ-29	
											CO	CS		CSJ-29	
	Valve Name:	RHR Pump 4B Discharge Check Valve													
HCV-4-758	5614-M-3050-1	C6	2	B	12.0	BTF	AO	P	O	O	PIT	Y2			
	Valve Name:	RHR Hx Outlet Flow Valve													
MOV-4-750	5614-M-3050-1	F8	1	A	14.0	GA	MO	A	C	O/C	AT-02	Y2			
											BTC	CS		CSJ-27	
											BTO	CS		CSJ-27	
											PIT	Y2			
	Valve Name:	Loop 4A RHR Pump Suction Stop Valve													
MOV-4-751	5614-M-3050-1	F7	1	A	14.0	GA	MO	A	C	O/C	AT-02	Y2			
											BTC	CS		CSJ-27	
											BTO	CS		CSJ-27	
											PIT	Y2			
	Valve Name:	Loop 4A RHR Pump Suction Stop Valve													
MOV-4-860A	5614-M-3050-1	A6	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment North Recirculation Sump Isol Valve													

Residual Heat Removal (050)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-4-860B	5614-M-3050-1	B6	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment South Recirculation Sump Isol Valve													
MOV-4-861A	5614-M-3050-1	A5	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment North Recirculation Sump Isol Valve													
MOV-4-861B	5614-M-3050-1	B5	2	B	14.0	GA	MO	A	C	O/C	BTO	M3			TPv-09
											PIT	Y2			
	Valve Name:	Containment South Recirculation Sump Isol Valve													
MOV-4-862A	5614-M-3050-1	E1	2	B	14.0	GA	MO	A	LO	O/C	BTC	CS		CSJ-26	TPv-09
											PIT	Y2			
	Valve Name:	RHR Suction from RWST													
MOV-4-862B	5614-M-3050-1	D1	2	B	14.0	GA	MO	A	LO	O/C	BTC	CS		CSJ-26	TPv-09
											PIT	Y2			
	Valve Name:	RHR Suction from RWST													
MOV-4-863A	5614-M-3050-1	F5	2	B	8.0	GA	MO	A	LC	O/C	BTO	CS		CSJ-28	TPv-09
											PIT	Y2			
	Valve Name:	RHR Alternate Disch Isol													
MOV-4-863B	5614-M-3050-1	F5	2	B	8.0	GA	MO	A	LC	O/C	BTO	CS		CSJ-28	TPv-09
											PIT	Y2			
	Valve Name:	RHR Alternate Disch Isol													
MOV-4-872	5614-M-3050-1	G6	2	B	8.0	GA	MO	A	C	O/C	BTO	CS		CSJ-31	TPv-09
											PIT	Y2			
	Valve Name:	Alternate Low Head SI													

Containment Purge (053)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-2025	5613-M-3053-1	A6	2	A	0.75	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Isolation Valve for Penetration 65B													
3-2026	5613-M-3053-1	B6	2	A	0.75	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Isolation Valve for Penetration 65C													
CV-3-2819	5613-M-3053-1	E7	2	A	2.00	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Containment Instrument Air Bleed Control Valve													
CV-3-2826	5613-M-3053-1	E6	2	A	2.00	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Containment Instrument Air Bleed Control Valve													
POV-3-2600	5613-M-3053-1	C6	2	A	48.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Supply Isolation													
POV-3-2601	5613-M-3053-1	C7	2	A	48.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Supply Isolation													
POV-3-2602	5613-M-3053-1	D6	2	A	54.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Exhaust Isolation													

Containment Purge (053)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
POV-3-2603	5613-M-3053-1	D7	2	A	54.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Exhaust Isolation													
4-2025	5614-M-3053-1	A3	2	A	0.75	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Isolation Valve for Penetration 65C													
4-2026	5614-M-3053-1	B3	2	A	0.75	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Isolation Valve for Penetration 65B													
CV-4-2819	5614-M-3053-1	E2	2	A	2.00	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Containment Instrument Air Bleed Control Valve													
CV-4-2826	5614-M-3053-1	E3	2	A	2.00	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Containment Instrument Air Bleed Control Valve													
POV-4-2600	5614-M-3053-1	B3	2	A	48.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Supply Isolation													
POV-4-2601	5614-M-3053-1	B2	2	A	48.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Supply Isolation													

Containment Purge (053)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
POV-4-2602	5614-M-3053-1	D-3	2	A	54.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Exhaust Isolation													
POV-4-2603	5614-M-3053-1	D-2	2	A	54.0	BTF	AO	A	C	C	AT-01	App-J			
											BTC	CS		CSJ-02	
											FC	CS		CSJ-02	TPv-04
											PIT	Y2			
	Valve Name:	Containment Purge Exhaust Isolation													

Liquid Waste Disposal System (061)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-2821	5613-M-3061-1	H6	2	A	3.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cntmt Sump Pump Disch Line Cntmnt Iso Valve													
CV-3-2822	5613-M-3061-1	H5	2	A	3.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cntmt Sump Pump Disch Line Cntmnt Iso Valve													
CV-3-4658A	5613-M-3061-1	B6	2	A	1.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to VH Line Cntmt Iso Vlv													
CV-3-4658B	5613-M-3061-1	B6	2	A	1.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to VH Line Cntmt Iso Vlv													
CV-3-4659A	5613-M-3061-1	D6	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to Gas Analyzer Cntmnt Iso Vlv													
CV-3-4659B	5613-M-3061-1	D6	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to Gas Analyzer Cntmnt Iso Vlv													

Liquid Waste Disposal System (061)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-4668A	5613-M-3061-1	G5	2	A	3.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT Pump Disch Cntmt Isolation Valve													
CV-3-4668B	5613-M-3061-1	G6	2	A	3.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT Pump Disch Cntmt Isolation Valve													
CV-4-2821	5614-M-3061-1	H6	2	A	3.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cntmt Sump Pump Disch Line Cntmnt Iso Valve													
CV-4-2822	5614-M-3061-1	H5	2	A	3.0	GL	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	Cntmt Sump Pump Disch Line Cntmnt Iso Valve													
CV-4-4658A	5614-M-3061-1	B6	2	A	1.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to VH Line Cntmt Iso Vlv													
CV-4-4658B	5614-M-3061-1	B6	2	A	1.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to VH Line Cntmt Iso Vlv													

Liquid Waste Disposal System (061)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-4659A	5614-M-3061-1	D6	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to Gas Analyzer Cntmnt Iso Vlv													
CV-4-4659B	5614-M-3061-1	D6	2	A	0.75	DIA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT to Gas Analyzer Cntmnt Iso Vlv													
CV-4-4668A	5614-M-3061-1	G5	2	A	3.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT Pump Disch Cntmt Isolation Valve													
CV-4-4668B	5614-M-3061-1	G6	2	A	3.0	DIA	AO	A	O	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	RCDT Pump Disch Cntmt Isolation Valve													

Safety Injection (062)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-874A	5613-M-3062-1	C7	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-06	TPv-08
											CO	RR		RJ-06	
	Valve Name:	SI Hot Leg Injection Loop A Check Valve													
3-874B	5613-M-3062-1	F7	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-06	TPv-08
											CO	RR		RJ-06	
	Valve Name:	SI Hot Leg Injection Loop B Check Valve													
3-874C	5613-M-3062-1	F2	2	C	2.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	SI Pump Minimum Flow/Test Return Check Valve													
3-879A	5613-M-3062-1	G5	2	C	3.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	RR		RJ-07	
	Valve Name:	Safety Injection Pump 3B Discharge Check Valve													
3-879B	5613-M-3062-1	E4	2	C	3.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	RR		RJ-07	
	Valve Name:	Safety Injection Pump 3A Discharge Check Valve													
3-893A	5613-M-3062-1	F4	2	C	0.75	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Safety Injection Pump 3B Minimum Flow Check Valve													
3-893B	5613-M-3062-1	E4	2	C	0.75	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Safety Injection Pump 3A Minimum Flow Check Valve													
MOV-3-843A	5613-M-3062-2	B6	2	B	4.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	SI Cold Leg Injection Valve													
MOV-3-843B	5613-M-3062-2	C6	2	B	4.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	SI Cold Leg Injection Valve													

Safety Injection (062)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-3-856A	5613-M-3062-1	B1	2	B	2.0	GL	MO	A	O	O/C	BTC	CS		CSJ-05	TPv-09
											PIT	Y2			
	Valve Name:	HSSI Pump Recirculation to RWST													
MOV-3-856B	5613-M-3062-1	B1	2	B	2.0	GL	MO	A	O	O/C	BTC	CS		CSJ-05	TPv-09
											PIT	Y2			
	Valve Name:	HSSI Pump Recirculation to RWST													
MOV-3-864A	5613-M-3062-1	C4	2	B	16.0	GA	MO	A	O	O/C	BTC	CS		CSJ-06	TPv-09
											PIT	Y2			
	Valve Name:	RWST Outlet Isolation Valve													
MOV-3-864B	5613-M-3062-1	C4	2	B	16.0	GA	MO	A	O	O/C	BTC	CS		CSJ-06	TPv-09
											PIT	Y2			
	Valve Name:	RWST Outlet Isolation Valve													
MOV-3-866A	5613-M-3062-1	D7	1	A	2.0	GA	MO	A	C	O/C	BTC	CS		CSJ-03	
											BTO	CS		CSJ-03	
											PIT	Y2			
	Valve Name:	Loop A Hot Leg Safety Injection Isolation Valve													
MOV-3-866B	5613-M-3062-1	F7	1	A	2.0	GA	MO	A	C	O/C	BTC	CS		CSJ-03	
											BTO	CS		CSJ-03	
											PIT	Y2			
	Valve Name:	Loop B Hot Leg Safety Injection Isolation Valve													
MOV-3-869	5613-M-3062-1	E6	2	B	3.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Loop A & B Hot Leg Safety Injection Valve													
MOV-878A	5613-M-3062-1	D5	2	B	4.0	GA	MO	A	O	O/C	BTC	CS		CSJ-04	TPv-09
											PIT	Y2			
	Valve Name:	SI Pump Discharge Header Unit Cross Tie Vlave													
MOV-878B	5613-M-3062-1	D5	2	B	4.0	GA	MO	A	O	O/C	BTC	CS		CSJ-04	TPv-09
											PIT	Y2			
	Valve Name:	SI Pump Discharge Header Unit Cross Tie Vlave													
RV-3-6511	5613-M-3062-1	F8	2	C	0.25	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Safety Injection Hot Leg Relief Valve													

Safety Injection (062)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-857	5613-M-3062-2	C5	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Safety Injection Cold Leg Header Relief Valve													
4-874A	5614-M-3062-1	C7	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-06	TPv-08
											CO	RR		RJ-06	
	Valve Name:	SI Hot Leg Injection Loop A Check Valve													
4-874B	5614-M-3062-1	F7	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-06	TPv-08
											CO	RR		RJ-06	
	Valve Name:	SI Hot Leg Injection Loop B Check Valve													
4-874C	5614-M-3062-1	F2	2	C	2.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	SI Pump Minimum Flow/Test Return Check Valve													
4-879C	5614-M-3062-1	E4	2	C	3.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	RR		RJ-07	
	Valve Name:	Safety Injection Pump 4A Discharge Check Valve													
4-879D	5614-M-3062-1	G5	2	C	3.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	RR		RJ-07	
	Valve Name:	Safety Injection Pump 4B Discharge Check Valve													
4-893C	5614-M-3062-1	E4	2	C	0.75	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Safety Injection Pump 4A Minimum Flow Check Valve													
4-893D	5614-M-3062-1	F4	2	C	0.75	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Safety Injection Pump 4B Minimum Flow Check Valve													
MOV-4-843A	5614-M-3062-2	C6	2	B	4.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	SI Cold Leg Injection Valve													

Safety Injection (062)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-4-843B	5614-M-3062-2	D6	2	B	4.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	SI Cold Leg Injection Valve													
MOV-4-856A	5614-M-3062-1	B1	2	B	2.0	GL	MO	A	O	O/C	BTC	CS		CSJ-05	TPv-09
											PIT	Y2			
	Valve Name:	HSSI Pump Recirculation to RWST													
MOV-4-856B	5614-M-3062-1	B1	2	B	2.0	GL	MO	A	O	O/C	BTC	CS		CSJ-05	TPv-09
											PIT	Y2			
	Valve Name:	HSSI Pump Recirculation to RWST													
MOV-4-864A	5614-M-3062-1	C4	2	B	16.0	GA	MO	A	O	O/C	BTC	CS		CSJ-06	TPv-09
											PIT	Y2			
	Valve Name:	RWST Outlet Isolation Valve													
MOV-4-864B	5614-M-3062-1	C4	2	B	16.0	GA	MO	A	O	O/C	BTC	CS		CSJ-06	TPv-09
											PIT	Y2			
	Valve Name:	RWST Outlet Isolation Valve													
MOV-4-866A	5614-M-3062-1	D7	1	A	2.0	GA	MO	A	C	O/C	BTC	CS		CSJ-03	
											BTO	CS		CSJ-03	
											PIT	Y2			
	Valve Name:	Loop A Hot Leg Safety Injection Isolation Valve													
MOV-4-866B	5614-M-3062-1	F7	1	A	2.0	GA	MO	A	C	O/C	BTC	CS		CSJ-03	
											BTO	CS		CSJ-03	
											PIT	Y2			
	Valve Name:	Loop B Hot Leg Safety Injection Isolation Valve													
MOV-4-869	5614-M-3062-1	E6	2	B	3.0	GA	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Loop A & B Hot Leg Safety Injection Valve													
RV-4-6511	5614-M-3062-1	F7	2	C	0.25	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Safety Injection Hot Leg Relief Valve													
RV-4-857	5614-M-3062-2	C4	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Safety Injection Cold Leg Header Relief Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-873A	5613-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop A Cold Leg Branch Line Check Valve													
3-873B	5613-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop B Cold Leg Branch Line Check Valve													
3-873C	5613-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop C Cold Leg Branch Line Check Valve													
3-875A	5613-M-3064-1	D8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CM		CSJ-07	TPv-08,02
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop A Cold Leg Injection Check Valve													
3-875B	5613-M-3064-1	E8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CM		CSJ-07	TPv-08
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop B Cold Leg Injection Check Valve													
3-875C	5613-M-3064-1	E8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CM		CSJ-07	TPv-08
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop C Cold Leg Injection Check Valve													
3-875D	5613-M-3064-1	C7	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 3A Check Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-875E	5613-M-3064-1	G5	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 3B Check Valve													
3-875F	5613-M-3064-1	G3	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 3C Check Valve													
3-876A	5613-M-3064-1	H7	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
3-876B	5613-M-3064-1	G5	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
3-876C	5613-M-3064-1	G3	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
3-876D	5613-M-3064-1	G5	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-12	TPv-08
											CO	RR		RJ-12	
	Valve Name:	Alternate Low Head Injection Line Check Valve													
3-876E	5613-M-3064-1	G3	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-12	TPv-08
											CO	RR		RJ-12	
	Valve Name:	Alternate Low Head Injection Line Check Valve													
3-945E	5613-M-3064-1	B2	2	A/C	1.0	SCK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-18	TPv-08
											CO	RR	VR-01	RJ-18	TPv-01
	Valve Name:	N2 Supply to Accumulators Check Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-851A	5613-M-3064-1	C7	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3A Accumulator Makeup Valve													
CV-3-851B	5613-M-3064-1	C5	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3B Accumulator Makeup Valve													
CV-3-851C	5613-M-3064-1	C3	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	3C Accumulator Makeup Valve													
MOV-3-744A	5613-M-3064-1	H3	2	B	10.0	GA	MO	A	C	O/C	BTC	CS		CSJ-14	
											BTO	CS		CSJ-14	
											PIT	Y2			
	Valve Name:	RHR Discharge to Cold Leg Isolation Valve													
MOV-3-744B	5613-M-3064-1	G3	2	B	10.0	GA	MO	A	C	O/C	BTC	CS		CSJ-14	
											BTO	CS		CSJ-14	
											PIT	Y2			
	Valve Name:	RHR Discharge to Cold Leg Isolation Valve													
MOV-3-865A	5613-M-3064-1	F6	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 3A Accumulator Discharge Isolation Valve													
MOV-3-865B	5613-M-3064-1	F4	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 3B Accumulator Discharge Isolation Valve													
MOV-3-865C	5613-M-3064-1	F2	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 3C Accumulator Discharge Isolation Valve													
RV-3-706	5613-M-3064-1	G2	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR to SI Cold Leg Relief Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-858A	5613-M-3064-1	D6	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 3A Accumulator Relief Valve													
RV-3-858B	5613-M-3064-1	D4	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 3B Accumulator Relief Valve													
RV-3-858C	5613-M-3064-1	D2	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 3C Accumulator Relief Valve													
4-873A	5614-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop A Cold Leg Branch Line Check Valve													
4-873B	5614-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop B Cold Leg Branch Line Check Valve													
4-873C	5614-M-3064-1	B2	1	A/C	2.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-08	TPv-08
											CO	RR		RJ-08	
	Valve Name:	Loop C Cold Leg Branch Line Check Valve													
4-875A	5614-M-3064-1	D8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CM		CSJ-07	TPv-08
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop A Cold Leg Injection Check Valve													
4-875B	5614-M-3064-1	E8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CS		CSJ-07	TPv-08
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop B Cold Leg Injection Check Valve													
4-875C	5614-M-3064-1	E8	1	A/C	10.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CCF	CS		CSJ-07	TPv-08
											COA	CM		RJ-09	TPv-02
											COF	CM		RJ-09	TPv-02
	Valve Name:	Loop C Cold Leg Injection Check Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-875D	5614-M-3064-1	G7	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 4A Check Valve													
4-875E	5614-M-3064-1	G5	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 4B Check Valve													
4-875F	5614-M-3064-1	G3	1	C	10.0	CK	SA	A	SYS	O/C	CCF	CM		RJ-10	TPv-08,02
											COA	CM			TPv-08,02
											COF	CM		RJ-10	TPv-08,02
	Valve Name:	SI Accumulator 4C Check Valve													
4-876A	5614-M-3064-1	H7	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
4-876B	5614-M-3064-1	G5	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
4-876C	5614-M-3064-1	G3	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	CS		CSJ-08	TPv-08
											CO	RR		RJ-19	
	Valve Name:	RHR Cold Leg Injection Check Valve													
4-876D	5614-M-3064-1	G5	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-12	TPv-08
											CO	RR		RJ-12	
	Valve Name:	Alternate Low Head Injection Line Check Valve													
4-876E	5614-M-3064-1	G5	1	A/C	8.0	CK	SA	A	SYS	O/C	AT-02	Y2			
											CC	RR		RJ-12	TPv-08
											CO	RR		RJ-12	
	Valve Name:	Alternate Low Head Injection Line Check Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-945E	5614-M-3064-1	C2	2	A/C	1.0	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-18	TPv-08
											CO	RR	VR-01	RJ-18	TPv-01
	Valve Name:	N2 Supply to Accumulators Check Valve													
CV-4-851A	5614-M-3064-1	C5	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4B Accumulator Makeup Valve													
CV-4-851B	5614-M-3064-1	C7	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4A Accumulator Makeup Valve													
CV-4-851C	5614-M-3064-1	C3	2	B	1.0	GL	AO	A	C	C	BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	4C Accumulator Makeup Valve													
MOV-4-744A	5614-M-3064-1	H3	2	B	10.0	GA	MO	A	C	O/C	BTC	CS		CSJ-14	
											BTO	CS		CSJ-14	
											PIT	Y2			
	Valve Name:	RHR Discharge to Cold Leg Isolation Valve													
MOV-4-744B	5614-M-3064-1	G3	2	B	10.0	GA	MO	A	C	O/C	BTC	CS		CSJ-14	
											BTO	CS		CSJ-14	
											PIT	Y2			
	Valve Name:	RHR Discharge to Cold Leg Isolation Valve													
MOV-4-865A	5614-M-3064-1	F6	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 4A Accumulator Discharge Isolation Valve													
MOV-4-865B	5614-M-3064-1	F4	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 4B Accumulator Discharge Isolation Valve													
MOV-4-865C	5614-M-3064-1	F2	2	B	10.0	GA	MO	A	O	O/C	BTC	CS		CSJ-15	TPv-09
											PIT	Y2			
	Valve Name:	SI 4C Accumulator Discharge Isolation Valve													

Safety Injection Accumulators (064)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-706	5614-M-3064-1	G2	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	RHR to SI Cold Leg Relief Valve													
RV-4-858A	5614-M-3064-1	D6	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 4A Accumulator Relief Valve													
RV-4-858B	5614-M-3064-1	D4	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 4B Accumulator Relief Valve													
RV-4-858C	5614-M-3064-1	D2	2	C	2.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	SI 4C Accumulator Relief Valve													

Nitrogen and Hydrogen (065)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-3449	5610-M-3065-1	C6	2	A	0.375	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 to RCDT PCV-*-1014 Sensing Line Isolation Valve													
3-4639	5610-M-3065-1	C6	2	A	0.75	DIA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 Supply to RCDT Isolation Valve													
3-4656	5610-M-3065-1	C7	2	A	1.0	DIA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 Supply to RCDT Isolation Valve													
3-518	5610-M-3065-1	D7	2	A/C	0.75	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-05	
											CO	RR	VR-01	RJ-05	TPv-01
	Valve Name:	N2 Supply to Pressurizer Relief Tank Check Valve													
3-519	5610-M-3065-1	D6	2	A/C	0.75	SCK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-05	
											CO	RR	VR-01	RJ-05	TPv-01
	Valve Name:	N2 Supply to PRT Stop Check Valve													
CV-3-855	5610-M-3065-1	E6	2	A	1.0	GA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	N2 Supply to SI Accumulators Isolation Valve													
4-3449	5610-M-3065-1	A6	2	A	0.375	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 to RCDT PCV-*-1014 Sensing Line Isolation Valve													
4-4639	5610-M-3065-1	B6	2	A	0.75	DIA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 Supply to RCDT Isolation Valve													
4-4656	5610-M-3065-1	B7	2	A	1.0	DIA	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	N2 Supply to RCDT Isolation Valve													
4-518	5610-M-3065-1	A7	2	A/C	0.75	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-05	
											CO	RR	VR-01	RJ-05	TPv-01
	Valve Name:	N2 Supply to Pressurizer Relief Tank Check Valve													

Nitrogen and Hydrogen (065)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-519	5610-M-3065-1	A6	2	A/C	0.75	CK	SA	A	SYS	C	AT-01	App-J			
											CC	RR	VR-01	RJ-05	
											CO	RR	VR-01	RJ-05	TPv-01
	Valve Name:	N2 Supply to PRT Stop Check Valve													
CV-4-855	5610-M-3065-1	E3	2	A	1.0	GA	AO	A	C	C	AT-01	App-J			
											BTC	M3			
											FC	M3			TPv-04
											PIT	Y2			
	Valve Name:	N2 Supply to SI Accumulators Isolation Valve													

Containment Spray (068)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-883M	5613-M-3068-1	C5	2	A	1.0	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Containment Spray Pump 3A Test Line Isol													
3-883N	5613-M-3068-1	E5	2	A	1.0	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Containment Spray Pump 3B Test Line Isol													
3-890A	5613-M-3068-1	D6	2	A/C	6.0	CK	SA	A	C	O/C	AT-01	App-J			
											CCD	CM			TPv-02
											COD	CM			TPv-02
	Valve Name:	Containment Spray Pump Diacharge Check Valve													
3-890B	5613-M-3068-1	G6	2	A/C	6.0	CK	SA	A	C	O/C	AT-01	App-J			
											CCD	CM			TPv-02
											COD	CM			TPv-02
	Valve Name:	Containment Spray Pump Diacharge Check Valve													
MOV-3-880A	5613-M-3068-1	D5	2	A	6.0	GA	MO	A	C	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Containment Spray Pump Discharge Isolation Valve													
MOV-3-880B	5613-M-3068-1	G5	2	A	6.0	GA	MO	A	C	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Containment Spray Pump Discharge Isolation Valve													
RV-3-871	5613-M-3068-1	C2	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Containment Spray Pump Suction Relief Valve													
4-883M	5614-M-3068-1	C5	2	A	1.0	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Containment Spray Pump Test Line Isolation Valve													
4-883N	5614-M-3068-1	D5	2	A	1.0	GL	MAN	P	LC	C	AT-01	App-J			
	Valve Name:	Containment Spray Pump Test Line Isolation Valve													
4-890A	5614-M-3068-1	C6	2	A/C	6.0	CK	SA	A	C	O/C	AT-01	App-J			
											CCD	CM			TPv-02
											COD	CM			TPv-02
	Valve Name:	Containment Spray Pump Diacharge Check Valve													

Containment Spray (068)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-890B	5614-M-3068-1	F6	2	A/C	6.0	CK	SA	A	C	O/C	AT-01	App-J			
											CCD	CM			TPv-02
											COD	CM			TPv-02
	Valve Name:	Containment Spray Pump Diacharge Check Valve													
MOV-4-880A	5614-M-3068-1	C5	2	A	6.0	GA	MO	A	C	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Containment Spray Pump Discharge Isolation Valve													
MOV-4-880B	5614-M-3068-1	F5	2	A	6.0	GA	MO	A	C	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Containment Spray Pump Discharge Isolation Valve													
RV-4-871	5014-M-3068-1	G2	2	C	0.75	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	Containment Spray Pump Suction Relief Valve													

Main Steam System (072)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-10-004	5613-M-3072-1	G7	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header A Check Valve													
3-10-005	5613-M-3072-1	D7	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header B Check Valve													
3-10-006	5613-M-3072-1	B7	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header C Check Valve													
CV-3-1606	5613-M-3072-1	F4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump A													
CV-3-1607	5613-M-3072-1	D4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump B													
CV-3-1608	5613-M-3072-1	B4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump C													
MOV-3-1400	5613-M-3072-1	F6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV A Bypass Isolation Valve													
MOV-3-1401	5613-M-3072-1	D6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV B Bypass Isolation Valve													
MOV-3-1402	5613-M-3072-1	B6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV C Bypass Isolation Valve													

Main Steam System (072)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
POV-3-2604	5613-M-3072-1	G6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header A Isolation Valve													
POV-3-2605	5613-M-3072-1	D6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header B Isolation Valve													
POV-3-2606	5613-M-3072-1	B6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header C Isolation Valve													
RV-3-1400	5613-M-3072-1	G5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-3-1401	5613-M-3072-1	G5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-3-1402	5613-M-3072-1	H5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-3-1403	5613-M-3072-1	F5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-3-1405	5613-M-3072-1	E5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-3-1406	5613-M-3072-1	D5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-3-1407	5613-M-3072-1	E5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-3-1408	5613-M-3072-1	D5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-3-1410	5613-M-3072-1	B5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
RV-3-1411	5613-M-3072-1	B5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													

Main Steam System (072)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-3-1412	5613-M-3072-1	C5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
RV-3-1413	5613-M-3072-1	A5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
4-10-004	5614-M-3072-1	G6	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header A Check Valve													
4-10-005	5614-M-3072-1	D6	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header B Check Valve													
4-10-006	5614-M-3072-1	B6	SR	C	26.0	CK	SA	A	SYS	C	CC	CS		CSJ-12	
											CO	M3			TPv-01
	Valve Name:	Main Steam Header C Check Valve													
CV-4-1606	5614-M-3072-1	F4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump A													
CV-4-1607	5614-M-3072-1	D4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump B													
CV-4-1608	5614-M-3072-1	B4	2	B	6.00	GL	AO	A	C	O/C	BTC	CS		CSJ-13	
											BTO	CS		CSJ-13	
											FC	CS		CSJ-13	TPv-04
	Valve Name:	Atmosheric Steam Dump C													
MOV-4-1400	5614-M-3072-1	F6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV A Bypass Isolation Valve													
MOV-4-1401	5614-M-3072-1	D6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV B Bypass Isolation Valve													

Main Steam System (072)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-4-1402	5614-M-3072-1	A6	2	B	2.00	GL	MO	A	C	C	BTC	M3			
											PIT	M3			
	Valve Name:	MSIV C Bypass Isolation Valve													
POV-4-2604	5614-M-3072-1	G6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header A Isolation Valve													
POV-4-2605	5614-M-3072-1	D6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header B Isolation Valve													
POV-4-2606	5614-M-3072-1	B6	2	B	26.0	CK	AO	A	O	C	BTC	CS		CSJ-30	
											PIT	Y2			
	Valve Name:	Main Steam Header C Isolation Valve													
RV-4-1400	5614-M-3072-1	G5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-4-1401	5614-M-3072-1	G5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-4-1402	5614-M-3072-1	H5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-4-1403	5614-M-3072-1	F5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header A - Safety Valve													
RV-4-1405	5614-M-3072-1	E5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-4-1406	5614-M-3072-1	D5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-4-1407	5614-M-3072-1	E5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													
RV-4-1408	5614-M-3072-1	D5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header B - Safety Valve													

Main Steam System (072)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
RV-4-1410	5614-M-3072-1	B5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
RV-4-1411	5614-M-3072-1	B5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
RV-4-1412	5614-M-3072-1	C5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													
RV-4-1413	5614-M-3072-1	A5	2	B	6.00	RV	SA	A	C	O/C	RT	Y5			
	Valve Name:	Main Steam Header C - Safety Valve													

Blowdown (074)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-6275A	5613-M-3074-4	G2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3A Steam Generator Blowdown Stop Valve													
CV-3-6275B	5613-M-3074-4	E2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3B Steam Generator Blowdown Stop Valve													
CV-3-6275C	5613-M-3074-4	C2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3C Steam Generator Blowdown Stop Valve													
MOV-3-1425	5613-M-3032-1	D2	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3C Steam Generator Liquid Sample Valve													
MOV-3-1426	5613-M-3032-1	C2	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3B Steam Generator Liquid Sample Valve													
MOV-3-1427	5613-M-3032-1	A2	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	3A Steam Generator Liquid Sample Valve													
CV-4-6275A	5614-M-3074-4	G2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4A Steam Generator Blowdown Stop Valve													
CV-4-6275B	5614-M-3074-4	E2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4B Steam Generator Blowdown Stop Valve													
CV-4-6275C	5614-M-3074-4	C2	2	B	6.0	GL	AO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4C Steam Generator Blowdown Stop Valve													
MOV-4-1425	5614-M-3032-1	D2	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4C Steam Generator Liquid Sample Valve													

Blowdown (074)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
MOV-4-1426	5614-M-3032-1	C3	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4B Steam Generator Liquid Sample Valve													
MOV-4-1427	5614-M-3032-1	A2	2	B	1.0	GA	MO	A	O	C	BTC	M3			
											PIT	Y2			
	Valve Name:	4A Steam Generator Liquid Sample Valve													

Main Feedwater (074a)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-20-137	5613-M-3074-3	G6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	A S/G FW chem Injection Check Valve													
3-20-237	5613-M-3074-3	E6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	B S/G FW chem Injection Check Valve													
3-20-337	5613-M-3074-3	B6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	C S/G FW chem Injection Check Valve													
FCV-3-478	5613-M-3074-3	G4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	A S/G FW Control Valve													
FCV-3-479	5613-M-3074-3	H3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	A S/G FW FCV Bypass Valve													
FCV-3-488	5613-M-3074-3	D4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	B S/G FW Control Valve													
FCV-3-489	5613-M-3074-3	E3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	B S/G FW FCV Bypass Valve													
FCV-3-498	5613-M-3074-3	B4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	C S/G FW Control Valve													
FCV-3-499	5613-M-3074-3	C3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	C S/G FW FCV Bypass Valve													

Main Feedwater (074a)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-20-137	5614-M-3074-3	G6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	A S/G FW chem Injection Check Valve													
4-20-237	5614-M-3074-3	D6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	B S/G FW chem Injection Check Valve													
4-20-337	5614-M-3074-3	B6	2	C	0.50	CK	SA	A	SYS	C	CC	M3			
											CO	M3			TPv-01
	Valve Name:	C S/G FW chem Injection Check Valve													
FCV-4-478	5614-M-3074-3	G4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	A S/G FW Control Valve													
FCV-4-479	5614-M-3074-3	H3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	A S/G FW FCV Bypass Valve													
FCV-4-488	5614-M-3074-3	D4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	B S/G FW Control Valve													
FCV-4-489	5614-M-3074-3	E3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	B S/G FW FCV Bypass Valve													
FCV-4-498	5614-M-3074-3	B4	2	B	12.0	GL	AO	A	O	C	BTC	CS		CSJ-17	
											FC	CS		CSJ-17	
											PIT	Y2			
	Valve Name:	C S/G FW Control Valve													
FCV-4-499	5614-M-3074-3	C3	2	B	4.0	GA	AO	A	C	C	BTC	CS		CSJ-18	
											FC	CS		CSJ-18	TPv-04
											PIT	Y2			
	Valve Name:	C S/G FW FCV Bypass Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
20-143	5610-M-3075-2	B7	3	C	6.0	CK	SA	A	SYS	O/C	CC	M3	VR-03		TPv-01
											CO	M3			
	Valve Name:	AFW Pump A Discharge Check Valve													
20-243	5610-M-3075-2	D7	3	C	6.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	AFW Pump B Discharge Check Valve													
20-343	5610-M-3075-2	F7	3	C	6.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	AFW Pump C Discharge Check Valve													
AFSS-003B	5610-M-3075-1	D4	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Pump B Turbine Steam Supply Check Valve													
AFSS-003C	5610-M-3075-1	F4	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Pump C Turbine Steam Supply Check Valve													
RV-6401A	5610-M-3075-2	A4	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	AFW Pump A LO Cooler Cooling Water Relief Valve													
RV-6401B	5610-M-3075-2	C4	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	AFW Pump B LO Cooler Cooling Water Relief Valve													
RV-6401C	5610-M-3075-2	F4	3	C	1.0	RV	SA	A	C	O/C	RT	Y10			
	Valve Name:	AFW Pump C LO Cooler Cooling Water Relief Valve													
3-10-083	5613-M-3075-1	C7	3	C	4.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW A Train 1 Steam Supply Check Valve													
3-10-087	5613-M-3075-1	F7	3	C	4.0	CK	SA	A	C	O	CCD	CM			TPv-01,02
											COD	CM			TPv-02
	Valve Name:	AFW Train 1 Steam Supply Check Valve													
3-10-375	5613-M-3075-1	G3	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 2 Steam Supply Check Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-10-376	5613-M-3075-1	E3	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 2 Steam Supply Check Valve													
3-10-377	5613-M-3075-1	C3	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 1 Steam Supply Check Valve													
3-10-381	5613-M-3075-1	G4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
3-10-382	5613-M-3075-1	E4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
3-10-383	5613-M-3075-1	C4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
3-20-140	5613-M-3075-2	F7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
3-20-142	5613-M-3075-2	C2	3	B	6.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	AFW Pmp A Train 1 Disch Isol													
3-20-240	5613-M-3075-2	D7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
3-20-340	5613-M-3075-2	B7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
3-20-456	5610-M-3075-2	A6	3	C	2.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	AFW Pump Recirculation to CST Check Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
AFPD-3-010	5613-M-3075-2	H3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFPD-3-012	5613-M-3075-2	E3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFPD-3-014	5613-M-3075-2	C3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFSS-3-005	5613-M-3075-1	B6	3	C	4.0	CK	SA	A	SYS	O	CC	M3			TPv-01
											CO	M3			
	Valve Name:	AFW Pump Turbine Steam Supply Check Valve													
AFWU-3-017	5610-M-3075-2	A6	3	C	2.0	CK	SA	A	SYS	O/C	CCD	CM			TPv-06,02
											COD	CM			TPv-06,02
	Valve Name:	AFW Pump LO Cooling Water Return Check Valve													
CV-3-2816	5613-M-3075-2	F7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G A Feed Flow Control Valve													
CV-3-2817	5613-M-3075-2	D7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G B Feed Flow Control Valve													
CV-3-2818	5613-M-3075-2	B7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G C Feed Flow Control Valve													
CV-3-2831	5613-M-3075-2	G7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 3A S/G													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-3-2832	5613-M-3075-2	E7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 3B S/G													
CV-3-2833	5613-M-3075-2	C7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 3C S/G													
MOV-3-1403	5613-M-3075-1	G3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G A Stm Supply to Aux Fd Pumps													
MOV-3-1404	5613-M-3075-1	E3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G B Stm Supply to Aux Fd Pumps													
MOV-3-1405	5613-M-3075-1	C3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G C Stm Supply to Aux Fd Pumps													
RVD-3-001	5613-M-3075-3	A7	SR	D		RPD	SA	A	C	O	RT	Y5			
	Valve Name:	N2 Supply Header Rupture Disk													
RVD-3-002	5613-M-3075-3	F7	SR	D		RPD	SA	A	C	O	RT	Y5			
	Valve Name:	N2 Supply Header Rupture Disk													
4-10-083	5614-M-3075-1	A7	3	C	4.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW A Train 1 Steam Supply Check Valve													
4-10-087	5614-M-3075-1	D7	3	C	4.0	CK	SA	A	C	O	CCD	CM			TPv-01,02
											COD	CM			TPv-02
	Valve Name:	AFW Train 1 Steam Supply Check Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-10-375	5614-M-3075-1	F4	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 2 Steam Supply Check Valve													
4-10-376	5614-M-3075-1	D3	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 2 Steam Supply Check Valve													
4-10-377	5614-M-3075-1	B3	2	C	3.0	CK	SA	A	SYS	O	CCD	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	AFW Train 2 Steam Supply Check Valve													
4-10-381	5614-M-3075-1	F4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
4-10-382	5614-M-3075-1	D4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
4-10-383	5614-M-3075-1	B4	3	C	4.0	CK	SA	A	SYS	O/C	CCF	CM		CSJ-01	TPv-02
											COF	CM			TPv-02
	Valve Name:	AFW Steam Supply Check Valve													
4-20-140	5614-M-3075-2	F7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
4-20-142	5614-M-3075-2	B2	3	B	6.0	GA	MAN	A	LO	O/C	BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	AFW Pmp A Train 1 Disch Isol													
4-20-240	5614-M-3075-2	D7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
4-20-340	5614-M-3075-2	B7	2	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4-20-458	5610-M-3075-2	G6	3	C	2.0	CK	SA	A	SYS	O/C	CC	M3			
											CO	M3			
	Valve Name:	AFW Pump Recirculation to CST Check Valve													
AFPD-4-009	5614-M-3075-2	H3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFPD-4-011	5614-M-3075-2	E3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFPD-4-013	5614-M-3075-2	C3	3	C	4.0	CK	SA	A	SYS	O	CCR	CM			TPv-01,02
											COF	CM			TPv-02
	Valve Name:	Auxiliary Feedwater Pump S/G Supply Check Valve													
AFSS-4-005	5613-M-3075-1	F5	3	C	4.0	CK	SA	A	SYS	O	CC	M3			Tpv-01
											CO	M3			
	Valve Name:	AFW Pump Turbine Steam Supply Check Valve													
AFWU-4-016	5610-M-3075-2	G6	3	C	2.0	CK	SA	A	SYS	O/C	CCD	CM			TPv-06,02
											COD	CM			TPv-06,02
	Valve Name:	AFW Pump LO Cooling Water Return Check Valve													
CV-4-2816	5614-M-3075-2	F7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G A Feed Flow Control Valve													
CV-4-2817	5614-M-3075-2	D7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G B Feed Flow Control Valve													
CV-4-2818	5614-M-3075-2	B7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 1 S/G C Feed Flow Control Valve													

Auxiliary Feedwater (075)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
CV-4-2831	5614-M-3075-2	G7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 4A S/G													
CV-4-2832	5614-M-3075-2	E7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 4B S/G													
CV-4-2833	5614-M-3075-2	C7	2	B	4.0	GL	AO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	Train 2 AFW Flow to 4C S/G													
MOV-4-1403	5614-M-3075-1	F3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G A Stm Supply to Aux Fd Pumps													
MOV-4-1404	5614-M-3075-1	D3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G B Stm Supply to Aux Fd Pumps													
MOV-4-1405	5614-M-3075-1	B3	2	B	4.0	GL	MO	A	C	O/C	BTC	M3			
											BTO	M3			
											PIT	Y2			
	Valve Name:	S/G C Stm Supply to Aux Fd Pumps													
RVD-4-001	5614-M-3075-3	A7	SR	D		RPD	SA	A	C	O	RT	Y5			
	Valve Name:	N2 Supply Header Rupture Disk													
RVD-4-002	5614-M-3075-3	F7	SR	D		RPD	SA	A	C	O	RT	Y5			
	Valve Name:	N2 Supply Header Rupture Disk													

Post Accident Hydrogen Monitors (094a)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
PAHM-3-001A	5613-M-3094-1	B3	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													
PAHM-3-001B	5613-M-3094-1	B2	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													
PAHM-3-002A	5613-M-3094-1	D4	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Inlet Isolation													
PAHM-3-002B	5613-M-3094-1	C3	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													
PAHM-4-001A	5613-M-3094-1	B2	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													
PAHM-4-001B	5613-M-3094-1	B3	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													
PAHM-4-002A	5614-M-3094-1	D5	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Inlet Isolation													
PAHM-4-002B	5614-M-3094-1	C3	2	A	0.75	GL	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	Hydrogen Monitor Outlet Isolation													

Post Accident Sampling (094c)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
3-11-003	5613-M-3094-1	B2	2	A/C	1.00	CK	SA	A	SYS	O/C	AT-01	App-J			
											CC	RR		RJ-11	TPv-08
											CO	RR		RJ-11	
	Valve Name:	Cont. Air Monitor Exhaust Check Valve													
HV-3-001	5613-M-3094-1	H3	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 16 - Upstream Isolation													
HV-3-002	5613-M-3094-1	H4	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 16 - Downstream Isolation													
HV-3-003	5613-M-3094-1	G2	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 53 - Upstream Isolation													
HV-3-004	5613-M-3094-1	G4	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 53 - Downstream Isolation													
SV-3-2911	5613-M-3094-1	A3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	Solenoid Valve for Cont. Air Monitor Inlet													
SV-3-2912	5613-M-3094-1	B3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	Solenoid Valve for Cont. Air Monitor Outlet													

Post Accident Sampling (094c)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
SV-3-2913	5613-M-3094-1	A3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	Solenoid Valve for Cont. Air Monitor Inlet													
4-11-003	5614-M-3094-1	B2	2	A/C	1.00	CK	SA	A	SYS	O/C	AT-01	App-J			
											CC	RR		RJ-11	TPv-08
											CO	RR		RJ-11	
	Valve Name:	Cont. Air Monitor Exhaust Check Valve													
HV-4-001	5614-M-3094-1	H2	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 16 - Upstream Isolation													
HV-4-002	5614-M-3094-1	H4	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 16 - Downstream Isolation													
HV-4-003	5614-M-3094-1	G2	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 51 - Upstream Isolation													
HV-4-004	5614-M-3094-1	G4	2	A	2.00	DIA	MAN	A	LC	O/C	AT-01	App-J			
											BTC	Y2			TPv-11
											BTO	Y2			TPv-11
	Valve Name:	PACV Penetration 51 - Downstream Isolation													
SV-4-2911	5614-M-3094-1	A3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		
	Valve Name:	Solenoid Valve for Cont. Air Monitor Inlet													

Post Accident Sampling (094c)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
SV-4-2912	5614-M-3094-1	B3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		

Valve Name: **Solenoid Valve for Cont. Air Monitor Outlet**

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
SV-4-2913	5614-M-3094-1	A3	2	A	1.00	GL	SO	A	O	O/C	AT-01	App-J			
											BTC	M3			
											BTO	M3			
											FC	M3			TPv-04
											PIT	App-J	VR-02		

Valve Name: **Solenoid Valve for Cont. Air Monitor Inlet**

Post Accident Hydrogen Control (094d)

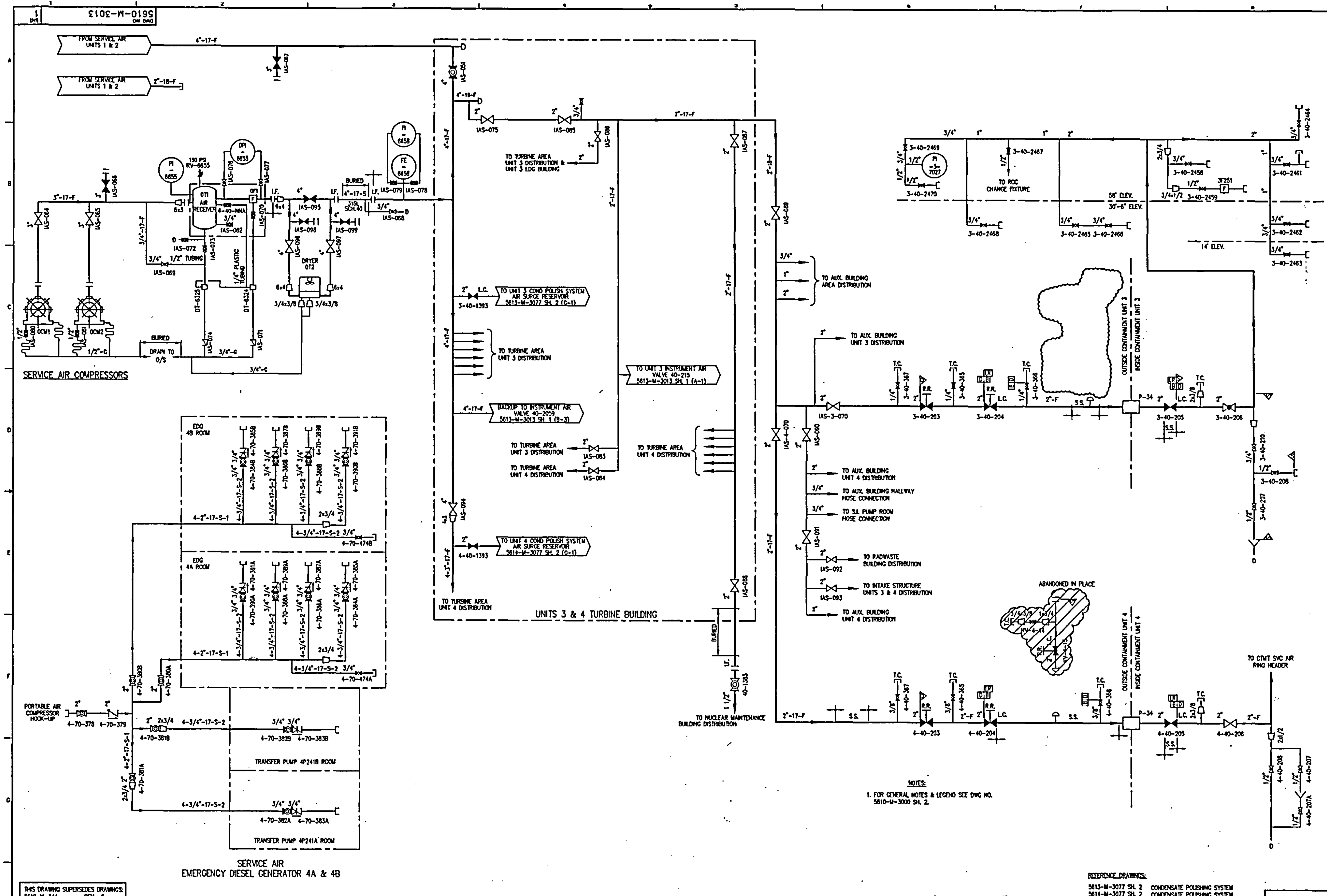
Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
4678	5613-M-3094-1	F7	NS	B	2.00	DIA	MAN	A	LC	O	BTO	Y2			TPv-11
	Valve Name:	PACV Filter Train to Waste Gas Release Hdr. Isol													
HV-3-18	5613-M-3094-1	G5	NS	B	2.00	GA	MAN	A	LC	O	BTO	Y2			TPv-11
	Valve Name:	Hydrogen Recombiner Inlet Isol.													
HV-7	5613-M-3094-1	F5	NS	B	3.00	DIA	MAN	A	C	O	BTO	Y2			TPv-11
	Valve Name:	PACV Filter Inlet Isol.													
HV-77	5613-M-3094-1	F7	NS	B	3.00	DIA	MAN	A	C	O	BTO	Y2			TPv-11
	Valve Name:	PACV Filter Outlet Isol.													
HV-8	5613-M-3094-1	F7	NS	B	2.00	DIA	MAN	A	LC	O	BTO	Y2			TPv-11
	Valve Name:	PACV Filter to Waste Gas Comp.													
HV-4-18	5614-M-3094-1	G5	NS	B	2.00	GA	MAN	A	LC	O	BTO	Y2			TPv-11
	Valve Name:	Hydrogen Recombiner Inlet Isol.													

Breathing Air (101)

Valve Tag	P&ID	P&ID Coor.	Safety Class	Cat.	Size	Valve Type	Act. Type	Active / Passive	Normal Position	Safety Position	Test Type	Test Freq.	Relief Request	Deferred Just.	Tech. Pos.
BA-3-201	5613-M-3101-1	D3	2	A/C	2.5	CK	SA	P	C	C	AT-01	App-J	VR-01		TPv-10
	Valve Name:	Containment Breathing Air Isolation Check Valve													
CV-3-6165	5613-M-3101-1	D2	2	A	2.5	GA	AO	P	LC	C	AT-01	App-J			
											PIT	Y2			
	Valve Name:	Containment Breathing Air Isolation Valve													
BA-4-201	5614-M-3101-1	D3	2	A/C	2.5	CK	SA	P	C	C	AT-01	App-J	VR-01		TPv-10
	Valve Name:	Containment Breathing Air Isolation Check Valve													
CV-4-6165	5614-M-3101-1	D2	2	A	2.5	GA	AO	P	LC	C	AT-01	App-J			
											PIT	Y2			
	Valve Name:	Containment Breathing Air Isolation Valve													

ATTACHMENT 2

L-2004-043



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.

REFERENCE DRAWINGS:

5613-M-3077 SH. 2 CONDENSATE POLISHING SYSTEM
5614-M-3077 SH. 2 CONDENSATE POLISHING SYSTEM
5613-M-3013 SH. 1 INSTRUMENT AIR SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-344 REV. 6
5610-M-11 REV. 56

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4534 SH. 1 REV. 49

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-11 REV. 55
FPL P&ID 5610-M-4 SH. 1 REV. 40

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
15	07-31-01	ISSUED AS-BUILT PER CRN-M-10334 (PC/M 00-016).	RV	RH	CMZ	JM	18	03-12-03	ISSUED AS-BUILT PER PC/M 02-031 (PARTIAL).	RH	SB	PRB	JTL
14	04-12-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPC	RGR	—	JRH	17	03-31-02	ISSUED AS-BUILT FOR PC/M 01-063.	RV	RR	—	JMM
13	2/18/00	ISSUED AS-BUILT PER PC/M 99-043.	RV	JK	AAP	ASD	16	02-14-02	ISSUED AS-BUILT PER PC/M 01-040 (PARTIAL).	RH	RV	DS	JTL
12	5-12-99	ISSUED AS-BUILT PER CRN-M-9704 (PC/M 99-010).	RH	RV	DF	JTL	0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-11, 5610-M-4 SH. 1.	GFH	MD	RAS	HAR
20	03-26-03	ISSUED AS-BUILT PER PC/M 02-031 AND INCORP. CRN-M-10716.	RH	RV	PRB	JTL	—	—	DWG SUPERSEDES 5610-M-344, 5610-M-11, AND ISSUED	—	—	—	—
19	03-19-03	ISSUED AS-BUILT PER PC/M 02-031 (PARTIAL).	RH	JK	PRB	JTL	—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3 & 4

P & I D

INSTRUMENT AIR SYSTEM
SERVICE AIR DISTRIBUTION

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

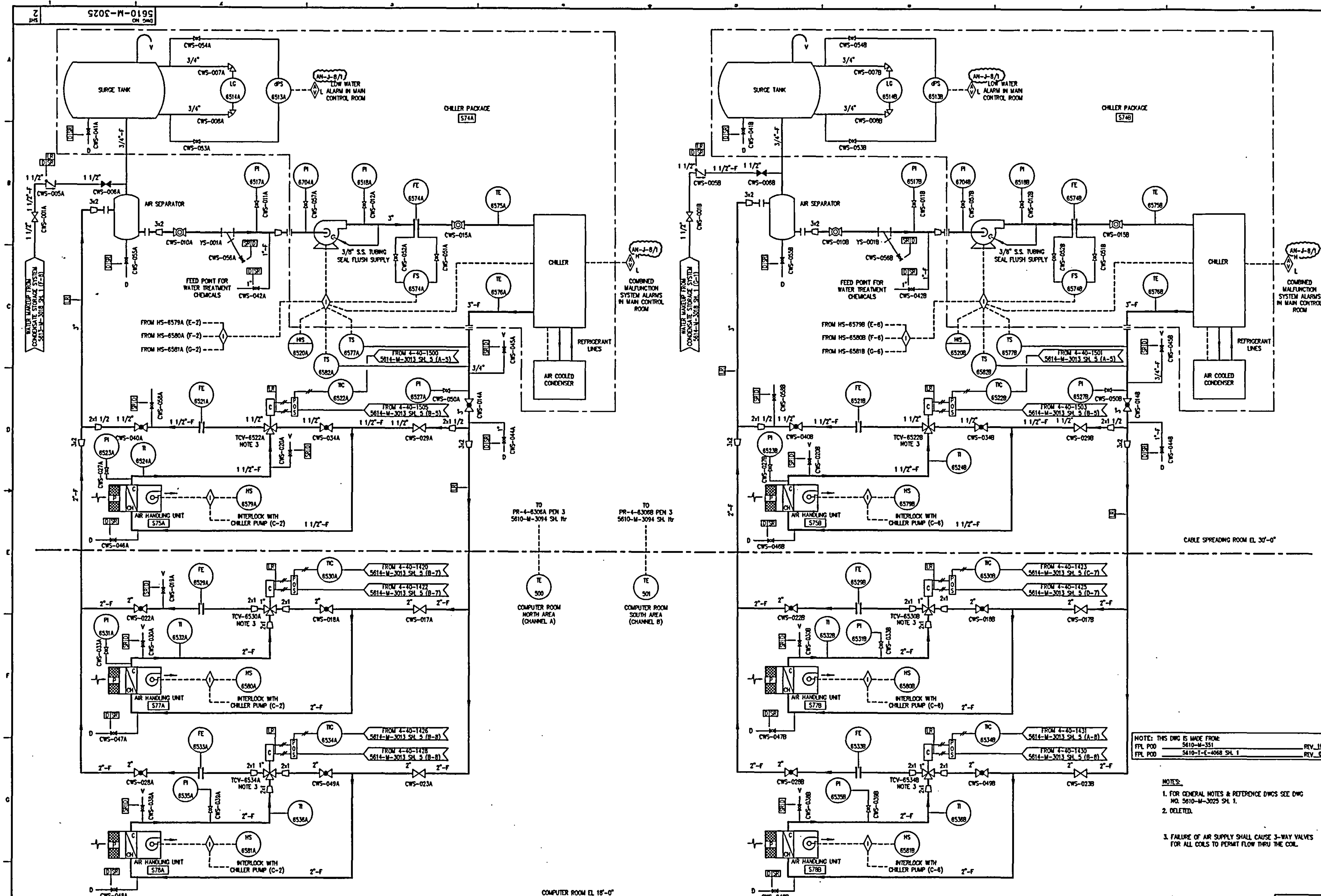
POD

DRAWING NUMBER 5610-M-3013

SHEET 1

SYS 013

REV 20



NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-M-351 REV_10
FPL POD 5610-T-E-4068 SH. 1 REV_0

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5610-M-3025 SH. 1.
2. DELETED.
3. FAILURE OF AIR SUPPLY SHALL CAUSE 3-WAY VALVES FOR ALL COILS TO PERMIT FLOW THRU THE COIL.

POD

REV	DATE	REVISION	BY	CH	APP	APP
10	5-21-98	ISSUED AS-BUILT PER CRN-M-9367 (PC/M 98-013)	RH	RV	RSV	JJC
9	4-7-98	ISSUED AS-BUILT PER PC/M 97-024.	RH	RV	AD	JJC
8	11-16-95	INCORPORATED CRN-M-8386 FOR PC/M 95-115.	RH	PDK	DJB	BD
7	9-1-95	INCORPORATED CRN-M-8355 FOR PC/M 95-099.	RH	RV	PDK	JZ
6	12-19-94	ISSUED AS-BUILT FOR PC/M 94-110 AND INCORP. CRN-M-8085.	RH	RV	PDK	BD
5	12-17-93	ISSUED AS-BUILT FOR DCR-TPM-93-453.	SMM	MD	UK	BD

REV	DATE	REVISION	BY	CH	APP	APP
4	3-6-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	SMM	INITIALS ON FILE		
3	12-15-92	ISSUED AS-BUILT FOR PC/M 92-090.	SP	INITIALS ON FILE		
12	9-12-02	ISSUED AS-BUILT PER CRN-M-10586 (PC/M 02-065).	RH	RV	AAP	ASD
11	3-22-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	STH	—	JRH
0	7-22-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	RAS/JCR	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-248.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNITS 3 & 4

P & I D

CONTROL BUILDING VENTILATION
COMPUTER FACILITY/CABLE
SPREADING ROOM HVAC

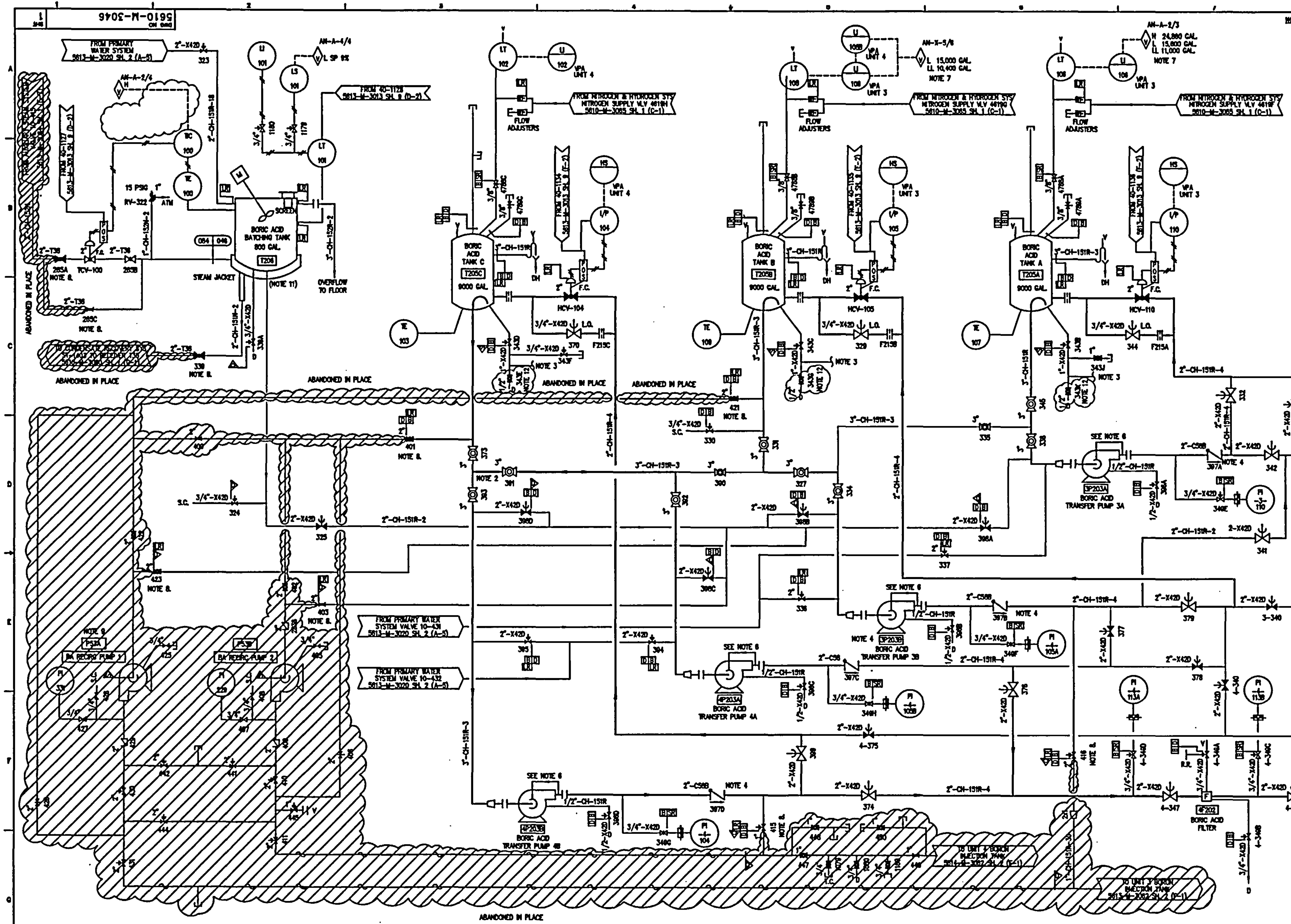
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5610-M-3025

SHEET 2

SYS 025

REV 12



NOTES:
1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. SCHEDULE 40 PIPING INSTALLED IN BETWEEN VALVES 373, 391 AND 393.
3. TYGON TUBE ATTACHED AT THIS POINT USED FOR LOCAL LEVEL INDICATION.
4. 0.06" DIA. HOLE IN CLAPPER OR CUP.
5. BORIC ACID HEAT TRACING SHOWN ON THIS DRAWING IS NOT IN SERVICE. DEENERGIZED HEAT TRACING ON THE BORATION FLOWPATH PORTION OF CVCS AND ASSOCIATED PIPING INSULATION MAY BE PERMANENTLY REMOVED.
6. MECHANICAL SEAL FLUSHING
7. ALARM VALUES ARE BASED ON TOTAL BORIC ACID TANK VOLUME (ALL TANKS TIED TOGETHER).
8. VALVES ARE RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVES.
9. STRUCTURAL ANCHOR TYPE SUPPORT IS INSTALLED IN PLACE OF PUMP P53A.
10. BA BATCHING TANK (EXCLUDING MIXER, INSTRUMENTATION, PRIMARY WATER CONNECTION AND STEAM JACKET IS QUALITY RELATED.
11. BORIC ACID BATCHING TANK STEAM JACKET STEAM SUPPLY AND DRAIN ARE NOT WITHIN THE SCOPE OF LICENSE RENEWAL.
12. STAINLESS STEEL THREADED VALVES ARE ACCEPTABLE FOR VALVES 343E, 343G AND 343K PER CR 00-2223.

REFERENCE DRAWINGS:
5610-M-3046 SERIES BORON RECYCLE SYSTEM
5610-M-3061 SERIES WASTE DISPOSAL
5610-M-3065 SERIES NITROGEN AND HYDROGEN SYS.
5613-M-3020 SERIES PRIMARY WATER MAKEUP SYSTEM
5613-M-3047 SERIES CHEMICAL VOLUME CONTROL SYS.
5613-M-3064 SH. 1 AUXILIARY STEAM SYSTEM
5610-M-3060 SH. 1 CONDENSATE RECOVERY SYSTEM
5613-M-3062 SH. 2 SAFETY INJECTION SYSTEM
5614-M-3062 SH. 2 SAFETY INJECTION SYSTEM
5613-M-3046 SERIES CHEMICAL VOLUME CONTROL SYSTEM
5614-M-3020 SERIES PRIMARY WATER MAKEUP SYSTEM
5614-M-3046 SERIES CHEMICAL VOLUME CONTROL SYSTEM
5614-M-3047 SERIES CHEMICAL VOLUME CONTROL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-420-3 SH.1 REV. 13
5610-M-420-3 SH.2 REV. 22
5610-M-420-214 SH.1 REV. 2
5610-M-420-214 SH.2 REV. 7

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4595 SH.5 REV. 7
FPL POD 5610-T-E-4515 SH.2 REV. 22
FPL POD 5610-T-E-4517 SH.1 REV. 08

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
16	4-12-95	INCORPORATED CRN-M-8255 FOR PC/M 95-031.	RH	RV	DJB	JJC	20	1-10-97	ISSUED AS-BUILT PER PC/M 94-092.	RH	RV	DJB	JJC
15	2-16-95	INCORPORATED CRN-M-8193 FOR PC/M 94-123.	RH	RV	WMC	JJC	19	10-3-96	ISSUED AS-BUILT PER CRN-C-10300 (PC/M 96-056).	RH	RV	DJB	JJC
24	07-31-01	ISSUED AS-BUILT FOR PER CRN'S M-10321 AND M-10241 (PC/M 00-016).	RV	RH	CMZ	JM	18	7-31-96	ISSUED AS-BUILT FOR PC/M 95-140.	RH	RV	JMK	JJC
23	04-06-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	KGM	—	JRH	17	5-31-95	ISSUED AS-BUILT FOR DCR-TPM-95-0033.	RH	RV	JZ	JJC
22	11-8-99	ISSUED AS-BUILT PER CRN'S M-9604, M-9614 AND M-9631 (PC/M 99-033).	RH	RV	CMZ	22	0	3-6-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD		LRB
21	2-28-97	ISSUED AS-BUILT PER PCM 95-081.	RH	RV	JZ	JRL		—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-045.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNITS 3 & 4

P & I D

CHEMICAL AND VOLUME CONTROL SYSTEM
BORIC ACID SYSTEM

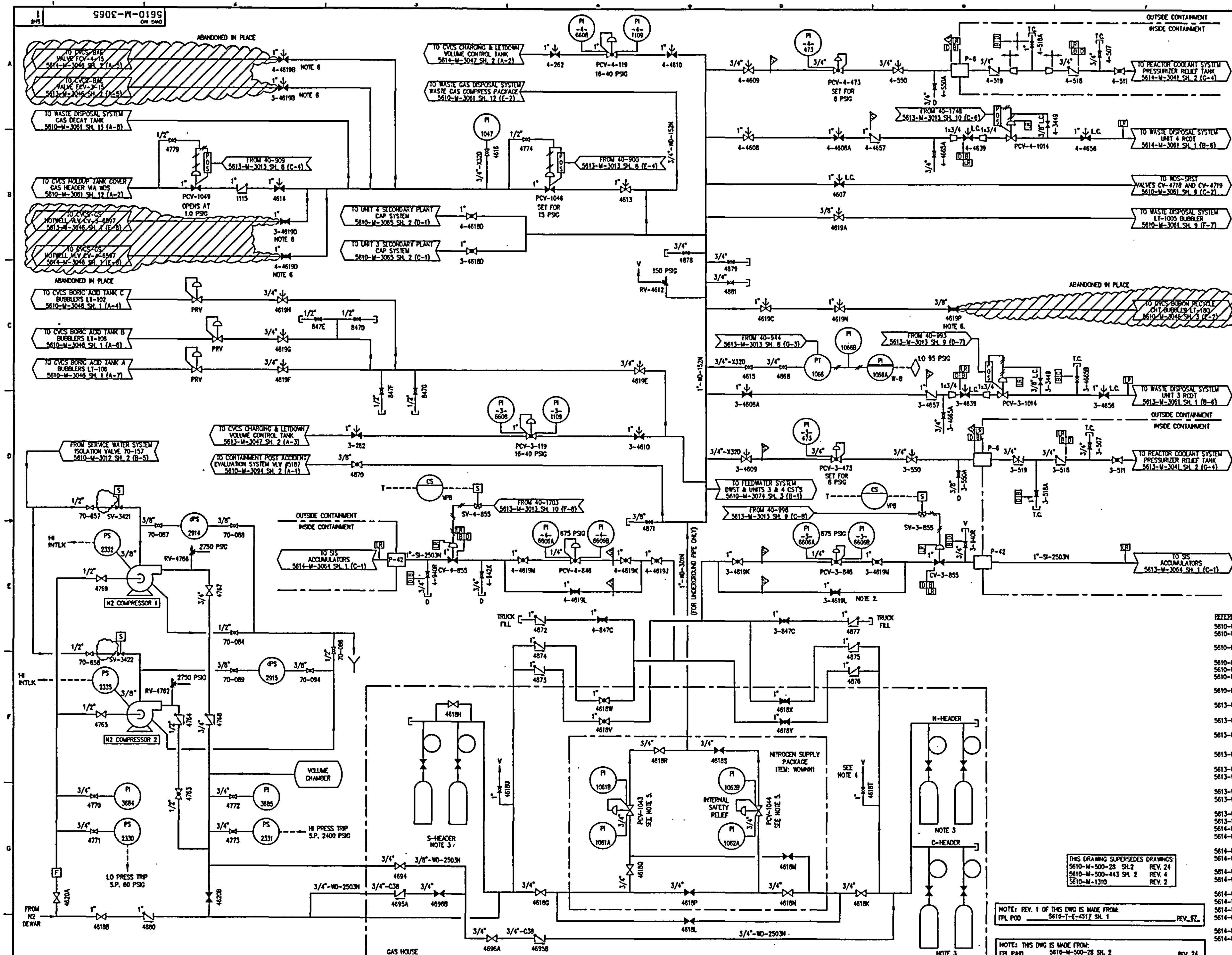
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5610-M-3046

SYS 046

REV 24

SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. CR 95-147 HAS ANALYZED AND ACCEPTED EXISTING SCHEDULE 80 PIPING.
3. THERE ARE TYPICALLY 6 NITROGEN CYLINDERS ON THE NORTH AND CENTER HEADERS AND 20 CYLINDERS ON THE SOUTH HEADER.
4. VALVE 4618T IS ALSO A NITROGEN TRAILER CONNECTION.
5. ADJUST IN-SERVICE REGULATOR FOR 110 ±10 PSIG. ADJUST BACKUP FOR 100 ±10 PSIG.
6. VALVES ARE RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVES.

REFERENCE DRAWINGS:

5610-M-3012 SH. 2	SERVICE WATER SYSTEM
5610-M-3046 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM - BORIC ACID SYSTEM
5610-M-3046 SH. 2,3	CHEMICAL & VOLUME CONTROL SYSTEM - BORON RECYCLE SYSTEM
5610-M-3061 SH. 1,4,5	WASTE DISPOSAL SYSTEM
5610-M-3065 SH. 1,2	NITROGEN & HYDROGEN SYSTEM
5610-M-3074 SH. 3	FEEDWATER SYSTEM - NITROGEN SUPPLY TO DWST & COND STORAGE TANKS
5610-M-3094 SH. 2	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5613-M-3041 SH. 2	REACTOR COOLANT SYSTEM - REACTOR COOLANT PUMPS
5613-M-3046 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM - GAS STRIPPER PACKAGE
5613-M-3046 SH. 2	CVCS - B A EVAPORATOR PACKAGE A
5613-M-3047 SH. 2	CHEMICAL & VOLUME CONTROL SYSTEM - CHARGING & LETDOWN
5613-M-3061 SH. 1	WASTE DISPOSAL SYSTEM
5613-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT
5613-M-3072 SH. 1	MAIN STEAM SYSTEM
5613-M-3081 SH. 1	FEEDWATER HEATER DRAINS & VENTS SYSTEM
5613-M-3085 SH. 1	EXTRACTION STEAM SYSTEM
5613-M-3090 SH. 1	GENERATOR SYSTEM - HYDROGEN SUPPLY
5614-M-3041 SH. 2	REACTOR COOLANT SYSTEM
5614-M-3046 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM - GAS STRIPPER PACKAGE
5614-M-3046 SH. 2	CVCS - B A EVAPORATOR PACKAGE B
5614-M-3047 SH. 2	CHEMICAL & VOLUME CONTROL SYSTEM - CHARGING & LETDOWN
5614-M-3061 SH. 1	WASTE DISPOSAL SYSTEM
5614-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT
5614-M-3072 SH. 1	MAIN STEAM SYSTEM
5614-M-3073 SH. 2,3	CONDENSATE SYSTEM
5614-M-3074 SH. 2	FEEDWATER SYSTEM
5614-M-3081 SH. 1	FEEDWATER HEATER DRAINS & VENTS SYSTEM
5614-M-3085 SH. 1	EXTRACTION STEAM SYSTEM
5614-M-3090 SH. 1	GENERATOR SYSTEM - HYDROGEN SUPPLY

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-500-28 SH.2 REV. 24
5610-M-500-443 SH. 2 REV. 4
5610-M-1310 REV. 2

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4517 SH. 1 REV. 67

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-500-28 SH. 2 REV. 24

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
21	2-3-99	ISSUED AS-BUILT PER CRN-M-9578 (PC/M 98-045).	RH	RV	DF	JJC	15	9-19-95	ISSUED AS-BUILT FOR PC/M 95-012.	RH	RV	JZ	BD
20	5-21-98	ISSUED AS-BUILT PER CRN-M-9346 (PC/M 98-013).	RH	RV	RSV	JJC	14	4-13-95	INCORPORATED CRN,s-M-8263 & M-8247 FOR PC/M 95-031.	RH	RV	DJB	JJC
19	1-14-98	ISSUED AS-BUILT PER PC/M 95-040.	RH	RV	JDF	JJC	24	07-31-01	ISSUED AS BUILT PER CRN'S M-10333 (PC/M 00-016) AND M-9986 (PC/M 99-061)	RV	RH	CMZ	JM
18	6-5-96	INCORPORATED CRN-M-8763 & CRN-M-8753 FOR PC/M 94-141.	RH	RV	JDF	JZ	23	5-16-01	ISSUED AS-BUILT PER CRN-M-10320 (PC/M 99-061)	RH	RV	ASD	JM
17	5-2-96	INCORPORATED CRN-M-8598 FOR PC/M 96-004.	RV	RH	JJN	JCW	22	3-18-00	ISSUED AS BUILT PER CRN-M-9850 (PC/M 99-046), CRN-M-9901	JPG	RH	JK	ASD
16	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RH	RV	TDN	BD	—	—	(PC/M 99-046), CRN-M-9953 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNITS 3 & 4

P & I D

NITROGEN & HYDROGEN SYSTEMS

NITROGEN SUPPLY

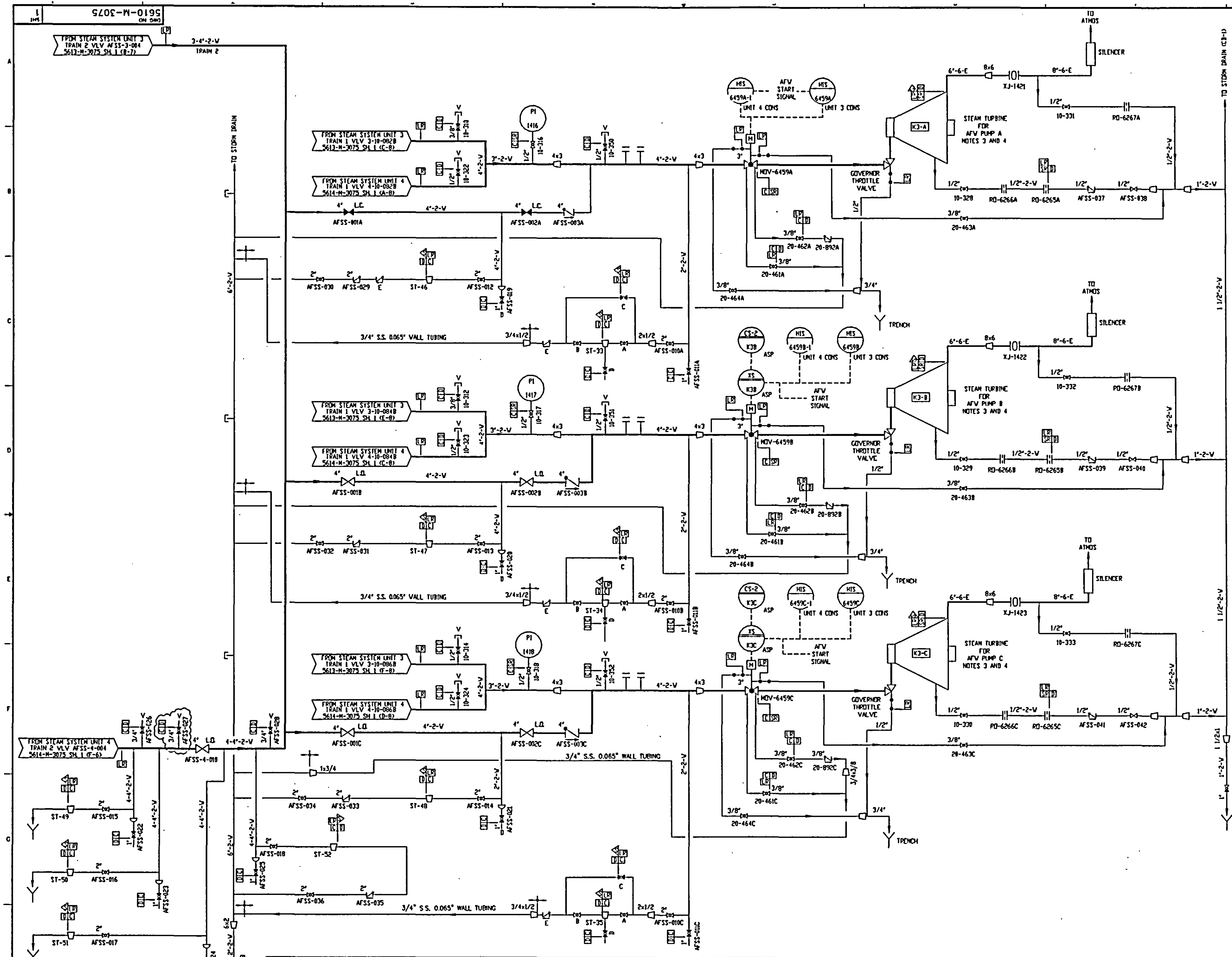
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5610-M-3065

SYS 065

REV 24

SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. VALVES LABELED A THRU J (EXCLUDING D) ARE AT STEAM TRAPS ONLY. THESE VALVES ARE TAGGED IN THE PLANT FOR OPERATIONS USE ONLY. ALPHA DESIGNATIONS ARE PRECEDED BY ASSOCIATED STEAM TRAP MARK NUMBERS AND ARE NOT IN TEDB. THE OPERATIONS FULL TAG NUMBERS ARE NOT SHOWN ON DRAWING.
3. FOR AUXILIARY FEEDWATER PUMPS SEE DWG NO. 5610-M-3075 SH. 2.
4. TURBINE OVERSPEED TRIP SETPOINTS: MECHANICAL: 6490 ± 59 RPM
5. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS:

5613-M-3014 SH. 1	CONDENSER SYSTEM
5613-M-3018 SH. 1	CONDENSATE STORAGE SYSTEM
5613-M-3075 SERIES	AUXILIARY FEEDWATER SYSTEM
5614-M-3018 SH. 1	CONDENSATE STORAGE SYSTEM
5614-M-3075 SERIES	AUXILIARY FEEDWATER SYSTEM
5610-M-3012 SH. 1	SERVICE WATER SYSTEM

POD.

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-1 SH. 2 REV.5
5610-M-1302 REV.5

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4061 SH. 4 REV. 30

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
15	12-18-97	ISSUED AS-BUILT PER PC/M'S 96-086 AND 97-033.	RH	RV	CHZ	JJC	19	4-5-99	ISSUED AS-BUILT PER PC/M 99-001.	RH	RV	RSV	JJC
14	12-11-97	ISSUED AS-BUILT PER PC/M 96-086. (PARTIAL)	RH	RV	CHZ	JJC	18	3-16-99	ISSUED AS-BUILT PER PC/M 99-001 (PARTIAL).	RH	SAG	AD	JM
13	12-3-97	ISSUED AS-BUILT PER PC/M 96-086. (PARTIAL)	RH	RV	CHZ	JJC	17	2-3-99	ISSUED AS-BUILT PER CRN-M-9590 (PC/M 98-045).	RH	RV	DF	JJC
22	11-01-03	ISSUED AS-BUILT PER CRN-M-10854 (PC/M 03-050).	RH	JK	-	JTL	16	4-6-98	ISSUED AS-BUILT PER CRN-M-9324 (PC/M 98-003).	RH	RV	PEP	JJC
21	1-18-02	ISSUED AS-BUILT PER CRN-M-10470 (PC/M 01-038).	RH	RV	CHZ	JTL	0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD	AH/RS	LRB
20	03-29-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RGR	—	JRH	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNITS 3 & 4

P & I D

AUXILIARY FEEDWATER SYSTEM

TURBINE DRIVE FOR AFW PUMPS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

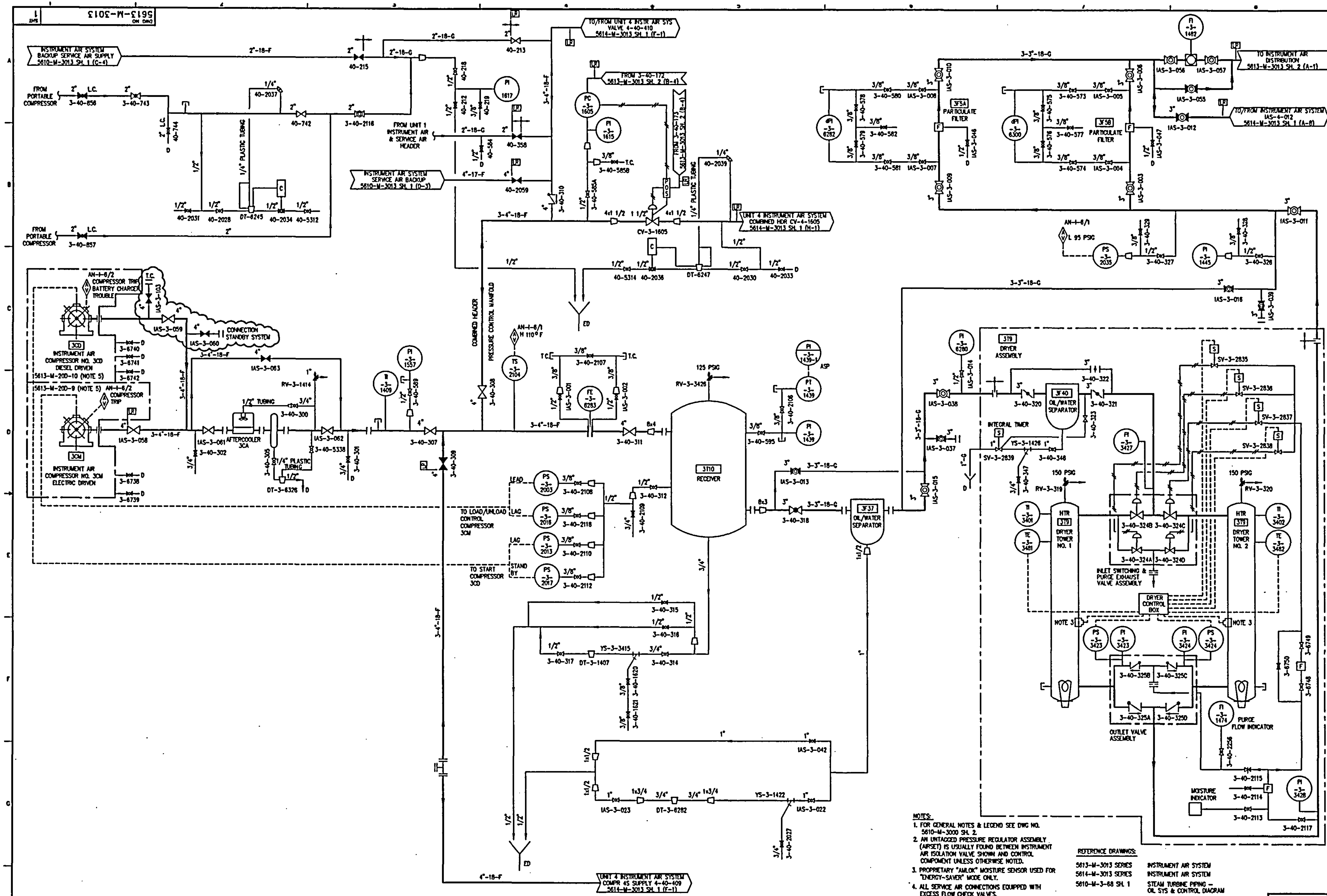
DRAWING NUMBER 5610-M-3075

SHEET 1

SYS 075

REV 22

UTM00204 DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. AN UNTAGGED PRESSURE REGULATOR ASSEMBLY (AIRSET) IS USUALLY FOUND BETWEEN INSTRUMENT AIR ISOLATION VALVE SHOWN AND CONTROL COMPOMENT UNLESS OTHERWISE NOTED.
3. PROPRIETARY "AMLOK" MOISTURE SENSOR USED FOR "ENERGY-SAVER" MODE ONLY.
4. ALL SERVICE AIR CONNECTIONS EQUIPPED WITH EXCESS FLOW CHECK VALVES.
5. FOR ALL VALVES & COMPONENTS ASSOCIATED WITH THE INSTRUMENT AIR COMPRESSORS REFER TO DRAWINGS 5613-M-200-9 & 5613-M-200-10

REFERENCE DRAWINGS:

5613-M-3013 SERIES	INSTRUMENT AIR SYSTEM
5614-M-3013 SERIES	INSTRUMENT AIR SYSTEM
5610-M-3-68 SH. 1	STEAM TURBINE PIPING – OIL SYS & CONTROL DIAGRAM

POD

THIS DRAWING SUPERSEDES DRAWINGS: 5610-M-4 SH. 2 REV. 21

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4064 SH. 2 REV. 57

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
17	11-14-00	ISSUED AS-BUILT PER PC/M 99-042 AND INCORP. CRN-M-10024.	RH	RV	AAP	JM	20	06-29-01	ISSUED AS-BUILT PER CRN-M-10349 (PC/M 00-016).	RH	RV	AAP	CMZ
16	8-15-00	ISSUED AS-BUILT PER CRN M-10088 (PC/M 99-061).	RH	RV	AAP	JM	19	05-09-01	ISSUED AS-BUILT PER CRN-M-10305 (PC/M 00-016).	RH	RV	AAP	JM
15	04-12-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RGR	—	JRH	18	1-31-01	ISSUED AS-BUILT PER CRN-M-10212 (PC/M 00-016).	RH	RV	RSV	ASD
23	06-06-03	ISSUED AS-BUILT PER PC/M 03-032 (PARTIAL).	RH	RV	ASD	JTL	0	1-12-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE.	SIGNATURES ON FILE			
22	10-31-02	ISSUED AS-BUILT PER PC/M 02-037.	RH	RV	AAP	JTL	—	—	SUPERSEDES 5610-M-4 SH. 2 AND ISSUED AS-BUILT INTO THE FPL DWG	—	—	—	—
21	08-31-01	ISSUED AS-BUILT PER CRN-M-10368 (PC/M 00-016).	RV	RH	CMZ	JM	—	—	SYSTEM PER PC/M 92-090.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

INSTRUMENT AIR SYSTEM

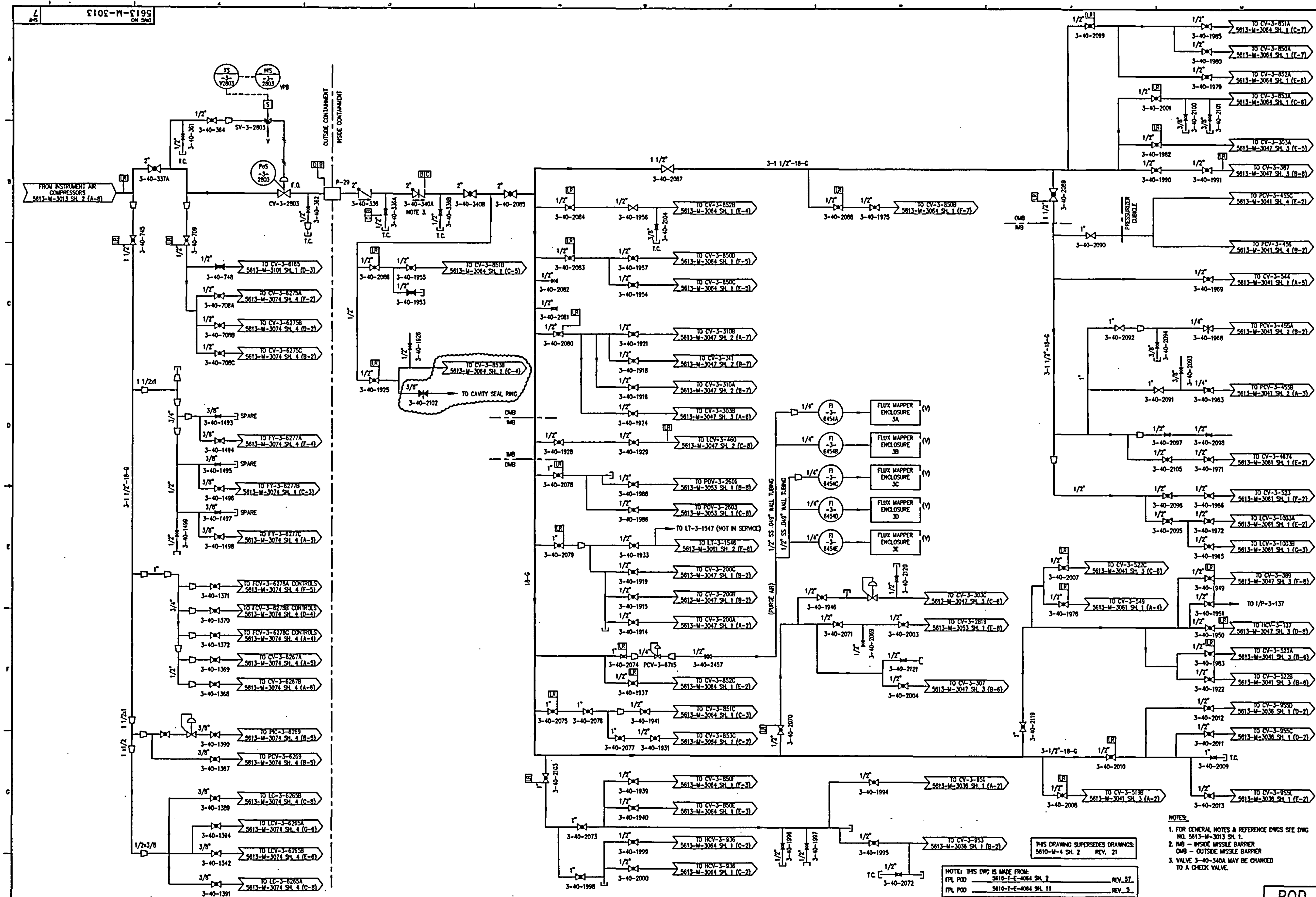
AIR COMPRESSORS

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3013 SHEET 1

SYS 013

REV 23



THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-4 SH. 2 REV. 21

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4064 SH. 2 REV 57
FPL POD 5610-T-E-4064 SH. 11 REV 5

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3013 SH. 1.
2. IMB – INSIDE MISSILE BARRIER
   OMB – OUTSIDE MISSILE BARRIER
3. VALVE 3-40-340A MAY BE CHANGED TO A CHECK VALVE.

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
7	11-26-01	ISSUED AS-BUILT PER CRN-M-10452 (PC/M 00-016).	RH	RV	AAP	ASD	2	9-10-93	ISSUED AS-BUILT FOR DCR-TPM-92-271.	RH	RV	JMM	BD
6	04-05-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RGR	—	JRH	8	6-23-03	ISSUED AS-BUILT PER CRN-M-10746 (PC/M 02-065).	RH	RV	AAP	JTL
5	10-3-95	ISSUED AS-BUILT FOR PC/M 95-063.	RH	RV	DJB	BD	0	12-17-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE.	GFH	SM	MD/TD	LRB
4	5-12-94	ISSUED AS-BUILT FOR PC/M 93-173 AND INCORPORATED CRN-M-6063.	RH	RV	PDK	BD	—	—	SUPERSEDES 5610-M-4 SH. 2 AND ISSUED AS-BUILT INTO THE FPL DWG	—	—	—	—
3	1-19-94	ISSUED AS-BUILT FOR DCR-TPM-93-454.	RV	PDK	TK	BD	—	—	SYSTEM PER PC/M 92-090	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

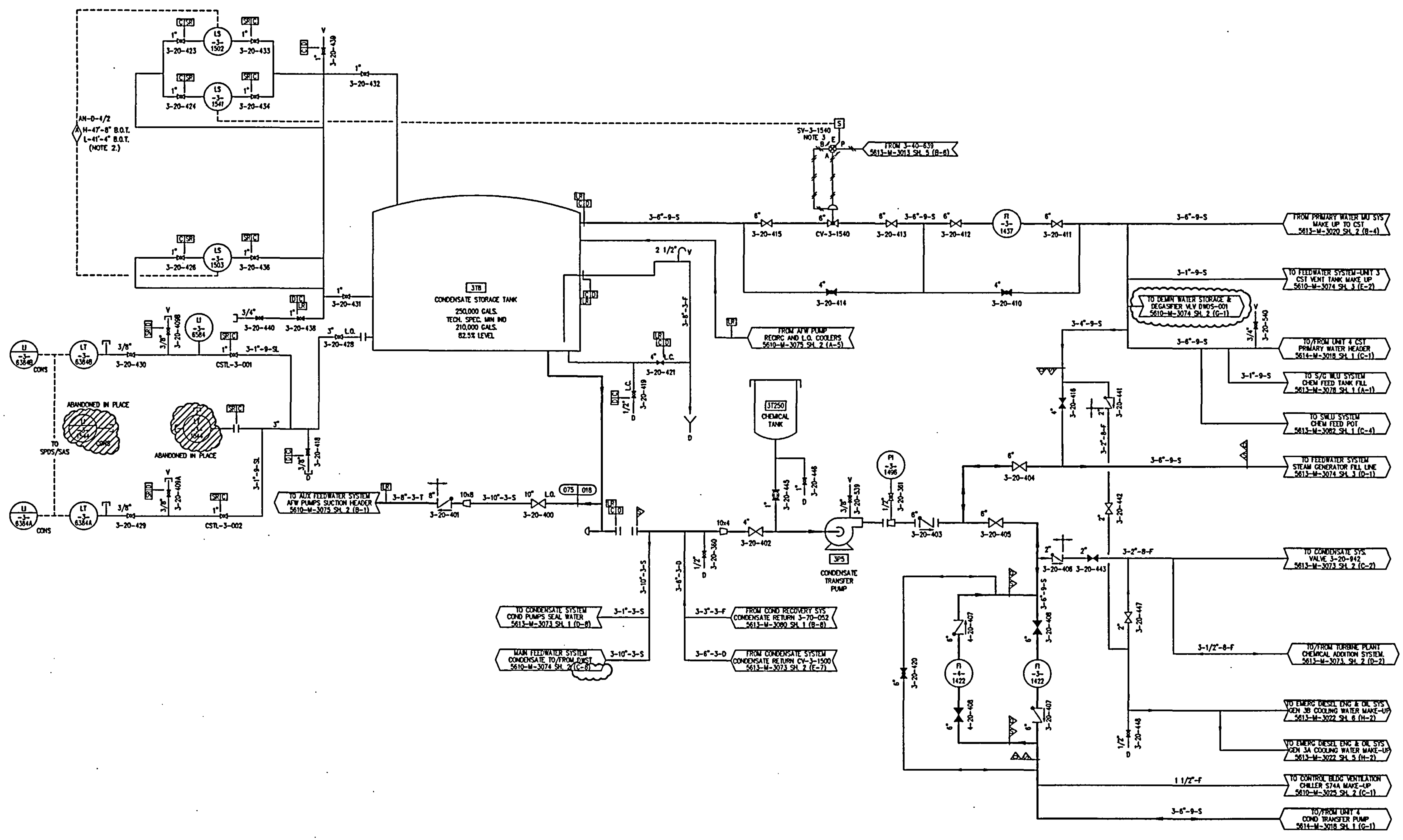
INSTRUMENT AIR SYSTEM

INSIDE CONTAINMENT

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5613-M-3013	013
SHEET 7	REV 8

5613-M-3018 (DWG NO) SHT 1



THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-363	REV. 4
5610-M-1311	REV. 3

NOTE: THIS DWG IS MADE FROM:
FPL POD 5410-T-E-4062 SH. 8 REV 22.

REFERENCE DRAWINGS:

5613-M-3008 SH. 1	TURBINE PLANT COOLING WATER SYSTEM
5614-M-3018 SH. 1	CONDENSATE STORAGE SYSTEM
5613-M-3020 SH. 2	PRIMARY WATER MAKEUP SYSTEM
5613-M-3022 SH. 5 & 6	EMERGENCY DIESEL ENGINE & OIL SYSTEM – DG 3A(3B) LO & COOLING WATER
5610-M-3025 SH. 2	CONTROL BUILDING VENTILATION – COMPUTER FACILITY/CABLE SPREADING ROOM HVAC
5613-M-3073 SH. 1 & 2	CONDENSATE SYSTEM
5610-M-3074 SH. 2	FEEDWATER SYSTEM – DEMINERALIZED STORAGE & DEAERATION
5613-M-3074 SH. 3	FEEDWATER SYSTEM
5610-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM – AUXILIARY FEEDWATER PUMPS
5613-M-3078 SH. 1	STEAM GENERATOR WET LAYUP SYSTEM
5613-M-3080 SH. 1	CONDENSATE RECOVERY SYSTEM
5613-M-3082 SH. 1	SECONDARY WET LAYUP SYSTEM

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. THE REFERENCE LEVEL FOR BOTTOM OF TANK (B.O.T.) IS TO THE TOP OF THE TANK FOUNDATION.
3. SV-3-1540 IS FAIL CLOSE ON LOSS OF POWER AND FAIL AS IS ON LOSS OF AIR.

POD

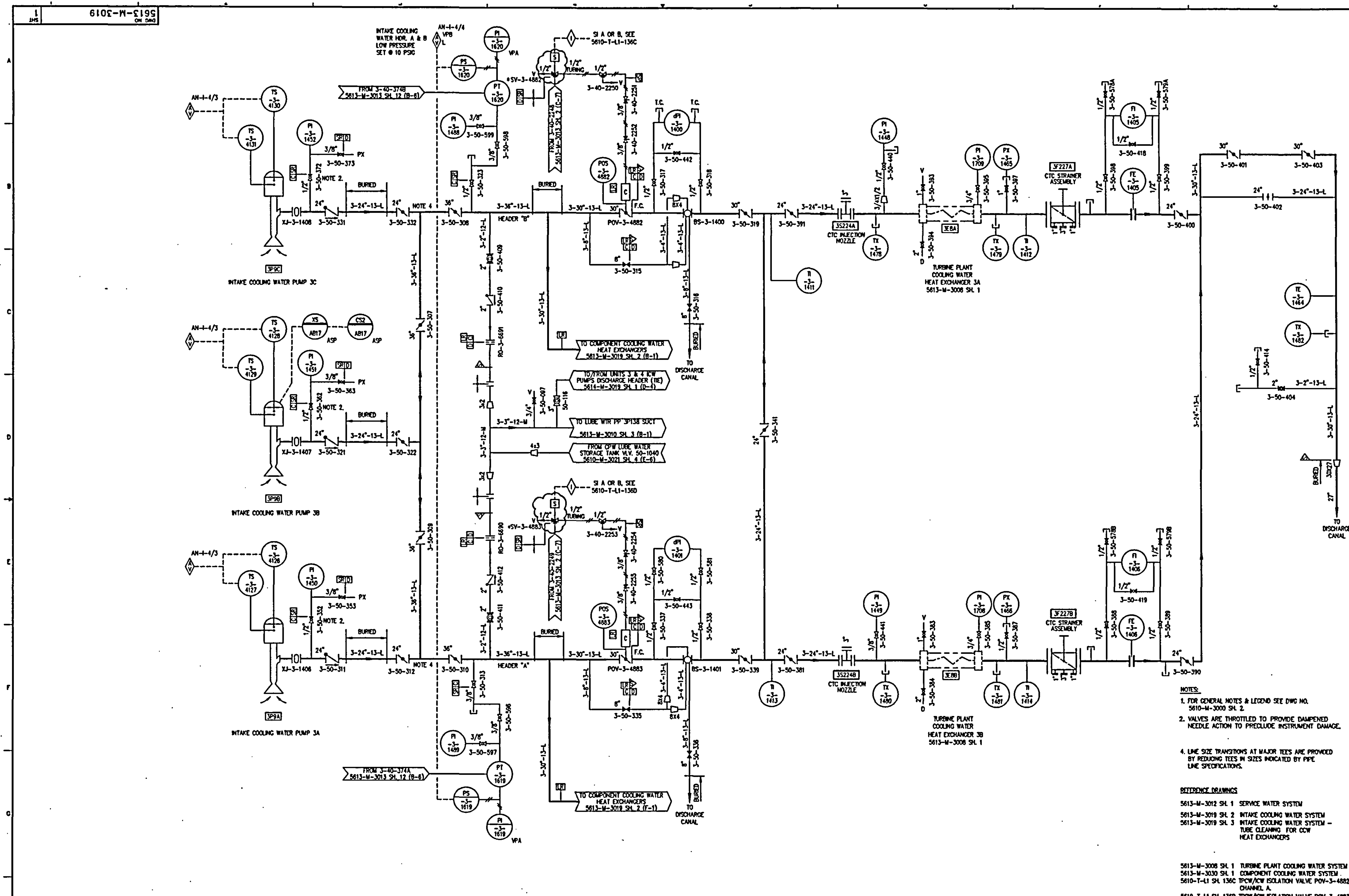
REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
17	3-9-98	ISSUED AS-BUILT PER PC/M 97-045	RH	RV	JZ	JJC	11	3-22-95	INCORPORATED CRN-M-8230 FOR PC/M 95-001.	RH	RV	DJB	JJC
16	9-2-97	ISSUED AS-BUILT PER PC/M 96-089	RH	RV	CMZ	JJC	20	4-15-03	ISSUED AS-BUILT PER PC/M 02-032.	RH	RV	LJR	ASD
15	8-5-97	ISSUED AS-BUILT PER CRN-C-10397 (PC/M 97-019)	RH	RV	AAP	JEH	19	04-12-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RCR	—	JRH
14	5-28-97	ISSUED AS-BUILT PER CRN'S I-3509, M-8966 & M-8923 (PC/M 97-004).	RV	RH	RSY	JJC	18	1-5-00	ISSUED AS-BUILT PER PC/M 99-025.	RH	RV	CMZ	JM
13	10-9-96	ISSUED AS-BUILT FOR PC/M 96-022.	RH	RV	JM	JZ	0	11-4-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MO	KAS/KPC	LRB
12	8-26-96	ISSUED AS-BUILT FOR PC/M 95-141.	RH	RV	JQ	JJC	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-426.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3
P & I D
CONDENSATE STORAGE SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3018
SYS 018
REV 20
SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. VALVES ARE THROTTLED TO PROVIDE DAMPENED NEEDLE ACTION TO PRECLUDE INSTRUMENT DAMAGE.
4. LINE SIZE TRANSITIONS AT MAJOR TEES ARE PROVIDED BY REDUCING TEES IN SIZES INDICATED BY PIPE LINE SPECIFICATIONS.

REFERENCE DRAWINGS

5613-M-3012 SH. 1 SERVICE WATER SYSTEM

5613-M-3019 SH. 2 INTAKE COOLING WATER SYSTEM

5613-M-3019 SH. 3 INTAKE COOLING WATER SYSTEM – TUBE CLEANING FOR CCW HEAT EXCHANGERS

5613-M-3008 SH. 1 TURBINE PLANT COOLING WATER SYSTEM

5613-M-3030 SH. 1 COMPONENT COOLING WATER SYSTEM.

5610-T-L1 SH. 136C TPCW/ICW ISOLATION VALVE POV-3-4882 CHANNEL A.

5610-T-L1 SH. 136D TPCW/ICW ISOLATION VALVE POV-3-4883 CHANNEL B.

POD

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-5	SH. 1	REV. 41
5610-M-342	SH. 1	REV. 9
5610-M-342	SH. 6	REV. 0
5610-M-364		REV. 2
5610-M-365	SH. 1	REV. 5

NOTE: THIS DWG IS MADE FROM:

FPL POD	5610-T-E-4064 SH. 13	REV. 1
FPL POD	5610-T-E-4065 SH. 1	REV. 39
FPL POD	5610-T-E-4065 SH. 2	REV. 58

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
25	11-04-02	ISSUED AS-BUILT PER CRN-I-4071(PC/M 02-065).	RV	RH	BP	TS	19	2-19-97	ISSUED AS-BUILT PER PC/M 96-002 AND INCORPORATED CRN-M-8948.	RH	JK	JZ	JJC
24	10-24-02	ISSUED AS-BUILT PER PC/M 02-018.	RV	RH	BP	TS	18	6-12-96	ISSUED AS-BUILT FOR PC/M 93-164 AND INCORPORATED CRN-M-8768.	RH	PDK	JMM	JZ
23	09-10-01	ISSUED AS-BUILT PER PC/M 96-048.	RH	RV	CMZ	JM	17	11-22-95	ISSUED AS-BUILT FOR PC/M 93-164. (PARTIAL)	RH	RV	PDK	JZ
22	07-31-01	ISSUED AS-BUILT PER CRN-M-10331 (PC/M 00-016).	RV	RH	CMZ	JM	16	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092 AND INCORPORATED CRN-M-	RH	RV	TDM	BO
21	3-23-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH	0	1-29-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	SWL/RAS	LRB
20	3-28-97	ISSUED AS-BUILT PER PC/M 96-010 AND INCORP. CRN-M-8907.	RH	RV	JMM	JJC	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-90-541.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

INTAKE COOLING WATER SYSTEM

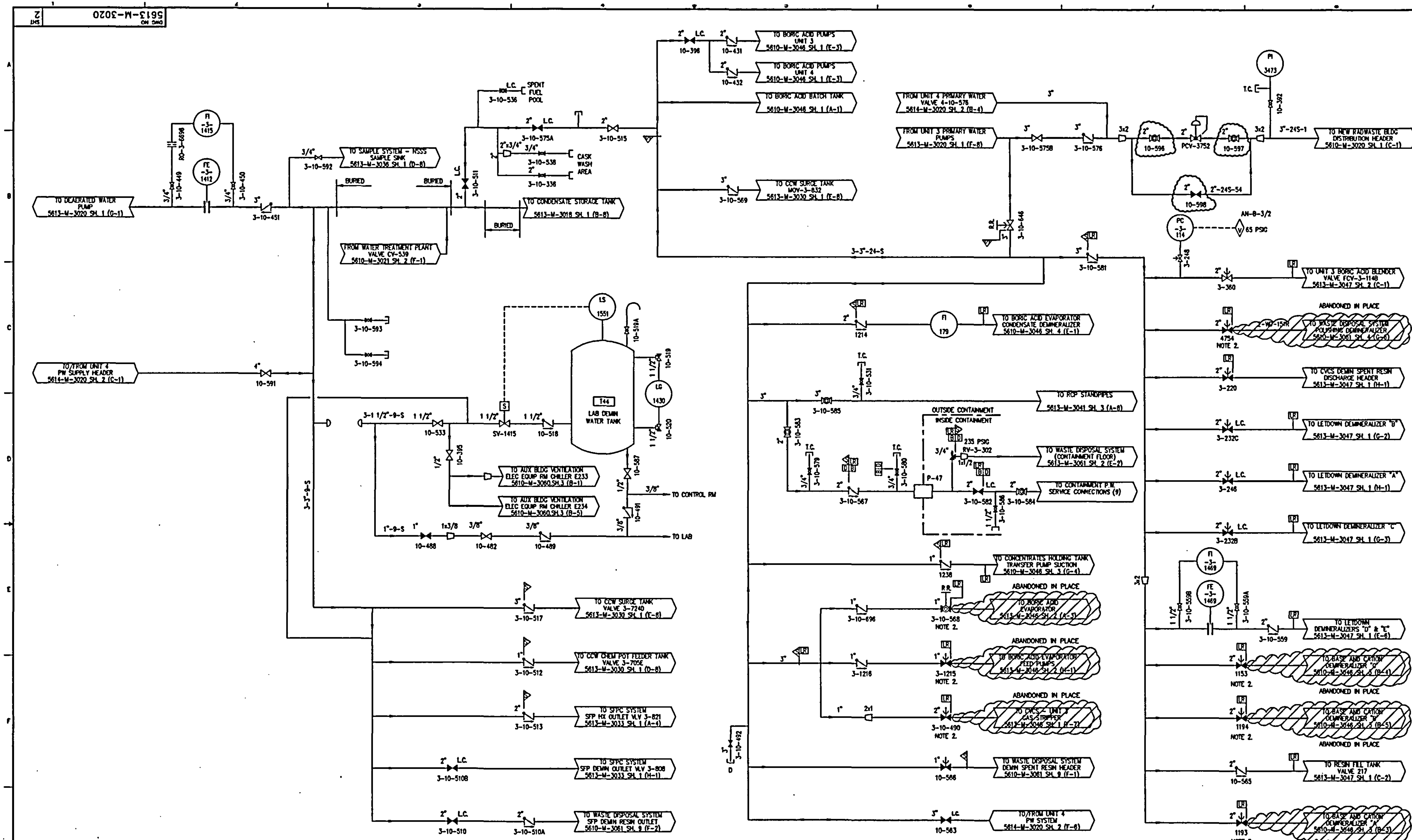
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3019

SHEET 1

SYS 019

REV 25



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3020 SH. 1.
2. VALVES ARE RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVES.

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4531 SH. 1 REV. 81

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
							22	12-21-00	ISSUED AS-BUILT PER PC/M 00-005.	RV	JK	AAP	JM
27	7-24-02	ISSUED AS-BUILT PER CRN-M-10571 (PC/M 00-016).	RH	RV	AAP	JTL	21	10-30-00	ISSUED AS-BUILT PER CRN-M-10122 (PC/M 00-016).	RH	RV	AAP	ASD
26	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL	20	3-6-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061) AND CRN-M-9995	JPG	RH	BSG	JMM
25	09-5-01	ISSUED AS-BUILT PER CRN-M-10278 (PC/M 00-016).	RH	RV	CMZ	JM	—	—	(PC/M 99-061).	—	—	—	—
24	07-20-01	ISSUED AS-BUILT PER CRN-M-10346 (PC/M 00-016).	RV	JK	PB	JM	0	11-4-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	RAS/JGR	LRB
23	1-31-01	ISSUED AS-BUILT PER CRN-M-10192 (PC/M 00-016).	RH	RV	RSV	ASD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-426.	—	—	—	—

FPL

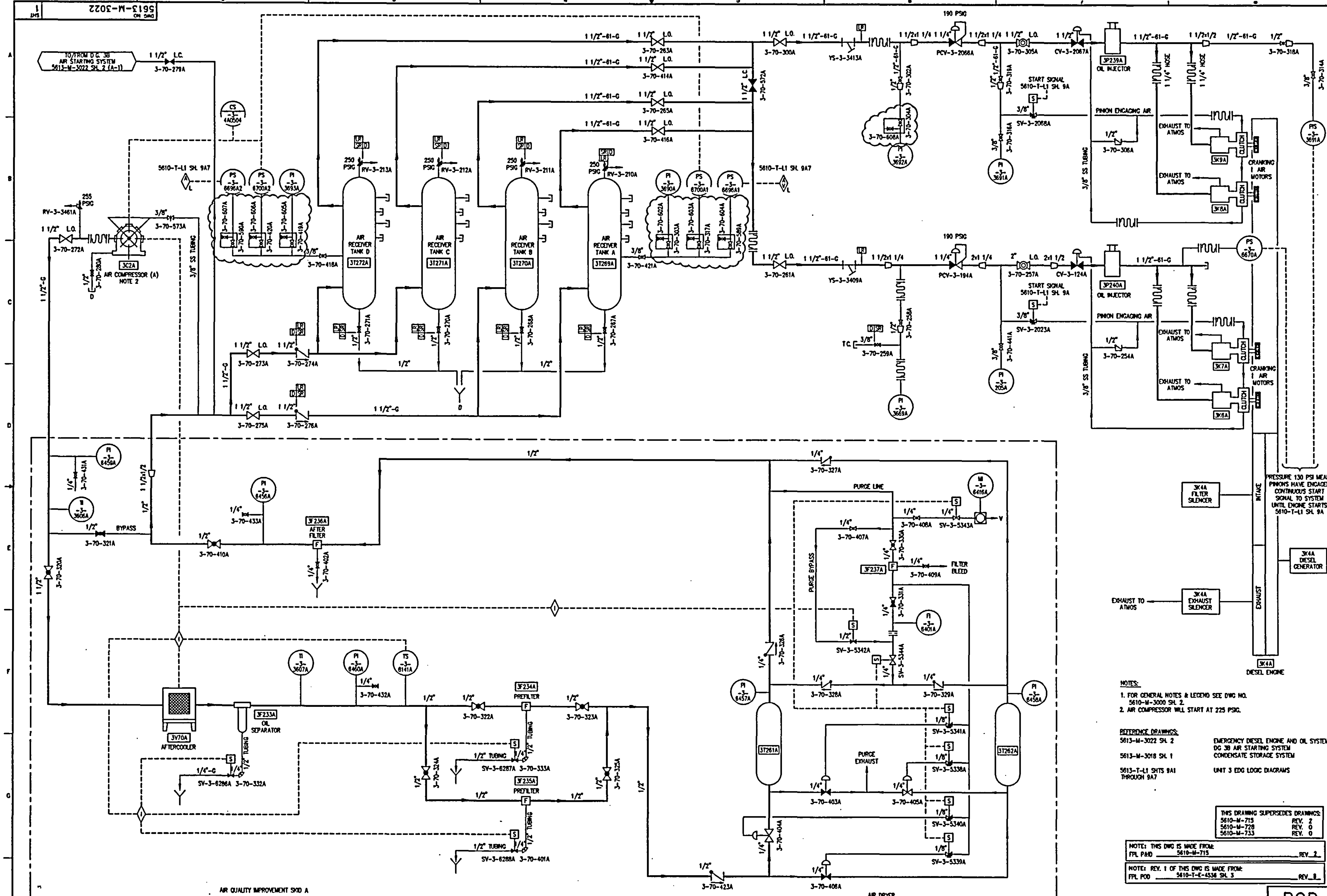
TURKEY POINT NUCLEAR UNIT 3

P & I D

PRIMARY MAKEUP WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3020 SYS 020 REV 27 SHEET 2



REV	DATE	REVISION	BY	CH	APP	APP
7	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RH	RV	TDN	BD
6	4-20-94	ISSUED AS-BUILT FOR PC/M 93-142.	RH	RV	TCK	BD
5	9-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-309 AND DCR-TPM-93-345.	SMM	MD	UK	JRH
12	07-30-02	ISSUED AS-BUILT PER CRN'S M-10522 & M-10577 (PC/M-00-016).	RH	RV	JK	JTL
11	09-27-01	ISSUED AS-BUILT PER CRN-4-3992 (PC/M 00-016).	RV	RH	BP	TS
10	7-3-01	ISSUED AS-BUILT FOR PC/M 99-049.	RH	RV	AAP	ASD

REV	DATE	REVISION	BY	CH	APP	APP
9	3-18-00	ISSUED AS-BUILT PER CRN-M-9898 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	JPG	RH	JK	ASD
8	7-19-96	INCORPOTATED CRN-M-8756 FOR PC/M 96-045.	RH	RV	DJB	BD
0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-715. DWG SUPERSEDES 5610-M-715, 5610-M-728, 5610-M-733 AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	GFH	MD	RB/RAS	HAR

POD

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

EMERGENCY DIESEL ENGINE AND OIL SYSTEM DG 3A AIR STARTING SYSTEM

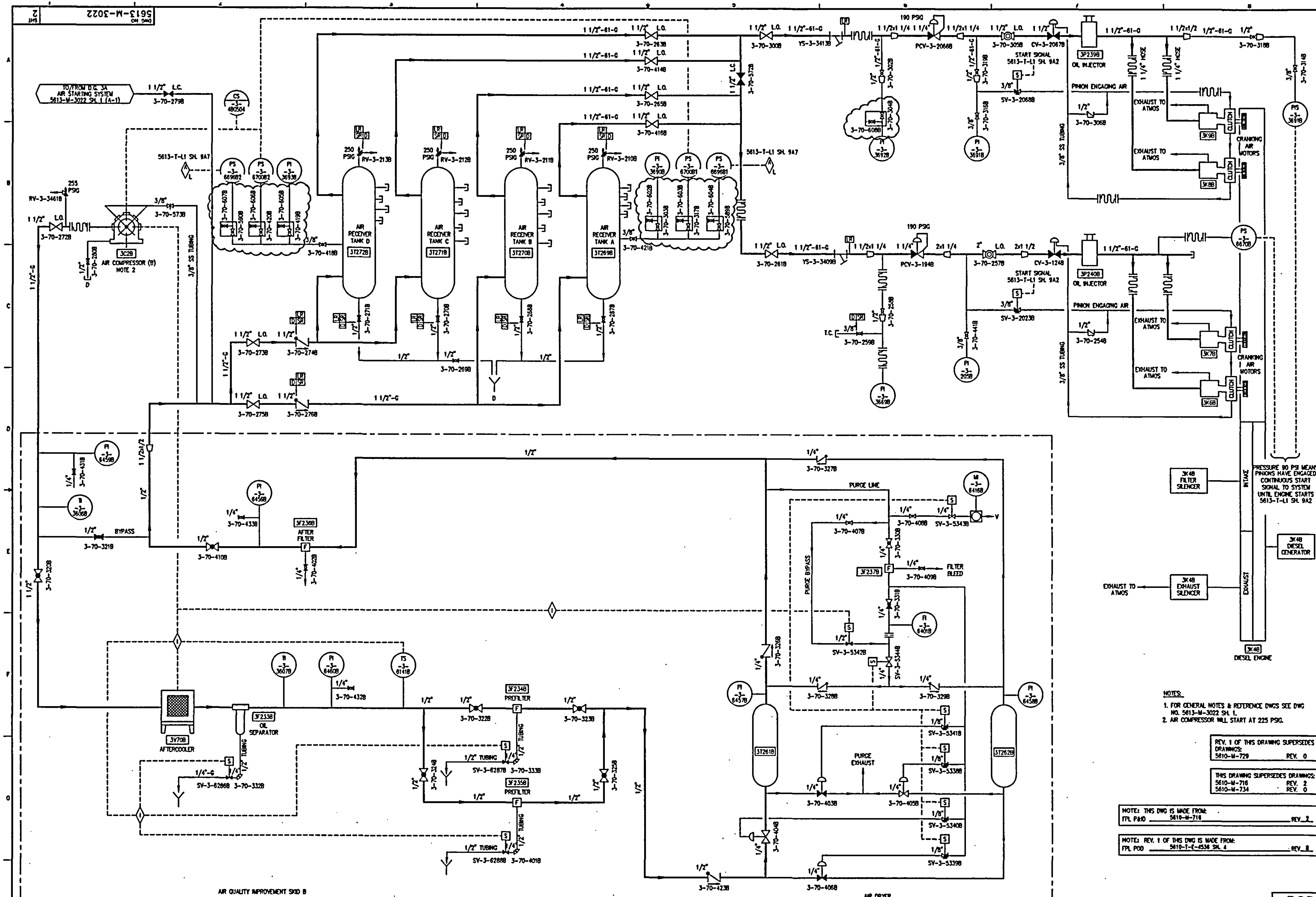
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3022

SHEET 1

SYS 022

REV 12



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3022 SH. 1.
2. AIR COMPRESSOR WILL START AT 225 PSIG.

REV. 1 OF THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-729 REV. 0

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-716 REV. 2
5610-M-734 REV. 0

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-716 REV. 2

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4536 SH. 4 REV. 8

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
7	7-19-96	INCORPORATED CRN-M-8756 FOR PC/M 96-045.	RH	RV	DJB	BO	9	8-20-01	ISSUED AS-BUILT PER PC/M 99-049.	RH	RV	CMZ	JM
6	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RH	RV	TDN	BO	8	3-18-00	ISSUED AS-BUILT PER CRN-M-9898 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
5	6-24-94	ISSUED AS-BUILT FOR DCR-TPM-92-159.	RH	RV	PDK	BO	—	—	(PC/M 99-061).	—	—	—	—
4	4-24-94	ISSUED AS-BUILT FOR PC/M 93-142.	RH	RV	DJB	JZ	0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-716.	GFH	MD	LRS/RAS	HAR
11	07-30-02	ISSUED AS-BUILT PER CRN'S M-10522 & 10577 (PC/M 00-016).	RH	RV	JK	JTL	—	—	DWG SUPERSEDES 5610-M-716, 5610-M-734 AND ISSUED	—	—	—	—
10	05-24-02	ISSUED AS-BUILT FOR PC/M 01-042.	RV	RH	BP	TS	—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P&ID

EMERGENCY DIESEL
ENGINE AND OIL SYSTEM
DG 3B AIR STARTING SYSTEM

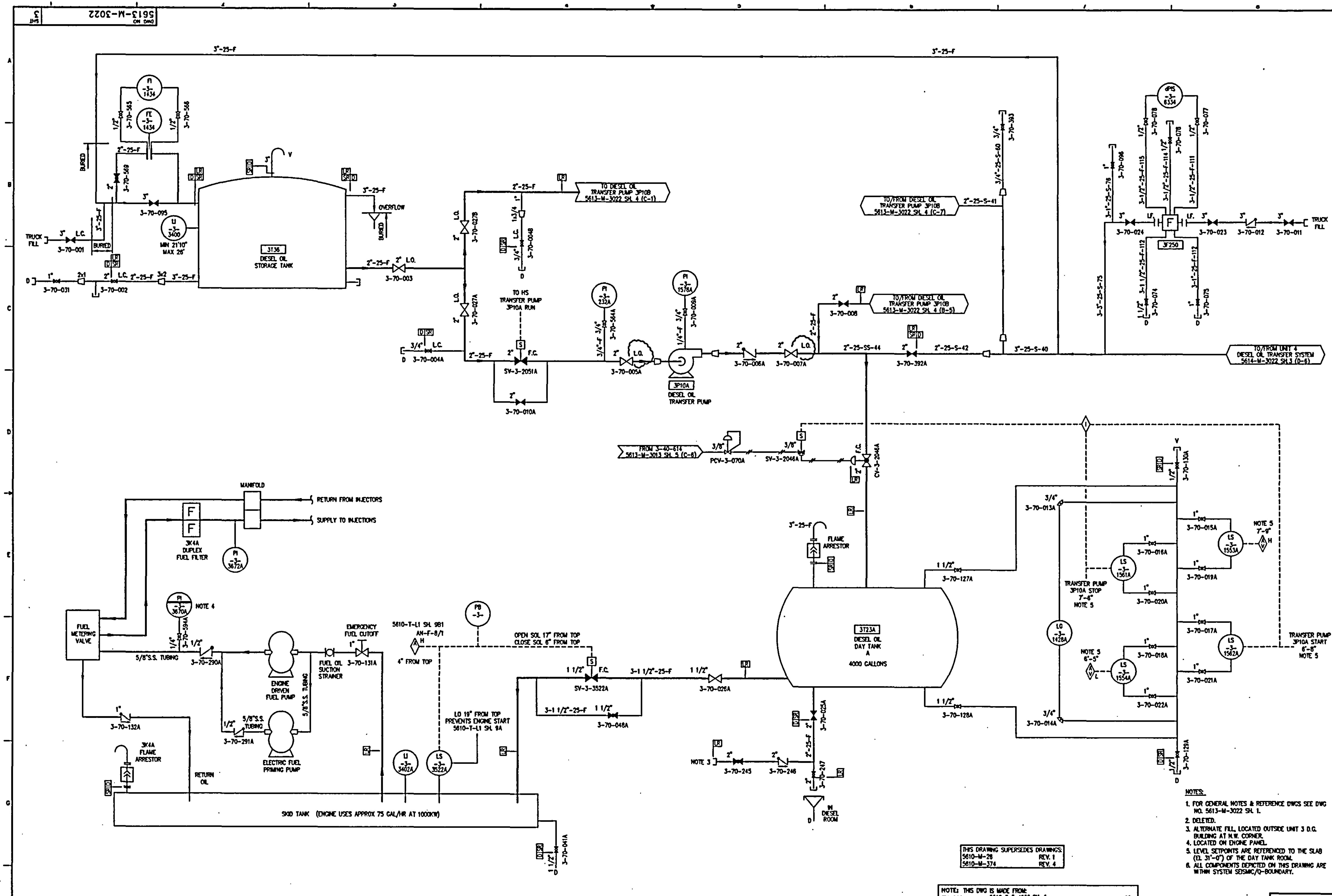
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3022

SHEET 2

SYS 022

REV 11



NOTES:
1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3022 SH. 1.
2. DELETED.
3. ALTERNATE FILL, LOCATED OUTSIDE UNIT 3 D.G. BUILDING AT N.W. CORNER.
4. LOCATED ON ENGINE PANEL.
5. LEVEL SETPOINTS ARE REFERENCED TO THE SLAB (EL 31'-0") OF THE DAY TANK ROOM.
6. ALL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN SYSTEM SEISMIC/Q-BOUNDARY.

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-28 REV. 1
5610-M-374 REV. 4

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4536 SH. 1 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
14	10-12-98	ISSUED AS-BUILT PER PC/M 98-028	RH	RV	RSV	JTL							
13	10-9-98	ISSUED AS-BUILT PER PC/M 98-004.	RH	RV	AAP	JLD	17	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
12	10-8-98	ISSUED AS-BUILT PER PC/M 98-028 (PARTIAL) & INCORPORATED	RH	RH	RSV	JLD	16	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH
—	—	CRN-M-9484 AND CRN-M-9509.	—	—	—	—	15	11-9-99	ISSUED AS-BUILT PER CRN-M-9837 (PC/M 99-033).	RH	RV	CMZ	JTL
11	6-18-96	INCORPORATED CRN-M-8736 FOR PC/M 96-023.	RH	RV	PDK	BO	0	03-27-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MO	AH/RS	LRB
18	07-03-02	ISSUED AS-BUILT PER CRN-M-10567 (PC/M 00-016).	RH	JPG	AAP	JTL	—	—	AND ~~ISSUED INTO THE FPL DWG SYSTEM~~ PER DCR-TPM-92-029.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

EMERGENCY DIESEL ENGINE AND OIL SYSTEM DG 3A FUEL OIL

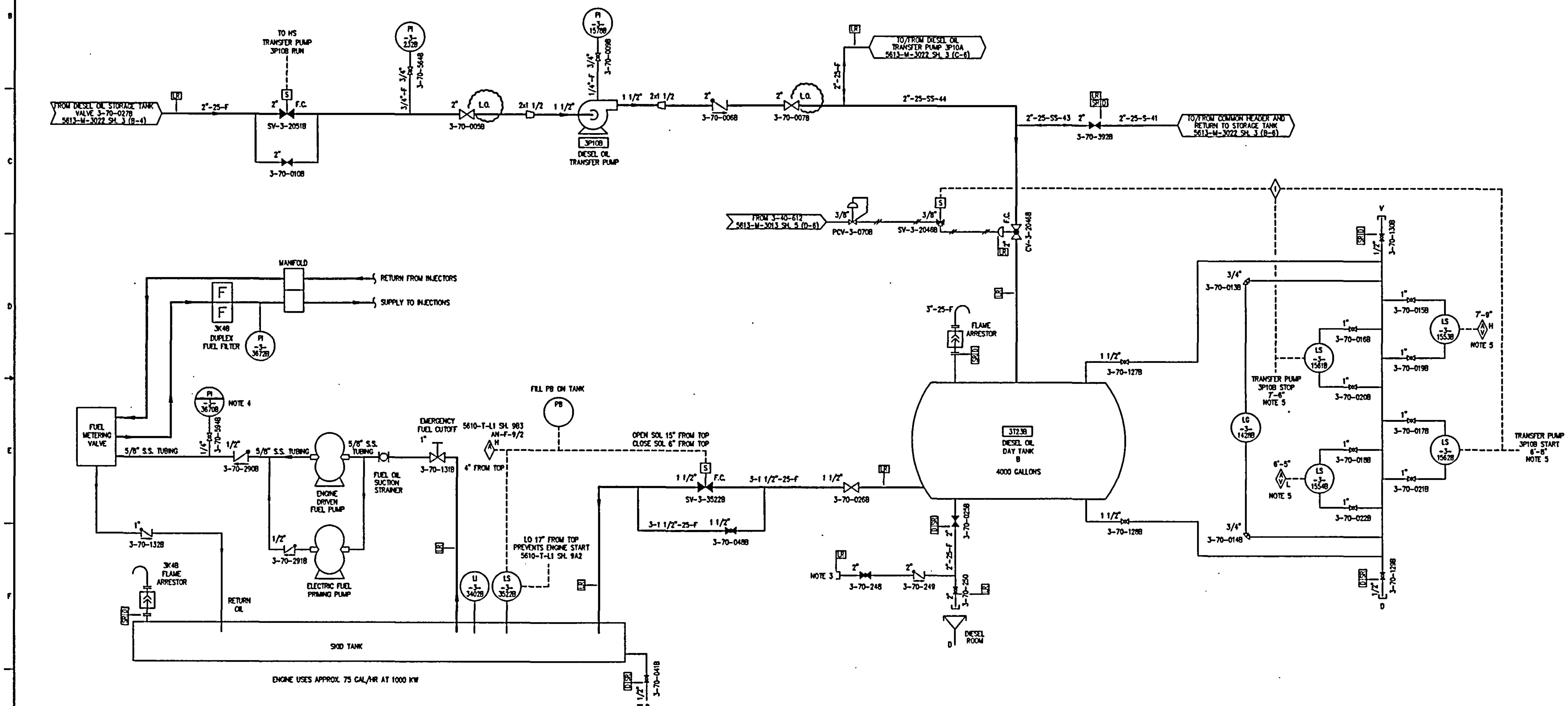
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3022

SYS 022

SHEET 3

REV 18



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3022 SH. 1.
2. DELETED.
3. ALTERNATE FILL, LOCATED OUTSIDE UNIT 3 D.G. BUILDING AT N.W. CORNER.
4. LOCATED ON ENGINE PANEL.
5. LEVEL SETPOINTS ARE REFERENCED TO THE SLAB (EL. 31'-0") OF THE DAY TANK ROOM.
6. ALL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN SYSTEM SEISMIC/Q-BOUNDARY.

THIS DRAWING SUPERSEDES DRAWINGS: 5610-M-26 REV. 1

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4536 SH. 2 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP
13	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
12	05-24-02	ISSUED AS-BUILT PER PC/M 02-042.	RV	RH	BP	TS
11	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH
10	11-9-99	ISSUED AS-BUILT PER CRN-M-9837 (PC/M 99-033).	RH	RV	CMZ	JTL
9	10-8-98	ISSUED AS-BUILT PER PC/M 98-028.	RH	RV	RSV	JLD

REV	DATE	REVISION	BY	CH	APP	APP
8	10-3-98	ISSUED FOR AS-BUILT PER PC/M 98-028, (PARTIAL) AND PC/M 98-004.	RH	JK	RSV	JMM
7	6-18-96	INCORPORATED CRN-M-8736 FOR PC/M 96-023.	RH	RV	PDK	BD
14	07-03-02	ISSUED AS-BUILT PER CRN-M-10567 (PC/M 00-016).	RH	JPG	AAP	JTL
—	—	INTO THE FPL SYSTEM FOR DCR-TPM-92-029.	—	—	—	—
0	03-27-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	CFH	MD	AW/RS	LRB
—	—	~~AND ISSUED INTO THE FPL DWG SYSTEM~~ PER DCR-TPM-92-029.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

EMERGENCY DIESEL ENGINE AND OIL SYSTEM DG 3B FUEL OIL

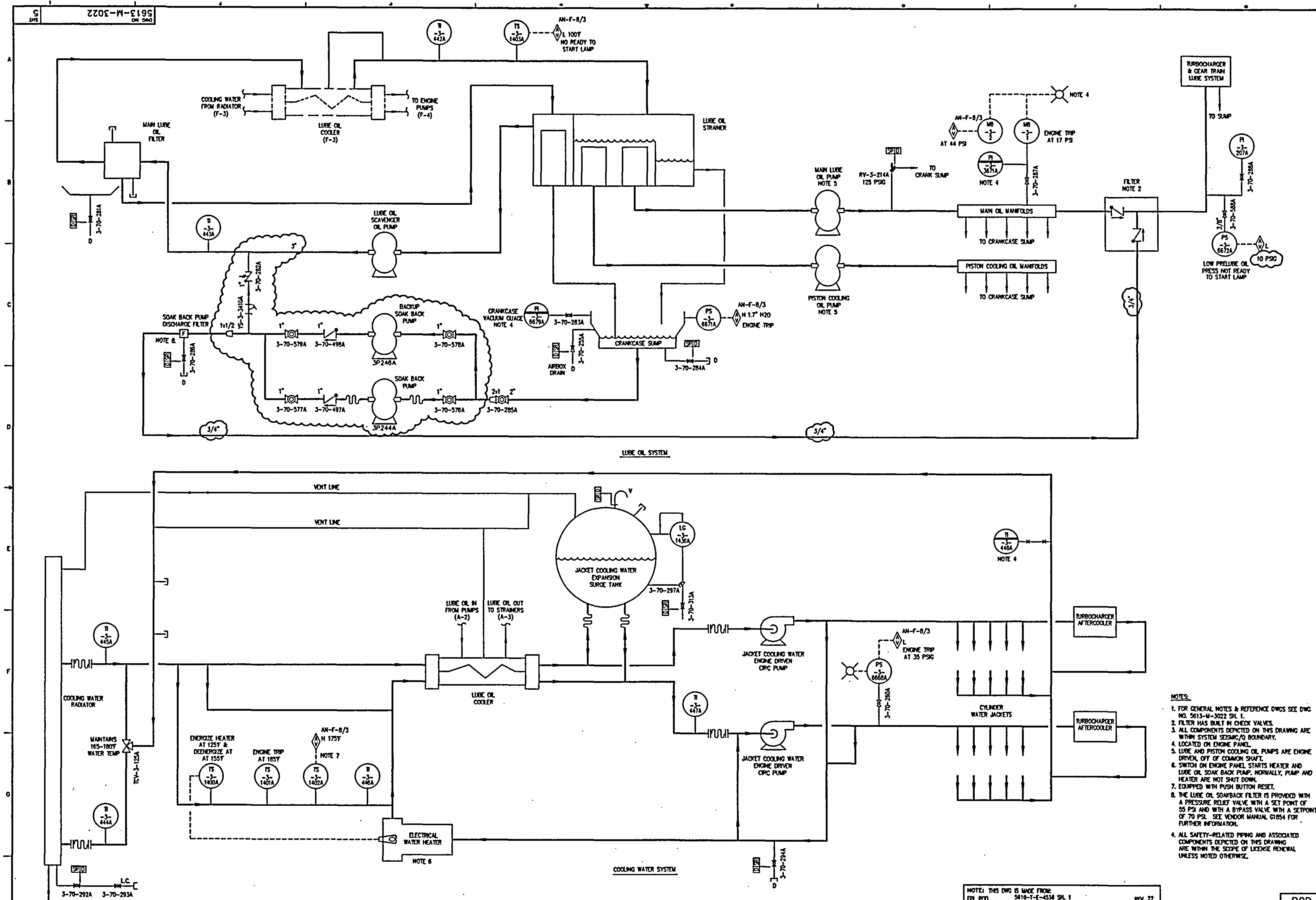
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER: 5613-M-3022

SYS: 022

REV: 14

SHEET 4.



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3022 SH. 1.
2. FILTER HAS BUILT IN CHECK VALVES.
3. ALL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN SYSTEM SEISMIC/Q BOUNDARY.
4. LOCATED ON ENGINE PANEL.
5. LUBE AND PISTON COOLING OIL PUMPS ARE ENGINE DRIVEN, OFF OF COMMON SHAFT.
6. SWITCH ON ENGINE PANEL STARTS HEATER AND LUBE OIL SOAK BACK PUMP. NORMALLY, PUMP AND HEATER ARE NOT SHUT DOWN.
7. EQUIPPED WITH PUSH BUTTON RESET.
8. THE LUBE OIL SOAKBACK FILTER IS PROVIDED WITH A PRESSURE RELIEF VALVE WITH A SET POINT OF 55 PSI AND WITH A BYPASS VALVE WITH A SETPOINT OF 70 PSI. SEE VENDOR MANUAL G1854 FOR FURTHER INFORMATION.

4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4536 SH. 1 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	10-08-01	ISSUED AS-BUILT PER PC/M 01-004.	RH	RV	TEJ	JM	3	7-20-93	ISSUED AS-BUILT FOR DCR-TPM-92-157.	RH	RV	JC	BD
7	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH	2	3-5-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	SP	INITIALS ON FILE		
6	9-3-97	ISSUED AS-BUILT PER PC/M 96-089 AND INCORPORATED CRN-M-9139.	RH	RV	RSV	JJC	1	12-21-92	ISSUED AS-BUILT FOR PC/M-89-542 AND DCR-TPM-92-215.	TAM	INITIALS ON FILE		
5	9-2-97	ISSUED AS-BUILT PER PC/M 96-089.	RH	RV	CMZ	JJC	0	03-27-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MO	AM/RS	LRB
4	4-20-94	ISSUED AS-BUILT FOR PC/M 93-142.	RH	RV	TCK	BD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-029.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

EMERGENCY DIESEL
ENGINE AND OIL SYSTEM
DG 3A LO & COOLING WATER

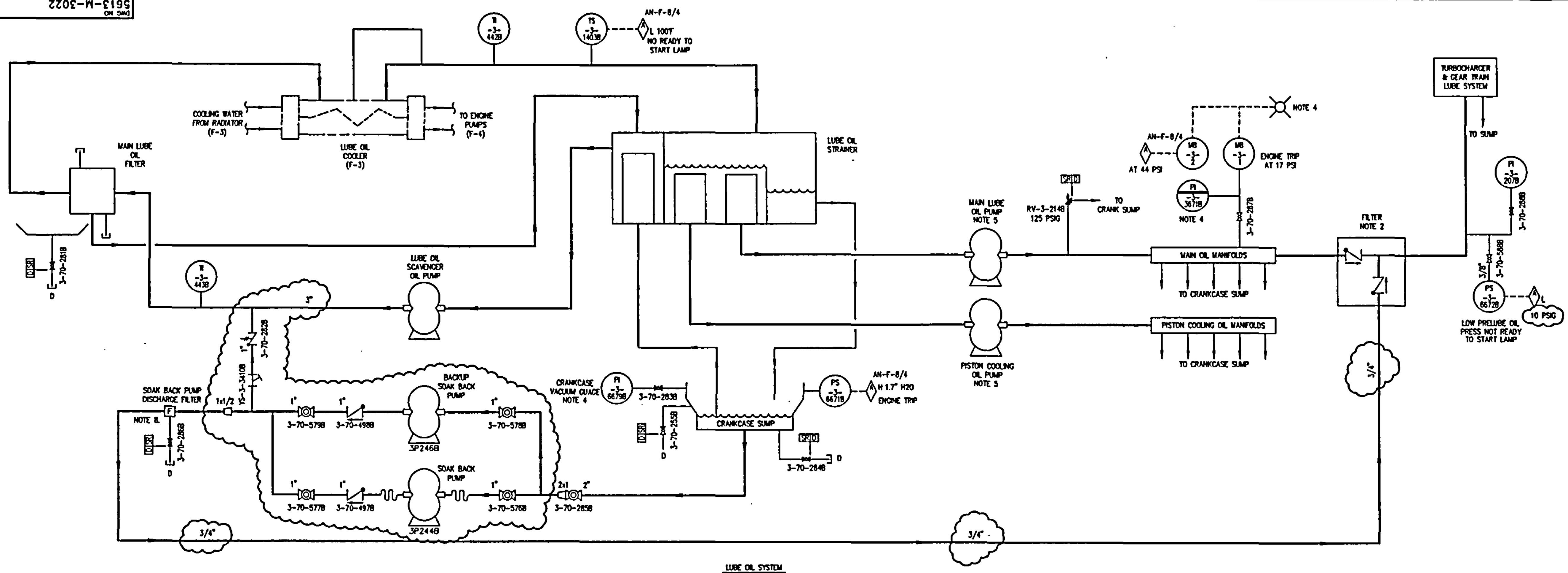
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

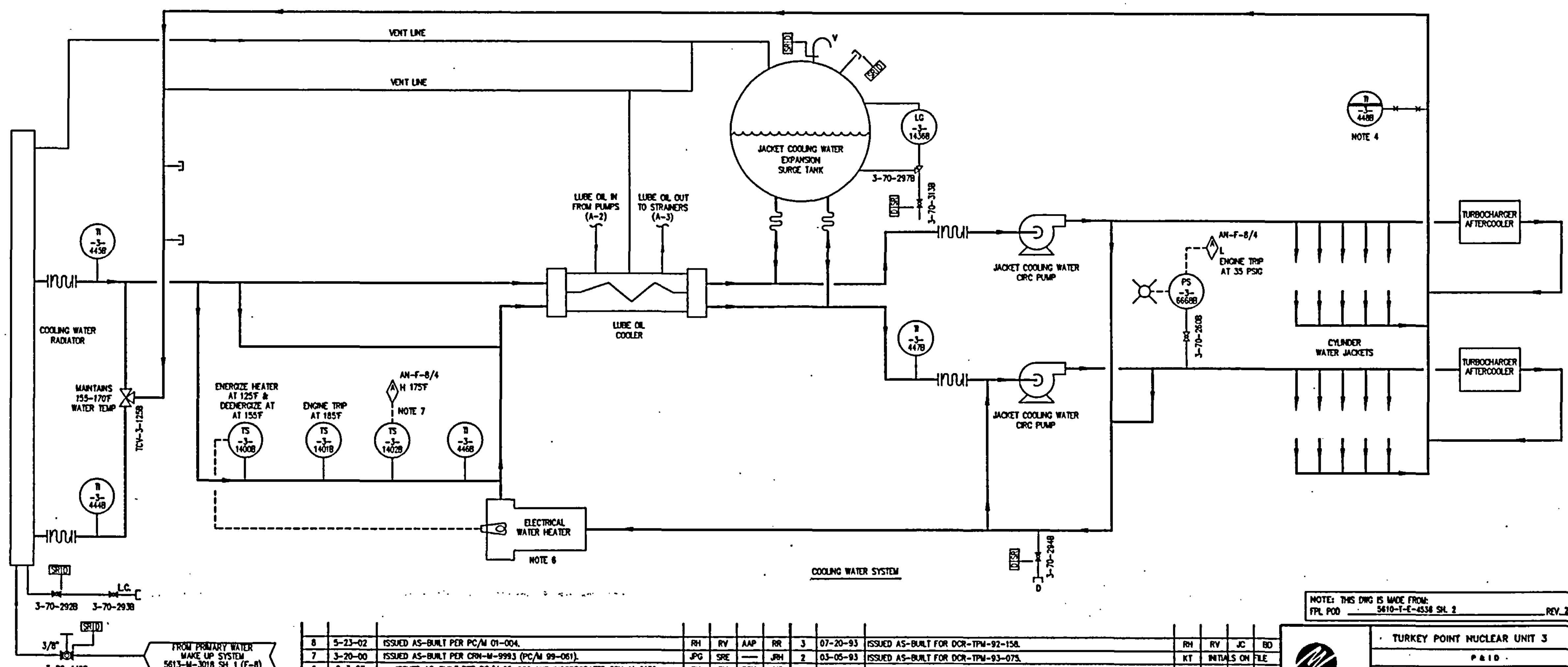
DRAWING NUMBER 5613-M-3022

SHEET 5

SYS 022

REV 8





NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3022 SH. 1.
2. FILTER HAS BUILT IN CHECK VALVES.
3. ALL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN SYSTEM SEISMIC/Q BOUNDARY.
4. LOCATED ON ENGINE PANEL.
5. LUBE AND PISTON COOLING OIL PUMPS ARE ENGINE DRIVEN, OFF OF COMMON SHAFT.
6. SWITCH ON ENGINE PANEL STARTS HEATER AND LUBE OIL SOAK BACK PUMP. NORMALLY, PUMP AND HEATER ARE NOT SHUT DOWN.
7. EQUIPPED WITH PUSH BUTTON RESET.
8. THE LUBE OIL SOAKBACK FILTER IS PROVIDED WITH A PRESSURE RELIEF VALVE WITH A SETPOINT OF 55 PSI AND WITH A BYPASS VALVE WITH A SETPOINT OF 70 PSI. SEE VENDOR MANUAL G1854 FOR FURTHER INFORMATION.
9. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4538 SH. 2 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP
8	5-23-02	ISSUED AS-BUILT PER PC/M 01-004.	RH	RV	AAP	RR
7	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH
6	9-3-97	ISSUED AS-BUILT PER PC/M 96-089 AND INCORPORATED CRN-M-9139.	RH	RV	RSV	JJC
5	9-2-97	ISSUED AS-BUILT PER PC/M 96-089.	RH	RV	CMZ	JJC
4	4-24-94	ISSUED AS-BUILT FOR PC/M 93-142.	RH	RV	DJB	JZ

REV	DATE	REVISION	BY	CH	APP	APP
3	07-20-93	ISSUED AS-BUILT FOR DCR-TPM-92-158.	RH	RV	JC	BD
2	03-05-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	KT	INITIALS ON FILE		
1	12-21-92	ISSUED AS-BUILT FOR PC/M 89-542 AND DCR-TPM-92-215.	TAM	INITIALS ON FILE		
0	03-27-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MO	AM/RS	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-029.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

EMERGENCY DIESEL
ENGINE AND OIL SYSTEM
DG 3B LO & COOLING WATER

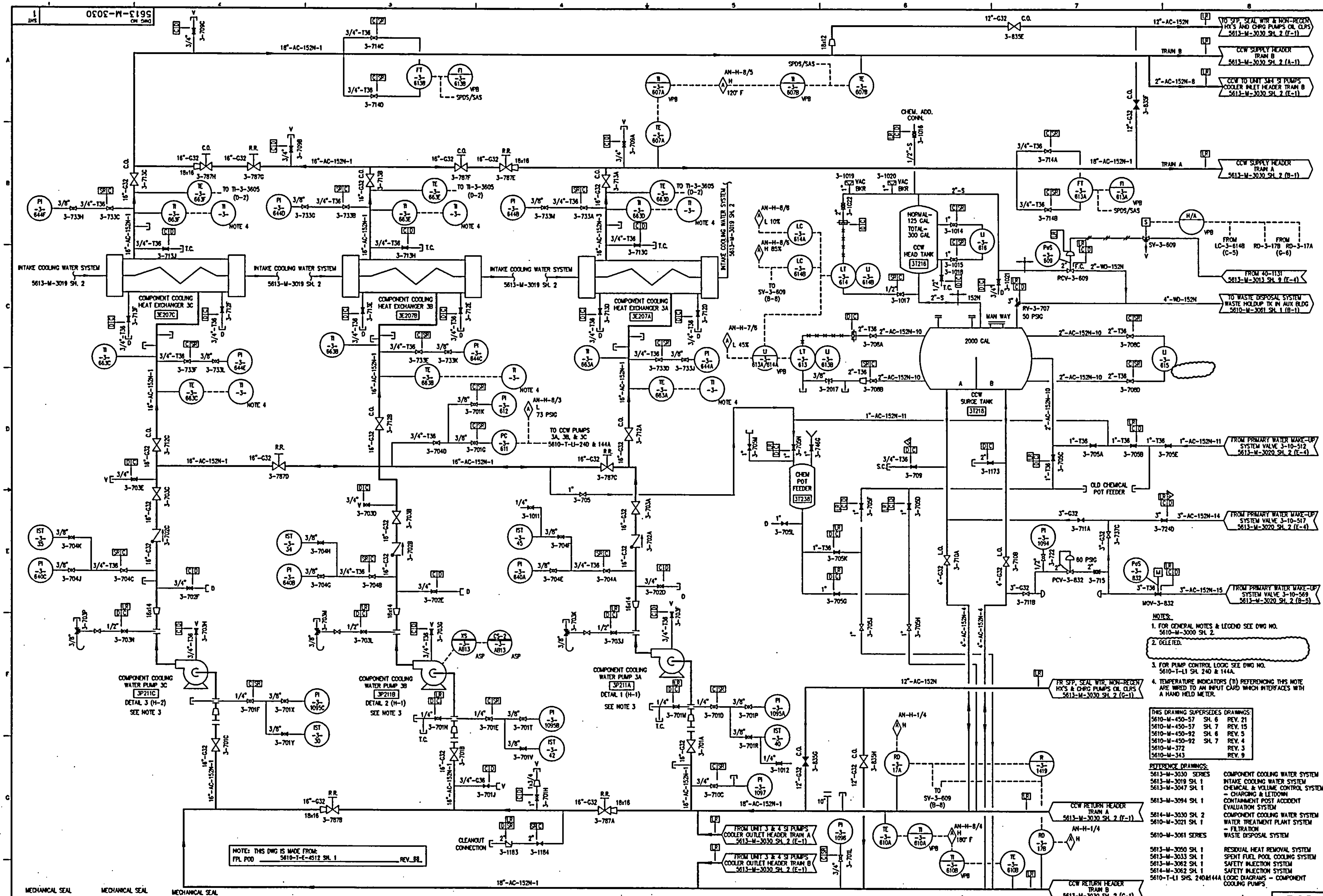
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3022

SHEET 6

SYS 022

REV 8



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. FOR PUMP CONTROL LOGIC SEE DWG NO. 5610-T-L1 SH. 240 & 144A.
4. TEMPERATURE INDICATORS (TI) REFERENCING THIS NOTE ARE WIRED TO AN INPUT CARD WHICH INTERFACES WITH A HAND HELD METER.

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-450-57	SH. 6	REV. 21
5610-M-450-57	SH. 7	REV. 15
5610-M-450-92	SH. 6	REV. 5
5610-M-450-92	SH. 7	REV. 4
5610-M-372		REV. 3
5610-M-343		REV. 9

REFERENCE DRAWINGS:

5613-M-3030 SERIES	COMPONENT COOLING WATER SYSTEM
5613-M-3019 SH. 1	INTAKE COOLING WATER SYSTEM
5613-M-3047 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM - CHARGING & LETDOWN
5613-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5614-M-3030 SH. 2	COMPONENT COOLING WATER SYSTEM
5610-M-3021 SH. 1	WATER TREATMENT PLANT SYSTEM - FILTRATION
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5613-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5613-M-3033 SH. 1	SPENT FUEL POOL COOLING SYSTEM
5613-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5614-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5610-T-L1 SHS. 240&144A	LOGIC DIAGRAMS - COMPONENT COOLING PUMPS

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4512 SH. 1 REV. 88

POD

REV	DATE	REVISION	BY	CH	APP	APP
17	6-3-99	ISSUED AS-BUILT PER PC/M 98-022.	RV	RH	BP	TS
16	10-23-98	ISSUED AS-BUILT PER PC/M 96-092.	RH	RV	JMM	JJC
15	10-20-98	ISSUED AS-BUILT PER PC/M 96-092. (PARTIAL)	RH	RV	DF	JTL
14	6/30/98	ISSUED AS-BUILT PER CRN-M-9394 (PC/M 98-021).	RH	RV	AAP	JZ
0	3/22/97	ISSUED FOR USE FOR PC/M 96-092	JK	BSG	JMM	JJC

REV	DATE	REVISION	BY	CH	APP	APP
13	9-30-96	INCORPORATED CRN-I-3435 FOR PC/M 96-058.	RV	BP	-	TS
12	10-4-95	ISSUED AS-BUILT FOR PC/M 94-096 AND INCORPORATED CRN-M-8474.	RH	RV	JZ	BD
11	9-28-95	ISSUED AS-BUILT FOR PC/M 95-130.	RH	RV	AD	JCW
19	6-10-03	ISSUED AS-BUILT PER CRN-M-10471 (PC/M 00-016).	RH	RV	TEJ	JTL
18	3-16-00	ISSUED AS-BUILT PER CRN-I-3832 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
—	—	(PC/M 99-081).	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

COMPONENT COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

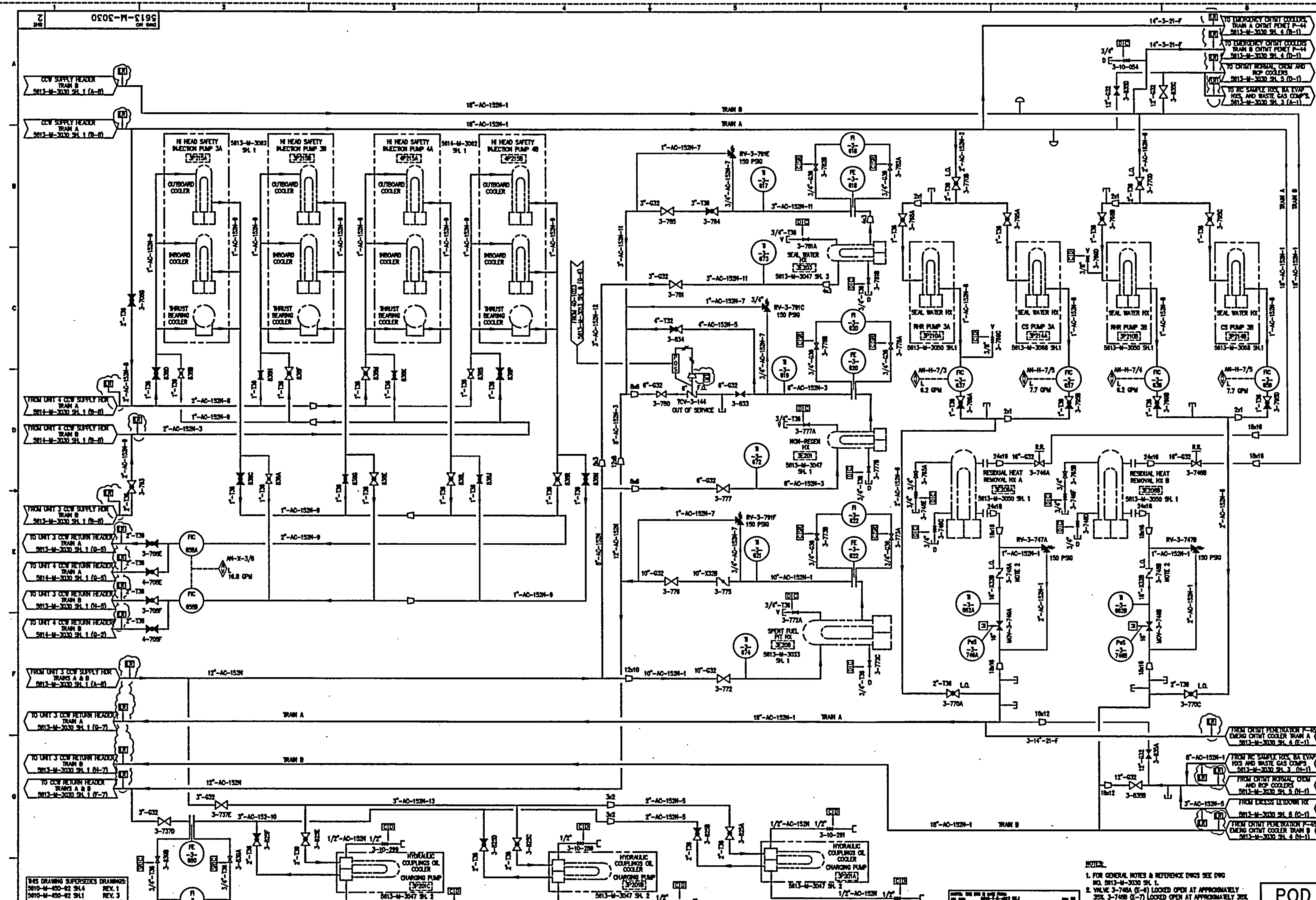
DRAWING NUMBER 5613-M-3030

SHEET 1

SYS 030

REV 19

5613-M-3030 2



THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-450-92 SH.4	REV. 1
5610-M-450-92 SH.1	REV. 3
5610-M-450-57 SH.5	REV. 14
5610-M-450-57 SH.6	REV. 21
5610-M-450-92 SH.2	REV. 5
5610-M-450-57 SH.4	REV. 13
5610-M-450-92 SH.5	REV. 3
5610-M-450-92 SH.6	REV. 5
5610-M-450-57 SH.1	REV. 13
5610-M-450-57 SH.2	REV. 21
5610-M-372	REV. 3

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3030 SH. 1.
2. VALVE 3-748A (E-6) LOCKED OPEN AT APPROXIMATELY 35% 3-748B (E-7) LOCKED OPEN AT APPROXIMATELY 35%

POD

REV	DATE	REVISION	BY	CH	APP	APP
9	3-20-00	ISSUED AS-BUILT PER CRN-M-0093 (PC/M 99-061).	JPG	TEL	—	JRH
8	12-17-93	ISSUED AS-BUILT FOR DCR-TPM-93-453.	SMM	MD	LIK	BO

REV	DATE	REVISION	BY	CH	APP	APP
5	3-6-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	DQ	INITIALS ON FILE		
7	06-15-93	ISSUED AS-BUILT FOR PC/M 93-034.	RH	RV	JMK	JZ
6	04-01-93	ISSUED AS-BUILT FOR PC/M 92-067 & DCR-TPM-93-133.	DG	GHR	LIK	JRH
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	RB	MD		LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

COMPONENT COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

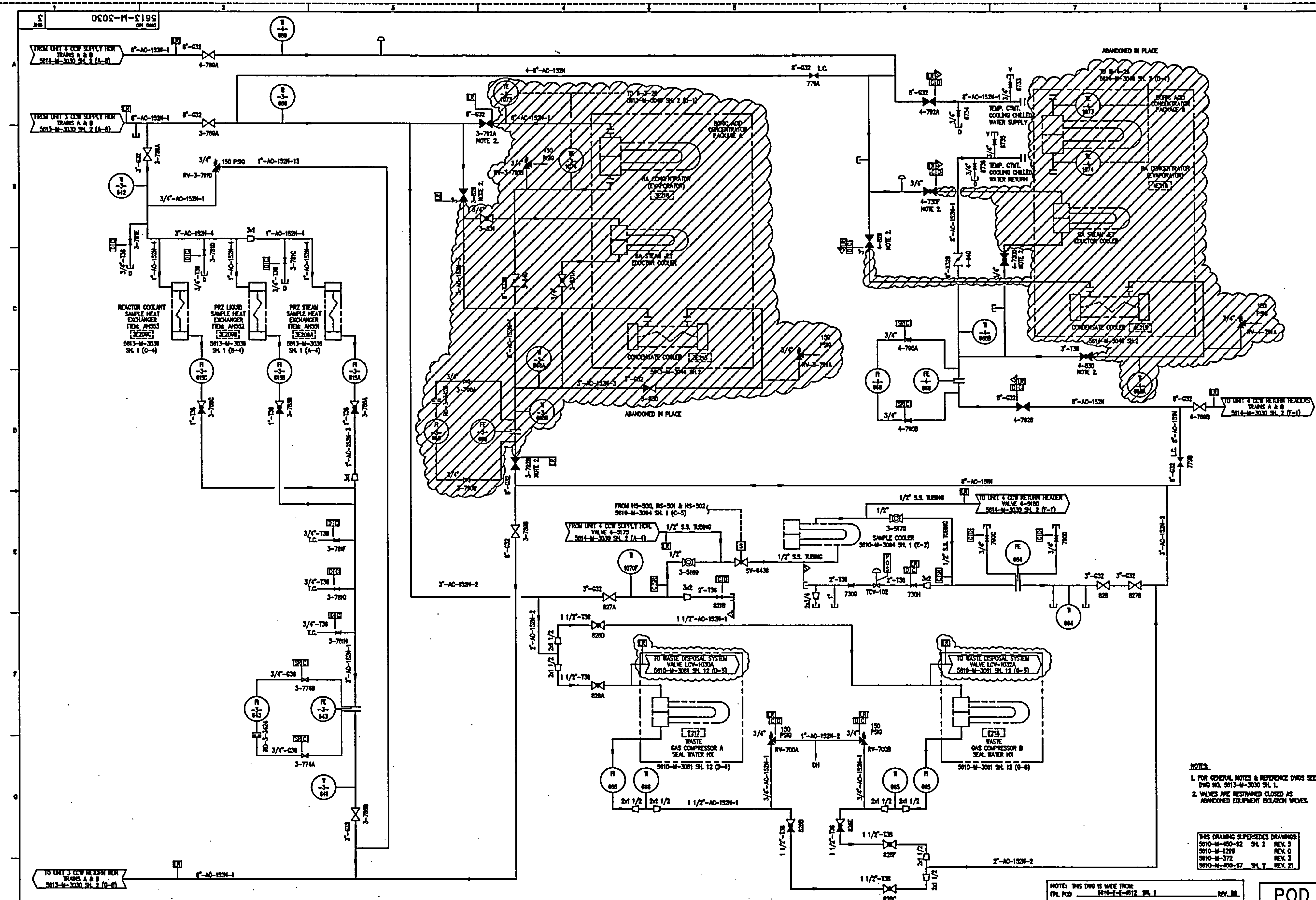
DRAWING NUMBER 5613-M-3030

SYS 030

SHEET 2

REV 9

UTM00098.DWG



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3030 SH. 1.
2. VALVES ARE RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVES.

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-450-82	SH. 2	REV. 5
5610-M-1299		REV. 0
5610-M-372		REV. 3
5610-M-450-57	SH. 2	REV. 21

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4512 SH. 1 REV. 88

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	8-21-95	ISSUED AS BUILT PER PC/M 95-054. (PARTIAL)	RH	LMc	—	TJC	12	8-15-00	ISSUED AS-BUILT PER CRN M-10088 (PC/M 99-081).	RH	RV	AAP	JM
7	12-17-93	ISSUED AS BUILT FOR DCR-TPM-93-484.	SMM	MD	LK	80/JCW	11	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081).	JPG	TEL	—	JRH
6	04-19-93	INCORP. CRN-M-6778 FOR PC/M 92-067.	JW	GM	LK	MFM	10	6-5-96	ISSUED AS-BUILT FOR PC/M 94-141 AND INCORPORATED CRN-M-6787.	RH	RV	JDF	JJC
5	04-01-93	ISSUED AS-BUILT FOR PC/M 92-067.	SP	NA	LK	JRH	9	9-7-95	ISSUED AS-BUILT PER PC/M 95-054.	RH	RV	JM	JJC
4	03-08-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	SMM	INITIALS ON FILE			0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD		LRB
13	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

COMPONENT COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

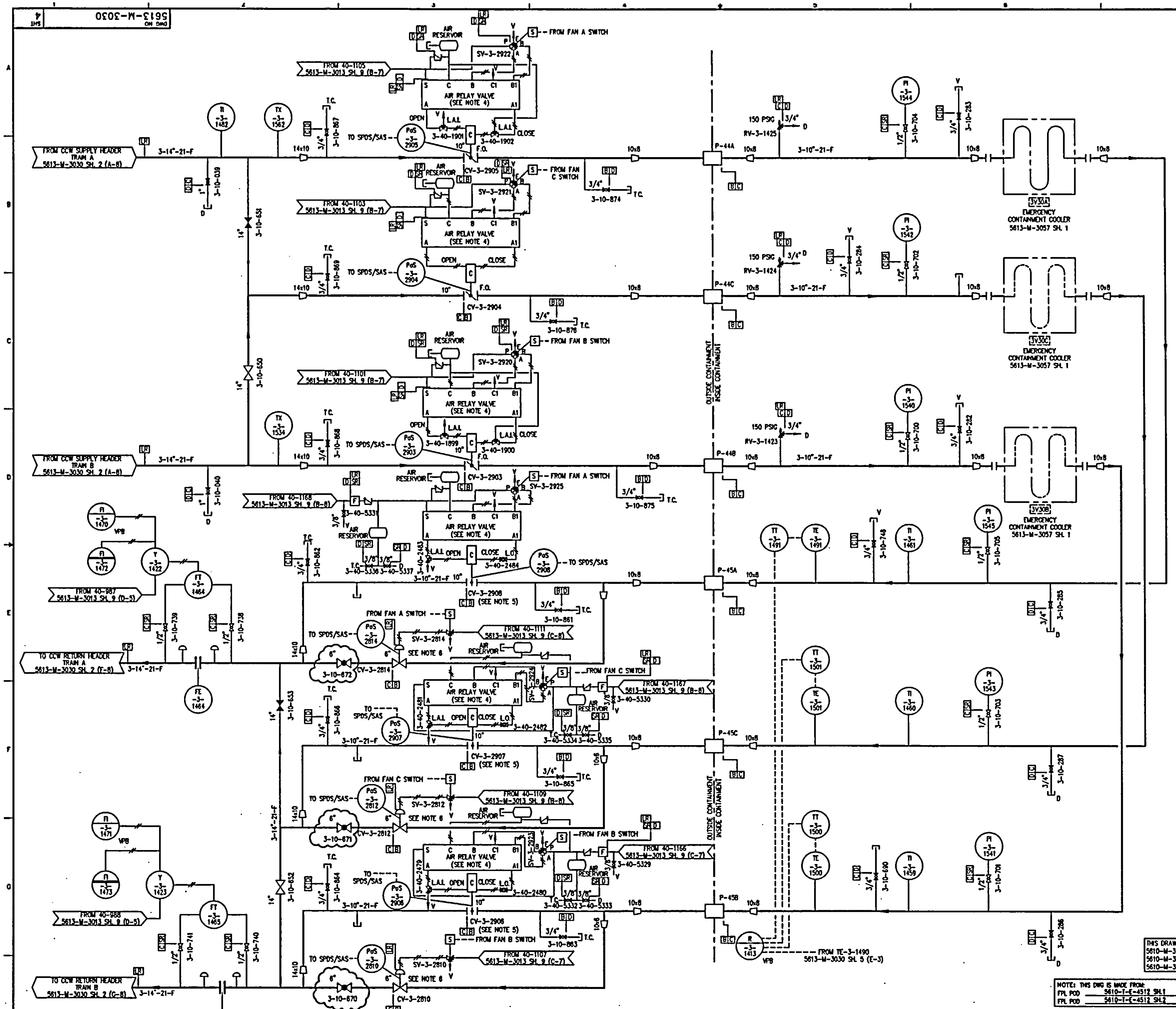
DRAWING NUMBER 5613-M-3030

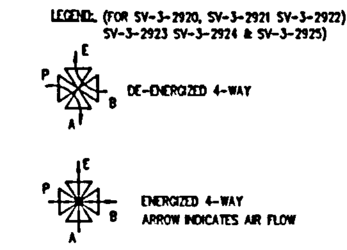
SHEET 3

SYS 030

REV 13

UTM00099.DWG





EMERGENCY CONTAINMENT COOLERS 3A & 3C VALVE POSITION			
FAN SWITCH POSITION	INLET VALVE	OUTLET VALVE	OUTLET BYPASS VALVE
AUTO (FAN NOT RUNNING)	OPEN	CLOSED	OPEN
AUTO FAN STARTS	OPEN	OPEN	OPEN
HELD IN START (RUNNING)	OPEN	OPEN	OPEN
STOP	CLOSED	CLOSED	CLOSED

IN AUTO, SEQUENCER STARTS FAN. "A" CONTACT ON MOTORS OPENS RESPECTIVE MAIN OUTLET VALVES. NOTE: IF FAN SWITCH IS IN STOP POSITION AND THE SEQUENCER STARTS FAN, OUTLET OPENS BUT INLET AND OUTLET BYPASS WILL NOT OPEN.

EMERGENCY CONTAINMENT COOLER 3B VALVE POSITION			
FAN SWITCH POSITION	INLET VALVE	OUTLET VALVE	OUTLET BYPASS VALVE
MID POSITION (FAN NOT RUNNING)	OPEN	CLOSED	OPEN
MANUAL FAN START	OPEN	OPEN	OPEN
MID POSITION (FAN RUNNING)	OPEN	OPEN	OPEN
STOP	CLOSED	CLOSED	CLOSED

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3030 SH. 1.
2. DELETED.
3. ALL PIPING INSIDE CONTAINMENT SHOWN ON THIS DWG IS SAFETY RELATED AND WITHIN THE SEISMIC/Q BOUNDARIES.
4. WITH PRESSURE AT S: (B ALIGNS TO A) & (B1 ALIGNS TO A1). ON LOSS OF SUPPLY PRESSURE (C ALIGNS TO A) & (C1 ALIGNS TO A1).
5. OUTLET VALVES FAIL OPEN ON LOSS OF INSTRUMENT AIR, FAIL CLOSED ON LOSS OF POWER TO ECC.
6. OUTLET BYPASS VALVES FAIL CLOSE ON LOSS OF INSTRUMENT AIR, FAIL OPEN ON LOSS OF POWER TO ECC.
7. SWING COOLER (3B) IS MANUAL START ONLY.

THIS DRAWING SUPERSEDES DRAWINGS.	
5610-M-371	REV. 2
5610-M-372	REV. 3
5610-M-343	REV. 8

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4512 SH.1 REV. 88
FPL POD 5610-T-E-4512 SH.2 REV. 32

POD

REV	DATE	REVISION	BY	CH	APP	APP
16	10-3-96	ISSUED AS-BUILT PER PC/M 95-147	RV	RH	BP	TS
15	7-19-96	INCORPORATED CRN-M-8765 FOR PC/M 96-045.	RH	RV	DJB	BD
14	5-21-96	ISSUED AS-BUILT FOR PC/M 96-039.	RH	RV	JMM	BD
22	02-15-02	ISSUED AS-BUILT PER CRN-M-10467 (PC/M 00-016).	RH	RV	CMZ	JTL
21	05-09-01	ISSUED AS-BUILT PER CRN-M-10306 (PC/M 00-016).	RH	RV	AAP	JM

REV	DATE	REVISION	BY	CH	APP	APP
20	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPC	TEL	—	JRH
19	2-13-97	ISSUED AS-BUILT PER PC/M 96-055 & INCORP. CRN-I-3440.	RH	RV	JMM	JJC
18	2-6-97	ISSUED AS-BUILT PER PC/M 96-055 & INCORP. CRN-I-3440. (PARTIAL)	RH	RV	JMM	JJC
17	1-15-97	ISSUED AS-BUILT PER PC/M 96-055 & INCORP. CRN-I-3440. (PARTIAL)	RH	RV	JMM	JJC
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD	RAS/SW	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	—	—	—	—

FPL

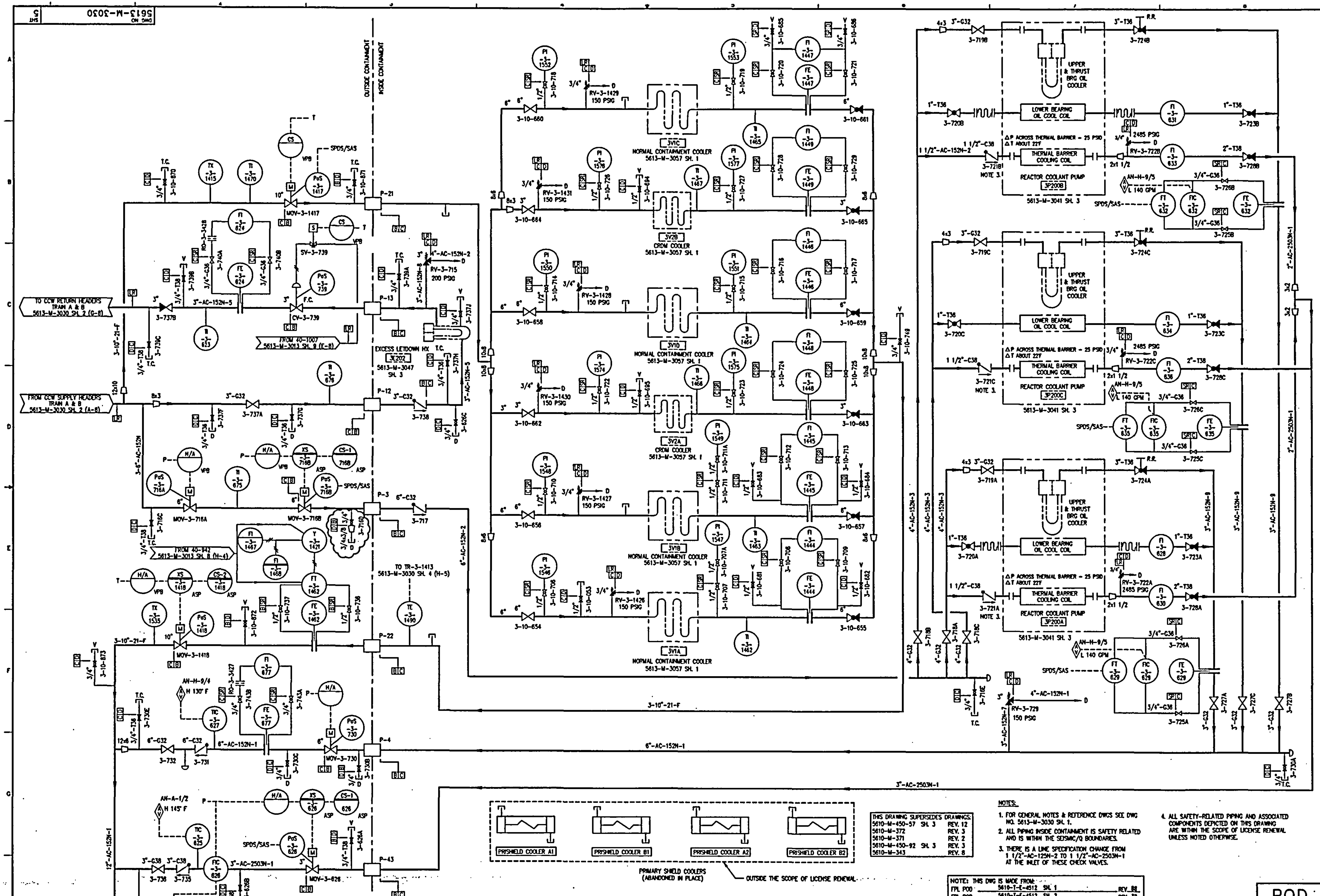
TURKEY POINT NUCLEAR UNIT 3

P & I D

COMPONENT COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3030
SHEET 4
SYS 030
REV 22



THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-450-57	SH. 3	REV. 12
5610-M-372		REV. 3
5610-M-371		REV. 2
5610-M-450-92	SH. 3	REV. 3
5610-M-343		REV. 8

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3030 SH. 1.
2. ALL PIPING INSIDE CONTAINMENT IS SAFETY RELATED AND IS WITHIN THE SEISMIC/Q BOUNDARIES.
3. THERE IS A LINE SPECIFICATION CHANGE FROM 1 1/2"-AC-125N-2 TO 1 1/2"-AC-2503N-1 AT THE INLET OF THESE CHECK VALVES.
4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL P00 5610-T-E-4512 SH. 1 REV. 88
FPL P00 5610-T-E-4512 SH. 2 REV. 32

POD

REV	DATE	REVISION	BY	CH	APP	APP
15	8-15-00	ISSUED AS-BUILT PER CRN M-10088 (PC/M 99-061).	RH	RV	AAP	JM
14	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPC	TEL	-	JRH
13	10-20-98	ISSUED AS-BUILT PER PC/M 96-092.	RH	RV	DF	JTL
12	5-21-98	ISSUED AS-BUILT PER CRN-M-9368 (PC/M 98-013).	RH	RV	RSV	JJC
11	9-30-96	INCORPORATED CRN-E-15518 FOR PC/M 96-058.	RV	BP	-	TS
10	9-19-96	ISSUED AS-BUILT FOR PC/M 95-170.	RV	RH	JG	TS
9	7-19-96	INCORPORATED CRN-M-8765 FOR PC/M 96-045.	RH	RV	DJB	BO
8	6-20-95	INCORPORATED CRN-M-8302 FOR PC/M 95-065.	RH	RV	WMC	JJC
16	10-19-01	ISSUED AS-BUILT PER CRN-M-10447 (PC/M 00-016).	RH	RV	AAP	JMM
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	GFH	MD	RAS/SW	LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

COMPONENT COOLING WATER SYSTEM

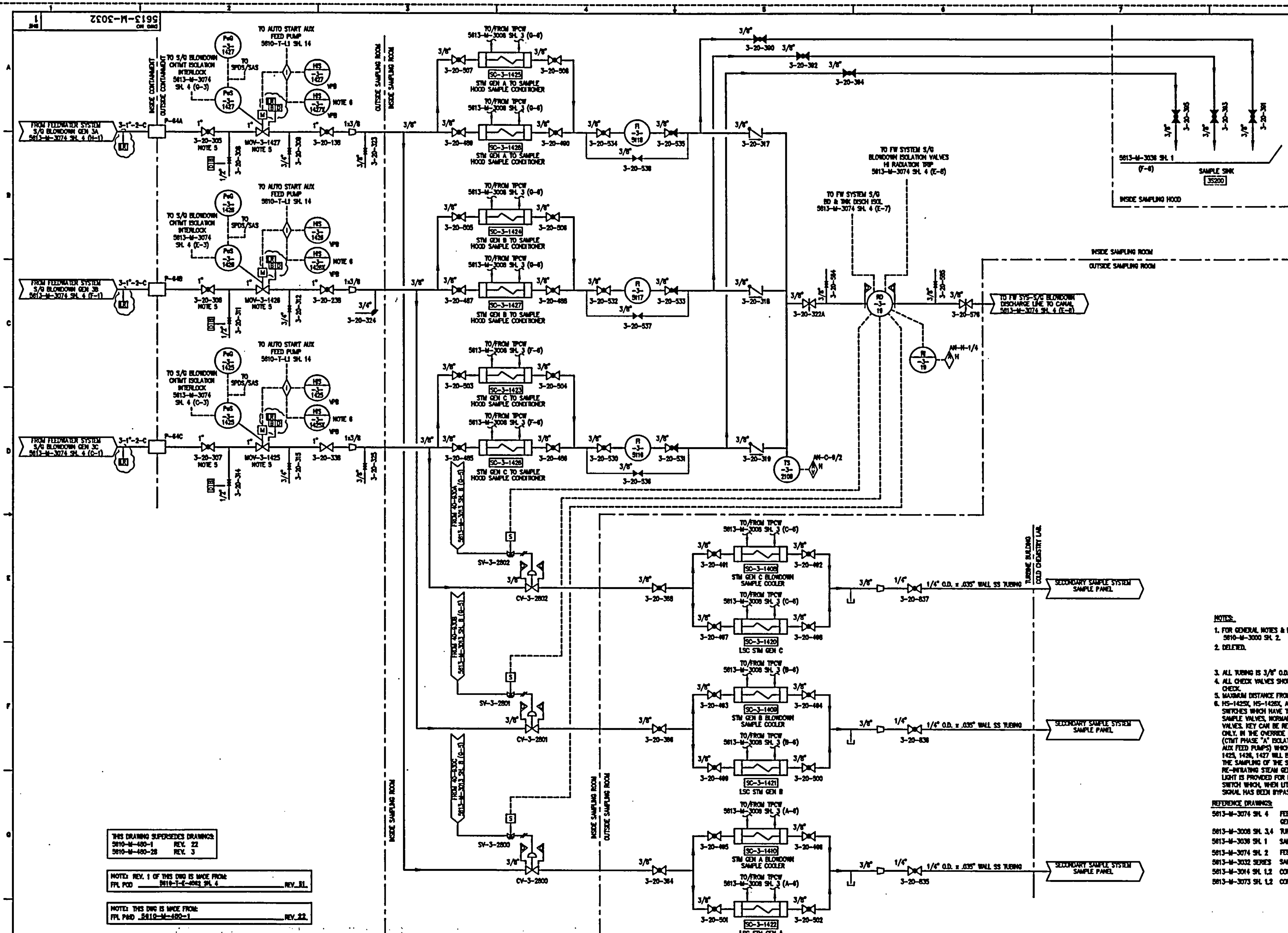
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3030

SHEET 5

SYS 030

REV 16



THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-480-1 REV. 22
5610-M-480-28 REV. 3

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4062 SH. 4 REV. 31

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-480-1 REV. 22

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. ALL TUBING IS 3/8" O.D. EXCEPT AS DETAILED.
4. ALL CHECK VALVES SHOULD BE "Y" TYPE LIFT CHECK.
5. MAXIMUM DISTANCE FROM PENETRATION 10'-0".
6. HS-1425X, HS-1426X, AND HS-1427X ARE KEYLOCK SWITCHES WHICH HAVE THREE POSITIONS, OVERRIDE SAMPLE VALVES, NORMAL AND OVERRIDE DRAIN/FILL VALVES. KEY CAN BE REMOVED IN NORMAL POSITION ONLY. IN THE OVERRIDE POSITION, THE SAFETY SIGNALS (CTMT PHASE "A" ISOLATION AND AUTO START FOR AUX FEED PUMPS) WHICH WILL CLOSE SAMPLING MOV'S 1425, 1426, 1427 WILL BE OVERRIDDEN. THIS WILL ENABLE THE SAMPLING OF THE STEAM GENERATORS PRIOR TO RE-INITIATING STEAM GENERATOR BLOWDOWN. AN AMBER LIGHT IS PROVIDED FOR EACH KEYLOCK OVERRIDE SWITCH WHICH, WHEN LIT, WILL INDICATE THE SAFETY SIGNAL HAS BEEN BYPASSED.

REFERENCE DRAWINGS:

5613-M-3074 SH. 4	FEEDWATER SYSTEM – STEAM GENERATOR BLOWDOWN RECOVERY
5613-M-3008 SH. 3,4	TURB PLANT COOLING WTR SYSTEM
5613-M-3036 SH. 1	SAMPLE SYSTEM – NSSS
5613-M-3074 SH. 2	FEEDWATER SYSTEM
5613-M-3032 SERIES	SAMPLE SYSTEM-SECONDARY
5613-M-3014 SH. 1,2	CONDENSER SYSTEM
5613-M-3073 SH. 1,2	CONDENSATE SYSTEM

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	9-30-98	INCORPORATED CRN-I-3425 FOR PC/M 98-058.	RV	BP	–	TS	2	12-23-92	ISSUED AS-BUILT FOR PC/M 89-542, DCR-TPM-92-280, AND DCR-TPM-92-215.	SMM	INITIALS ON FILE		
7	3-2-95	ISSUED AS-BUILT FOR PCM 93-208.	RH	RV	PH	JJC	10	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JZ	—	JRH
6	12-9-94	ISSUED AS-BUILT FOR PCM'S 92-178 & 93-098.	RH	RV	JK	BD	9	6-12-97	ISSUED AS-BUILT PER CRN-I-3540(PC/M 97-011).	RV	RH	BP	TS
5	9-20-93	ISSUED AS-BUILT FOR PCM 93-084.	SMM	MD	LJK	JRH	0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-480-1.	GFH	MD	DRH/RAS	HAR
4	04-01-93	ISSUED AS-BUILT FOR PC/M 93-007 & DCR-TPM-93-133 FINAL.	SP	AB	LJK	JRH	—	—	DWG SUPERSEDES 5610-M-480-1, 5610-M-480-28, AND ISSUED	—	—	—	—
3	02-10-93	ISSUED AS-BUILT FOR PC/M 92-090 & DCR-TPI-91-600.	SP	INITIALS ON FILE			—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-632.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

SAMPLE SYSTEM – SECONDARY STEAM GENERATOR BLOWDOWN

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

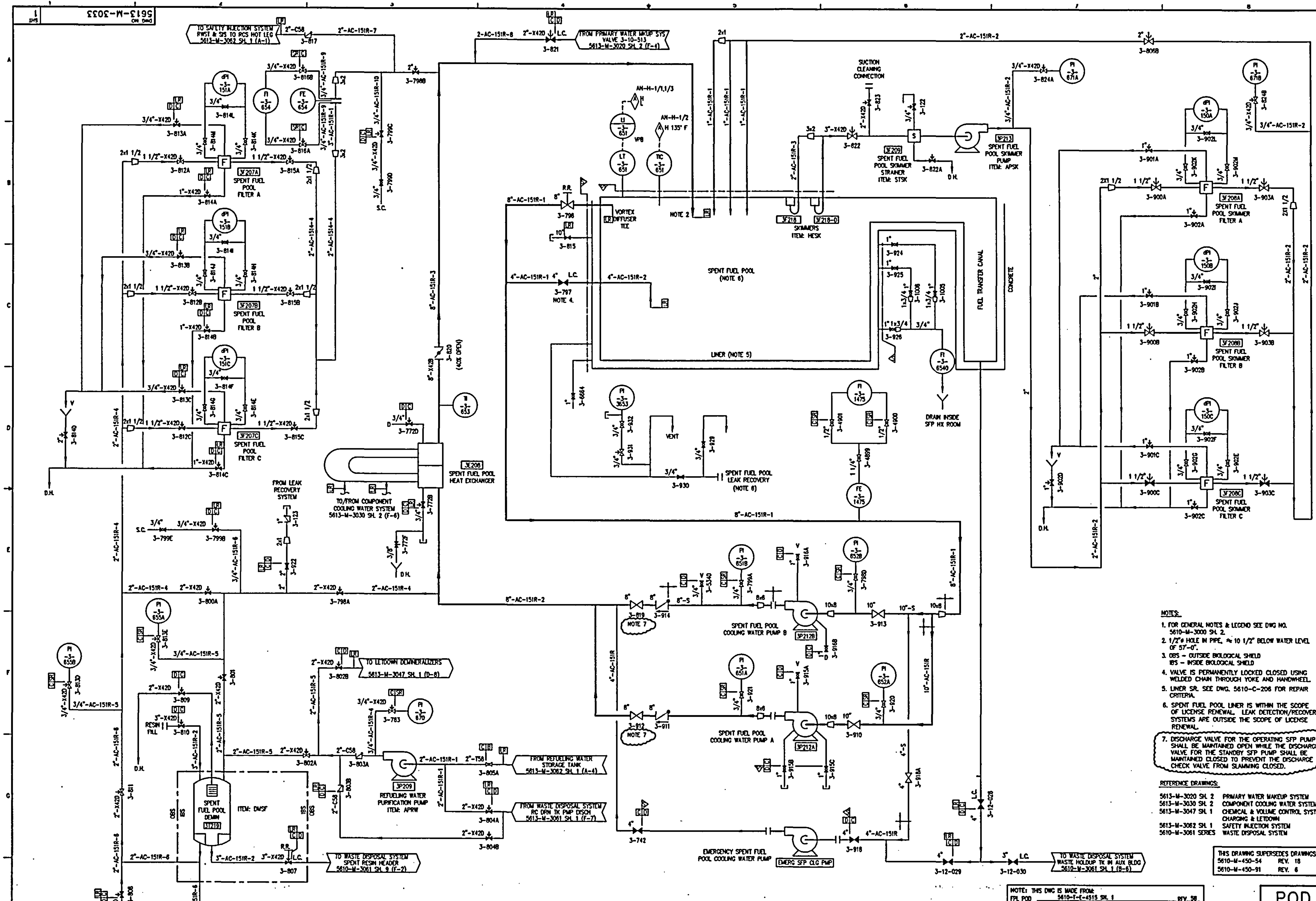
DRAWING NUMBER 5613-M-3032

SHEET 1

SYS 032

REV 10

UTM00108.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. 1/2"⌀ HOLE IN PIPE, ≈ 10 1/2" BELOW WATER LEVEL OF 57'-0".
3. OBS – OUTSIDE BIOLOGICAL SHIELD
   IBS – INSIDE BIOLOGICAL SHIELD
4. VALVE IS PERMANENTLY LOCKED CLOSED USING WELDED CHAIN THROUGH YOKE AND HANDWHEEL.
5. LINER SR. SEE DWG. 5610-C-206 FOR REPAIR CRITERIA.
6. SPENT FUEL POOL LINER IS WITHIN THE SCOPE OF LICENSE RENEWAL. LEAK DETECTION/RECOVERY SYSTEMS ARE OUTSIDE THE SCOPE OF LICENSE RENEWAL.
7. DISCHARGE VALVE FOR THE OPERATING SFP PUMP SHALL BE MAINTAINED OPEN WHILE THE DISCHARGE VALVE FOR THE STANDBY SFP PUMP SHALL BE MAINTAINED CLOSED TO PREVENT THE DISCHARGE CHECK VALVE FROM SLAMMING CLOSED.

REFERENCE DRAWINGS:

5613-M-3020 SH. 2	PRIMARY WATER MAKEUP SYSTEM
5613-M-3030 SH. 2	COMPONENT COOLING WATER SYSTEM
5613-M-3047 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM CHARGING & LETDOWN
5613-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-450-54 REV. 18
5610-M-450-91 REV. 6

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4515 SH. 1 REV. 58

POD

REV	DATE	REVISION	BY	CH	APP	APP
13	6-9-99	ISSUED AS-BUILT PER PC/M 96-042.	RH	RH	CMX	JTD
12	1-22-97	ISSUED AS-BUILT PER CRN-M-8882. (PC/M 96-080)	SMM	RV	CMZ	JJC
17	05-22-02	ISSUED AS-BUILT PER CRN-M-10513 (PC/M 00-016).	RH	RV	CMZ	RR
16	07-31-01	ISSUED AS-BUILT PER CRN-M-10344 (PC/M 00-016).	RV	RH	CMZ	JM
15	04-06-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH

REV	DATE	REVISION	BY	CH	APP	APP
14	11-16-99	ISSUED AS-BUILT PER PC/M 98-031.	RH	RV	LJR	JTL
1	3-4-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE, SUPERSEDING DWGS 5610-M-450-54 AND 5610-M-450-91 PER DCR-TPM-91-425. ISSUED AS-BUILT FOR PC/M 89-272 AND DCR-TPM-91-532 AND ISSUED INTO THE FPL SYSTEM.	LJC/MDW	GEA	LTB	FTH

FPL

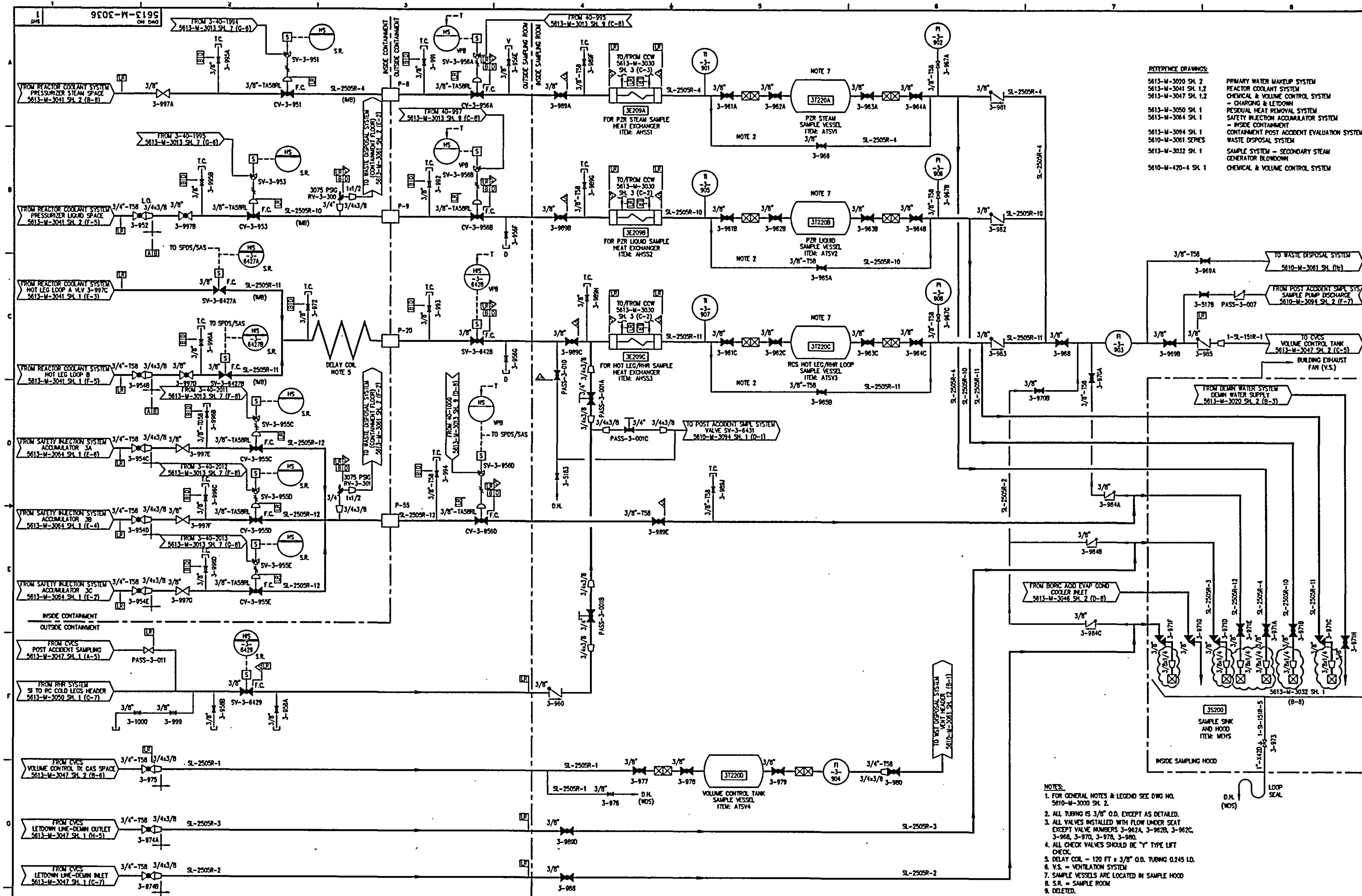
TURKEY POINT NUCLEAR UNIT 3

P & ID

SPENT FUEL POOL COOLING SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3033
SYS 033
SHEET 1
REV 17



REFERENCE DRAWINGS:

5613-M-3020 SH. 2	PRIMARY WATER MAKEUP SYSTEM
5613-M-3041 SH. 1,2	REACTOR COOLANT SYSTEM
5613-M-3047 SH. 1,2	CHEMICAL & VOLUME CONTROL SYSTEM - CHARGING & LETDOWN
5613-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5613-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM - INSIDE CONTAINMENT
5613-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5613-M-3032 SH. 1	SAMPLE SYSTEM - SECONDARY STEAM GENERATOR BLOWDOWN
5610-M-420-4 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. ALL TUBING IS 3/8" O.D. EXCEPT AS DETAILED.
3. ALL VALVES INSTALLED WITH FLOW UNDER SEAT EXCEPT VALVE NUMBERS 3-962A, 3-962B, 3-962C, 3-968, 3-970, 3-978, 3-980.
4. ALL CHECK VALVES SHOULD BE "Y" TYPE LIFT CHECK.
5. DELAY COIL - 120 FT x 3/8" O.D. TUBING 0.245 I.D.
6. V.S. = VENTILATION SYSTEM
7. SAMPLE VESSELS ARE LOCATED IN SAMPLE HOOD
8. S.R. = SAMPLE ROOM
9. DELETED.
10. IMB - INSIDE MISSILE BARRIER
11. SAMPLE SYSTEM HEAT EXCHANGERS ARE WITHIN THE SCOPE OF LICENSE RENEWAL ONLY BECAUSE OF CCW PRESSURE BOUNDARY CONSIDERATIONS.

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-480-1 REV. 22
5610-M-480-28 REV. 3

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4515 SH. 2 REV. 23

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-480-1 REV. 22
AND 5610-M-1295 REV. 9

POD

REV	DATE	REVISION	BY	CH	APP	APP
13	7-19-96	INCORPORATED CRN-M-8781 FOR PC/M 96-045.	RH	RV	DJB	BD
19	1-31-03	ISSUED AS-BUILT PER PC/M 02-096.	RH	RV	AAP	JTL
18	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
17	04-06-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JZ	—	JRH
16	10-23-98	ISSUED AS-BUILT PER PC/M 97-003 AND INCORP. CRN-M-9552.	RV	RV	DF	JJC
15	10-20-98	ISSUED AS BUILT PER PC/M 97-003. (PARTIAL)	RH	RV	JZ	JJC
14	6-5-97	ISSUED AS BUILT PER CRN-M-9053 (PC/M 97-019)	RH	RV	RSV	JEH
0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-480-1 AND 5610-M-1295. DWG SUPERSEDES, 5610-M-480-1, 5610-M-480-28 AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	GFH	MD	JRB/RAS	HAR

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

SAMPLE SYSTEM - NSSS

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

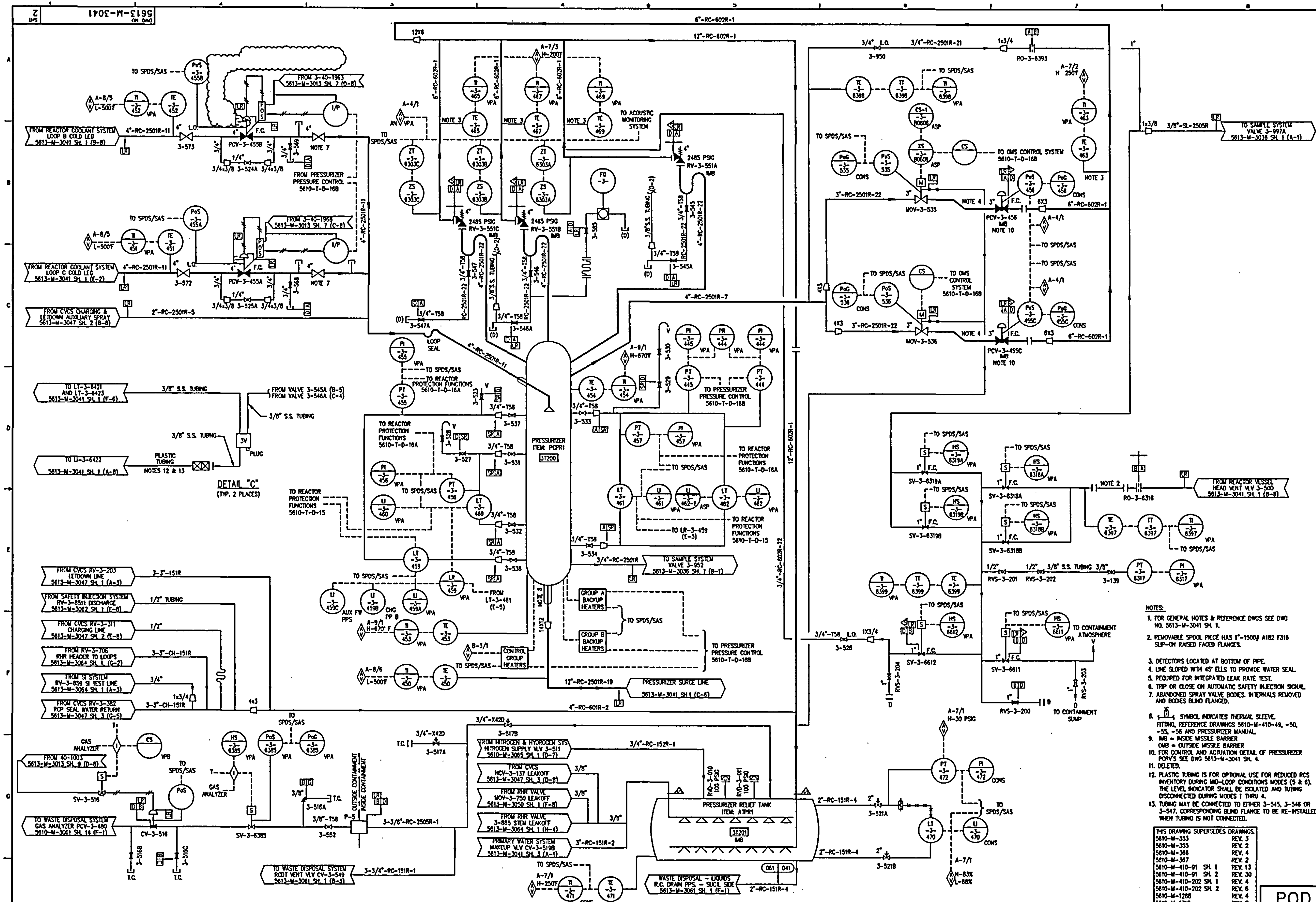
DRAWING NUMBER 5613-M-3036

SYS 036

SHEET 1

REV 19

5613-M-3041 SHT 2



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3041 SH. 1.
2. REMOVABLE SPOOL PIECE HAS 1"-1500# A182 F316 SLIP-ON RAISED FACED FLANGES.
3. DETECTORS LOCATED AT BOTTOM OF PIPE.
4. LINE SLOPED WITH 45° ELLS TO PROVIDE WATER SEAL.
5. REQUIRED FOR INTEGRATED LEAK RATE TEST.
6. TRIP OR CLOSE ON AUTOMATIC SAFETY INJECTION SIGNAL.
7. ABANDONED SPRAY VALVE BODIES. INTERNALS REMOVED AND BODIES BLIND FLANGED.
8. SYMBOL INDICATES THERMAL SLEEVE. FITTING, REFERENCE DRAWINGS 5610-M-410-49, -50, -55, -56 AND PRESSURIZER MANUAL.
9. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
10. FOR CONTROL AND ACTUATION DETAIL OF PRESSURIZER PORV'S SEE DWG 5613-M-3041 SH. 4.
11. DELETED.
12. PLASTIC TUBING IS FOR OPTIONAL USE FOR REDUCED RCS INVENTORY DURING MID-LOOP CONDITIONS MODES (5 & 6). THE LEVEL INDICATOR SHALL BE ISOLATED AND TUBING DISCONNECTED DURING MODES 1 THRU 4.
13. TUBING MAY BE CONNECTED TO EITHER 3-545, 3-546 OR 3-547. CORRESPONDING BLIND FLANGE TO BE RE-INSTALLED WHEN TUBING IS NOT CONNECTED.

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-353	REV. 3
5610-M-355	REV. 2
5610-M-366	REV. 4
5610-M-367	REV. 2
5610-M-410-91 SH. 1	REV. 13
5610-M-410-91 SH. 2	REV. 30
5610-M-410-202 SH. 1	REV. 4
5610-M-410-202 SH. 2	REV. 6
5610-M-1288	REV. 4
5610-M-1310	REV. 2

POD

NOTE: THIS DWG IS MADE FROM:
FPL POD 5410-T-E-4501 SH. 1 REV. 90
FPL POD 5410-T-E-4517 SH. 2 REV. 8

REV	DATE	REVISION	BY	CH	APP	APP
24	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RV	DF	JJC
23	10-16-98	ISSUED AS-BUILT PER PC/M 98-024.	RV	RH	–	BP
31	5-14-03	ISSUED AS-BUILT PER PC/M 98-008 AND INCORP. CRN-M-10420.	RV	RH	PRB	JTL
30	5-13-02	ISSUED AS-BUILT PER CRN-M-10537 (PC/M 00-016)	RH	RV	RSV	JTL
29	10-12-01	ISSUED AS-BUILT PER CRN-M-10420 (PC/M 98-008) (PARTIAL).	RH	RV	ASD	JM
28	1-31-01	ISSUED AS-BUILT PER CRN-M-10177 (PC/M 00-016)	RH	RV	RSV	ASD

REV	DATE	REVISION	BY	CH	APP	APP
27	5-10-00	ISSUED AS-BUILT PER CRN-M-10061 (PC/M 99-061).	RH	RV	JK	ASD
26	3-18-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
—	—	(PC/M 99-061).	—	—	—	—
25	5-12-99	ISSUED AS-BUILT PER CRN-M-9707 (PC/M 99-010).	RH	RV	DF	JTL
0	2-15-91	THIS DRAWING CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	HLG	AM/RAS	LRB
—	—	AND ISSUED INTO THE FPL SYSTEM PER DCR-TPM-91-043.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

REACTOR COOLANT SYSTEM

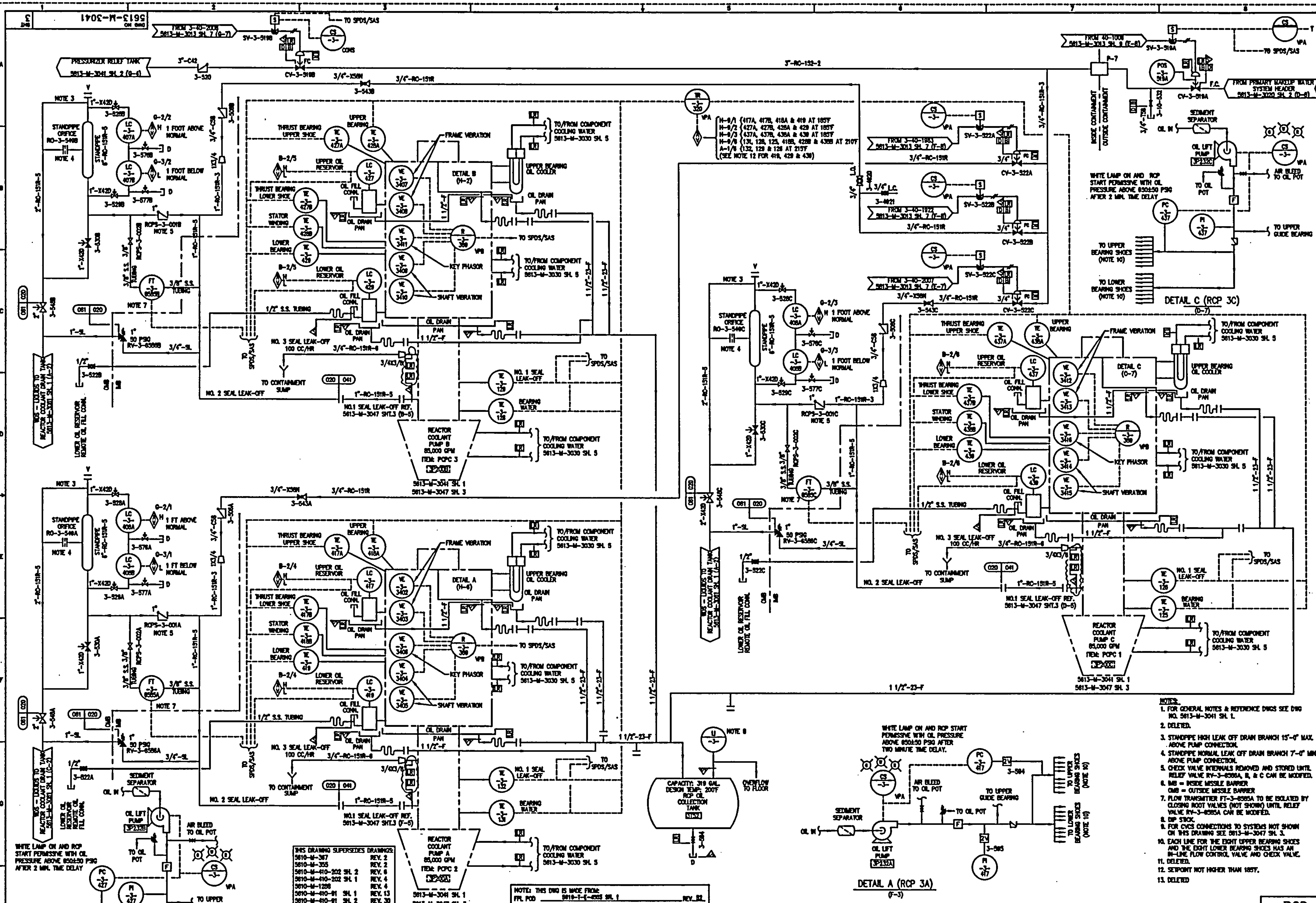
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3041

SHEET 2

SYS 041

REV 31



THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-367	REV. 2
5610-M-355	REV. 2
5610-M-410-202 SH. 2	REV. 6
5610-M-410-202 SH. 1	REV. 4
5610-M-1288	REV. 4
5610-M-410-91 SH. 1	REV. 13
5610-M-410-91 SH. 2	REV. 30
5610-M-368	REV. 4

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4503 SH. 1 REV. 32

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3041 SH. 1.
2. DELETED.
3. STANDPIPE HIGH LEAK OFF DRAIN BRANCH 15'-0" MAX. ABOVE PUMP CONNECTION.
4. STANDPIPE NORMAL LEAK OFF DRAIN BRANCH 7'-0" MIN. ABOVE PUMP CONNECTION.
5. CHECK VALVE INTERNALS REMOVED AND STORED UNTIL RELIEF VALVE RV-3-6566A, B, & C CAN BE MODIFIED.
6. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
7. FLOW TRANSMITTER FT-3-6565A TO BE ISOLATED BY CLOSING ROOT VALVES (NOT SHOWN) UNTIL RELIEF VALVE RV-3-6565A CAN BE MODIFIED.
8. DIP STICK.
9. FOR CVCS CONNECTIONS TO SYSTEMS NOT SHOWN ON THIS DRAWING SEE 5613-M-3047 SH. 3.
10. EACH LINE FOR THE EIGHT UPPER BEARING SHOES AND THE EIGHT LOWER BEARING SHOES HAS AN IN-LINE FLOW CONTROL VALVE AND CHECK VALVE.
11. DELETED.
12. SETPOINT NOT HIGHER THAN 185F.
13. DELETED

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
26	04-04-00	ISSUED AS-BUILT PER CRN-M-8993 (PC/M 99-081).	JPG	JZ	—	JRH	21	10-20-98	ISSUED AS-BUILT PER PC/M 98-040.	RH	RV	DF	JTL
25	11-9-99	ISSUED AS-BUILT PER CRN-M-8794 (PC/M 99-033).	RH	RV	CMZ	JLT	20	10-17-98	ISSUED AS-BUILT PER PC/M 97-047.	RH	RV	JTL	JMM
24	9-8-99	ISSUED AS-BUILT PER CRN-M-8775 (PC/M 99-018).	RH	RV	CMZ	JM	27	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD
23	10-23-98	ISSUED AS-BUILT PER PC/M 97-046.	RH	RV	DF	JJC	0	2-19-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	SM	MD	[illegible]	LRB
22	10-23-98	ISSUED AS-BUILT PER PC/M 97-046. (PARTIAL)	RH	RV	RSY	JJC	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-043.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

REACTOR COOLANT SYSTEM

REACTOR COOLANT PUMPS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

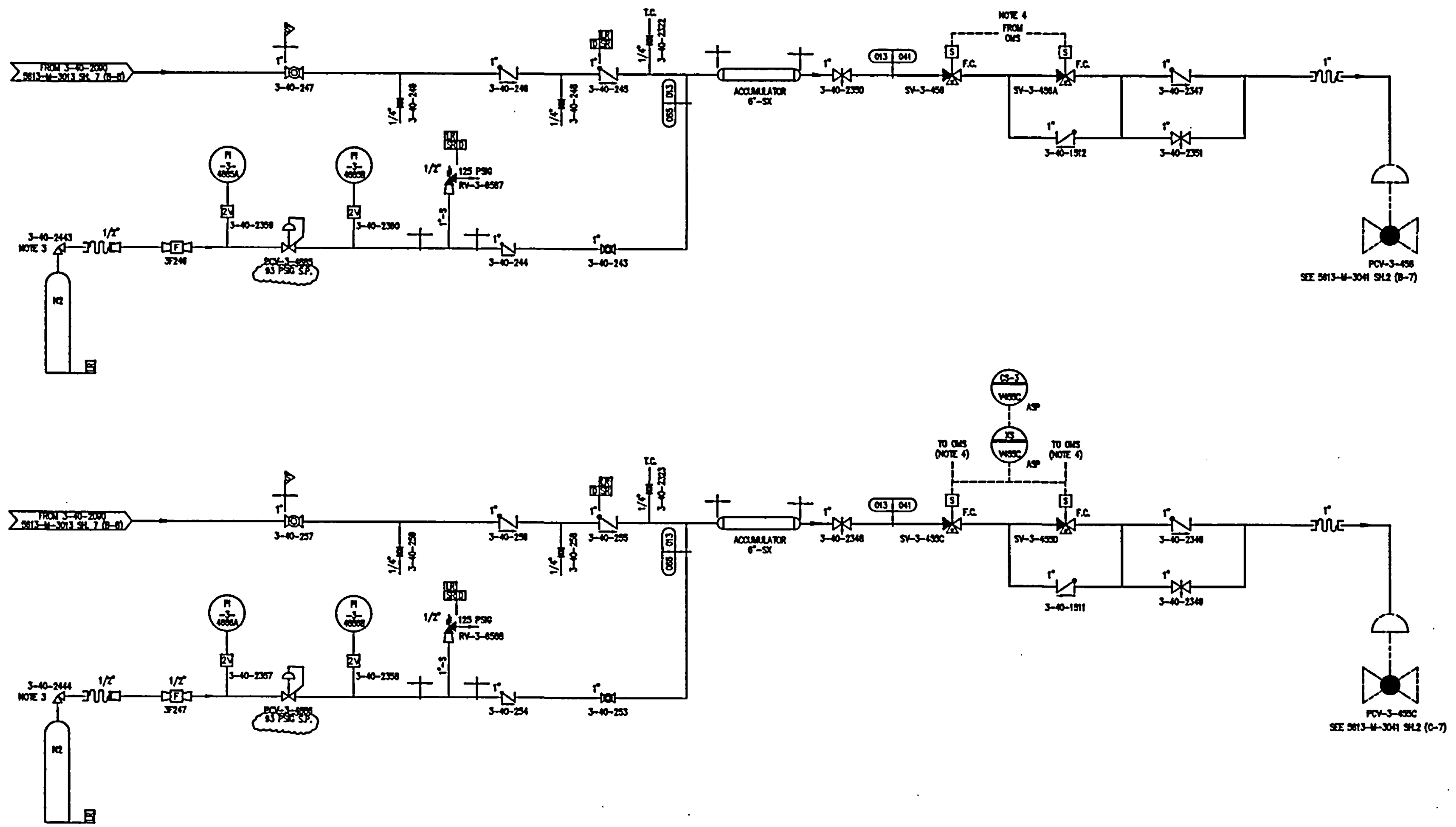
DRAWING NUMBER 5613-M-3041

SHEET 3

SYS 041

REV 27

UTM00122.DWG



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3041 SH. 1.
2. DELETED.
3. THESE VALVES ARE FURNISHED WITH THEIR ASSOCIATED NITROGEN BOTTLES.
4. FOR CONTROL LOGIC SEE DWG NO. 5610-T-D-16A & 16B.

POD

REV	DATE	REVISION	BY	CH	APP	APP
7	03-10-03	ISSUED AS-BUILT PER CRN-M-10631 (PC/M 01-050).	RH	JK	RSV	JTL
6	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (99-061).	JPG	JZ	—	JRH
5	9-7-94	ISSUED AS-BUILT FOR PC/M 94-054 & INCORPORATED CRN-M-8032	RV	RH	HLM	BD
4	9-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-308 AND PCM 93-084.	SMM	MD	LK	JRH
3	2-7-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	SP	MOW	LK	MFM
2	2-7-93	ISSUED AS-BUILT FOR PC/M 92-090.	SP	INITIALS ON FILE		
1	12-15-92	ISSUED AS-BUILT FOR PC/M 89-542 AND DCR-TPM-92-215.	GFH	INITIALS ON FILE		
0	2-15-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-043.	GFH	HLG		LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

REACTOR COOLANT SYSTEM

PORV CONTROL

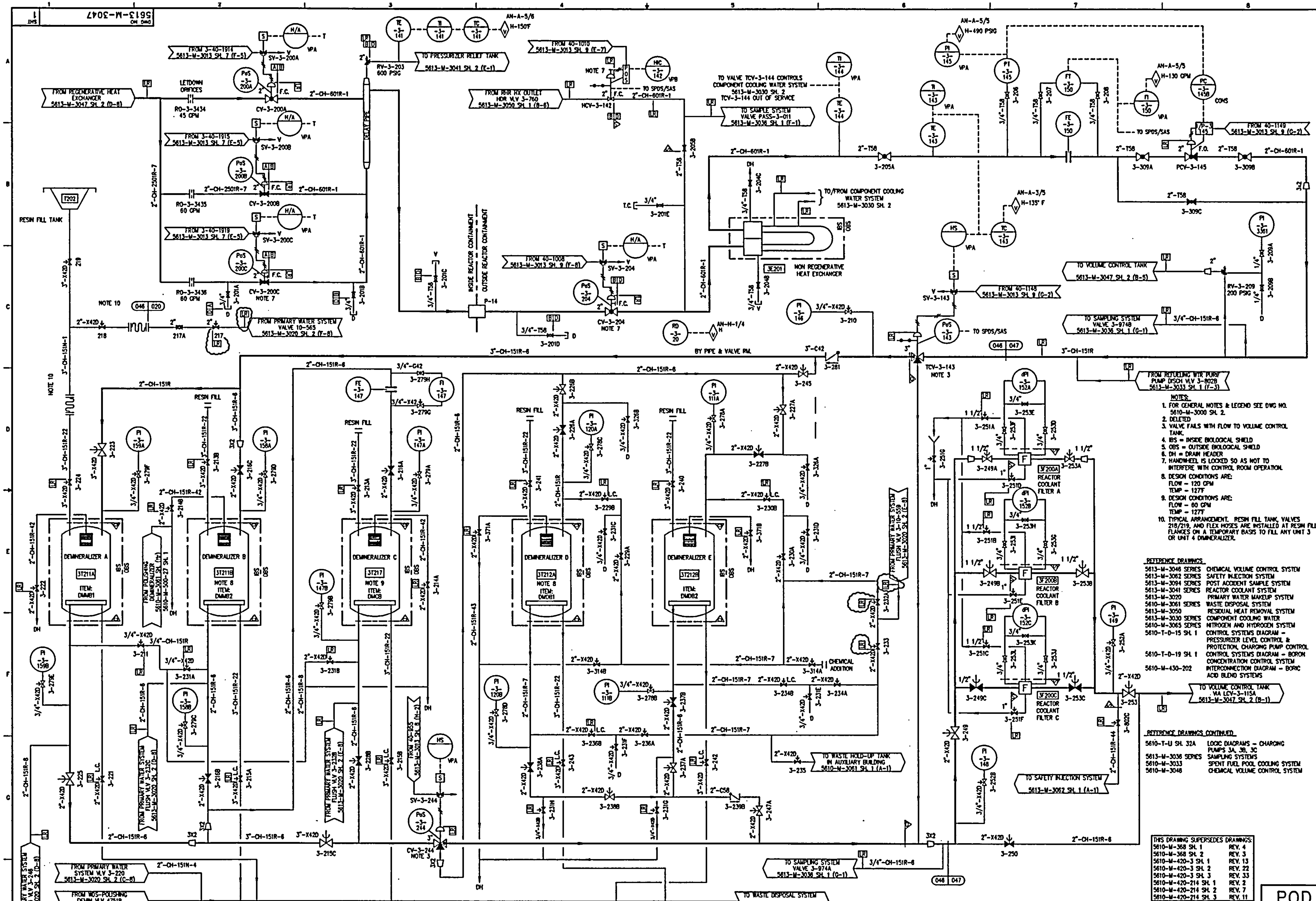
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3041

SHEET 4

SYS 041

REV 7



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED
3. VALVE FAILS WITH FLOW TO VOLUME CONTROL TANK.
4. IBS = INSIDE BIOLOGICAL SHIELD
5. OBS = OUTSIDE BIOLOGICAL SHIELD
6. DH = DRAIN HEADER
7. HANDWHEEL IS LOCKED SO AS NOT TO INTERFERE WITH CONTROL ROOM OPERATION.
8. DESIGN CONDITIONS ARE: FLOW – 120 GPM TEMP – 127F
9. DESIGN CONDITIONS ARE: FLOW – 60 GPM TEMP – 127F
10. TYPICAL ARRANGEMENT. RESIN FILL TANK, VALVES 218/219, AND FLEX HOSES ARE INSTALLED AT RESIN FILL FLANGES ON A TEMPORARY BASIS TO FILL ANY UNIT 3 OR UNIT 4 DMINERALIZER.

REFERENCE DRAWINGS

5613-M-3046 SERIES	CHEMICAL VOLUME CONTROL SYSTEM
5613-M-3062 SERIES	SAFETY INJECTION SYSTEM
5613-M-3094 SERIES	POST ACCIDENT SAMPLE SYSTEM
5613-M-3041 SERIES	REACTOR COOLANT SYSTEM
5613-M-3020	PRIMARY WATER MAKEUP SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5613-M-3050	RESIDUAL HEAT REMOVAL SYSTEM
5613-M-3030 SERIES	COMPONENT COOLING WATER
5610-M-3065 SERIES	NITROGEN AND HYDROGEN SYSTEM
5610-T-D-15 SH. 1	CONTROL SYSTEMS DIAGRAM – PRESSURIZER LEVEL CONTROL & PROTECTION, CHARGING PUMP CONTROL
5610-T-D-19 SH. 1	CONTROL SYSTEMS DIAGRAM – BORON CONCENTRATION CONTROL SYSTEM
5610-M-430-202	INTERCONNECTION DIAGRAM – BORIC ACID BLEND SYSTEMS

REFERENCE DRAWINGS CONTINUED

5610-T-U SH. 32A	LOGIC DIAGRAMS – CHARGING PUMPS 3A, 3B, 3C
5613-M-3036 SERIES	SAMPLING SYSTEMS
5610-M-3033	SPENT FUEL POOL COOLING SYSTEM
5610-M-3048	CHEMICAL VOLUME CONTROL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-368 SH. 1	REV. 4
5610-M-368 SH. 2	REV. 3
5610-M-420-3 SH. 1	REV. 13
5610-M-420-3 SH. 2	REV. 22
5610-M-420-3 SH. 3	REV. 33
5610-M-420-214 SH. 1	REV. 2
5610-M-420-214 SH. 2	REV. 7
5610-M-420-214 SH. 3	REV. 11

POD

NOTE: THIS DWG IS MADE FROM:

FPL POD	5610-T-E-4505 SH. 1	REV. 84
FPL POD	5610-T-E-4505 SH. 2	REV. 55
FPL POD	5610-T-E-4505 SH. 3	REV. 7
FPL POD	5610-T-E-4515 SH. 2	REV. 22

REV	DATE	REVISION	BY	CH	APP	APP
16	3-6-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046), CRN-M-9991	JPG	RH	BSG	JMM
—	—	(PC/M 99-061) AND CRN-M-9993 (PC/M 99-061).	—	—	—	—
15	11-9-99	ISSUED AS-BUILT PER CRN'S M-9790, M-9794 (PC/M 99-033).	RH	RV	CMZ	JTL
14	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RV	DF	JJC
13	12-11-95	ISSUED AS-BUILT FOR PC/M 94-012 AND INCORPORATED CRN-M-8533.	RH	RV	TSC	BD
12	12-19-94	ISSUED AS-BUILT FOR PC/M 94-110 AND INCORP. CRN-I-3044.	RH	RV	RAS	JJN

REV	DATE	REVISION	BY	CH	APP	APP
11	9-7-94	ISSUED AS-BUILT FOR PC/M 94-054 & INCORPORATED CRN-M-8032.	RH	RV	HLM	BD
10	3-17-94	ISSUED AS-BUILT FOR DCR-TPI-93-423.	RV	RH	JJN	JCW
17	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
0	3-5-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	RAS	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPN-91-045.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

CHEMICAL AND VOLUME CONTROL SYSTEM CHARGING AND LETDOWN

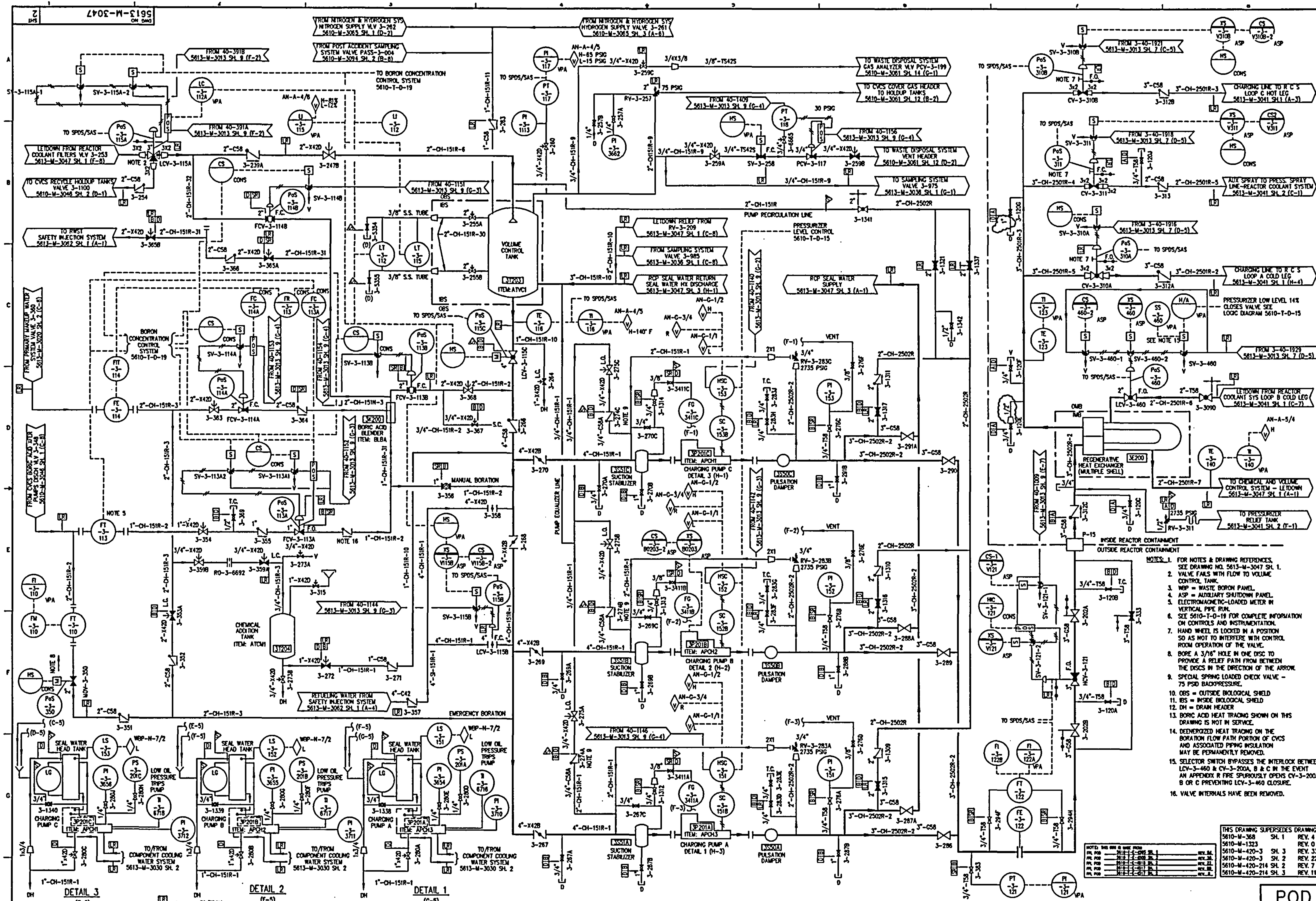
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3047

SYS 047

SHEET 1

REV 17



NOTES:
1. FOR NOTES & DRAWING REFERENCES, SEE DRAWING NO. 5613-M-3047 SH. 1.
2. VALVE FAILS WITH FLOW TO VOLUME CONTROL TANK.
3. WBP = WASTE BORON PANEL.
4. ASP = AUXILIARY SHUTDOWN PANEL.
5. ELECTROMAGNETIC-LOADED METER IN VERTICAL PIPE RUN.
6. SEE 5610-T-D-19 FOR COMPLETE INFORMATION ON CONTROLS AND INSTRUMENTATION.
7. HAND WHEEL IS LOCKED IN A POSITION SO AS NOT TO INTERFERE WITH CONTROL ROOM OPERATION OF THE VALVE.
8. BORE A 3/16" HOLE IN ONE DISC TO PROVIDE A RELIEF PATH FROM BETWEEN THE DISCS IN THE DIRECTION OF THE ARROW.
9. SPECIAL SPRING LOADED CHECK VALVE – 75 PSID BACKPRESSURE.
10. OBS = OUTSIDE BIOLOGICAL SHIELD
11. IBS = INSIDE BIOLOGICAL SHIELD
12. DH = DRAIN HEADER
13. BORIC ACID HEAT TRACING SHOWN ON THIS DRAWING IS NOT IN SERVICE.
14. DEENERGIZED HEAT TRACING ON THE BORATION FLOW PATH PORTION OF CVCS AND ASSOCIATED PIPING INSULATION MAY BE PERMANENTLY REMOVED.
15. SELECTOR SWITCH BYPASSES THE INTERLOCK BETWEEN LCV-3-460 & CV-3-200A, B & C IN THE EVENT AN APPENDIX R FIRE SPURIOUSLY OPENS CV-3-200A, B OR C PREVENTING LCV-3-460 CLOSURE.
16. VALVE INTERNALS HAVE BEEN REMOVED.

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-368	SH. 1	REV. 4
5610-M-1323		REV. 0
5610-M-420-3	SH. 3	REV. 33
5610-M-420-3	SH. 2	REV. 22
5610-M-420-214	SH. 2	REV. 7
5610-M-420-214	SH. 3	REV. 11

POD

REV	DATE	REVISION	BY	CH	APP	APP
35	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
34	11-26-01	ISSUED AS-BUILT PER CRN-M-10440 (PC/M 00-016).	RH	RV	AAP	ASD
33	6-22-01	ISSUED AS-BUILT PER PC/M 01-032.	RV	RH	LJ	BAP
32	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD
31	6-23-00	ISSUED AS-BUILT PER CRN-M-10074 (PC/M 99-061).	RV	JK	AAP	JM
30	5-10-00	ISSUED AS-BUILT PER CRN-M-10010 (PC/M 99-061).	RH	RV	JK	ASD

REV	DATE	REVISION	BY	CH	APP	APP
38	6-17-03	ISSUED AS-BUILT PER CRN-M-10380 (PC/M 00-016).	RH	RV	AAP	JTL
37	03-11-03	ISSUED AS-BUILT PER PC/M 03-001	RH	RV	ASD	JMM
36	7-17-02	ISSUED AS-BUILT PER PC/M 02-057.	RH	TEJ	KCP	PMB
0	3-5-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	RAS / SW	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-045.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

CHEMICAL AND VOLUME CONTROL SYSTEM
CHARGING AND LETDOWN

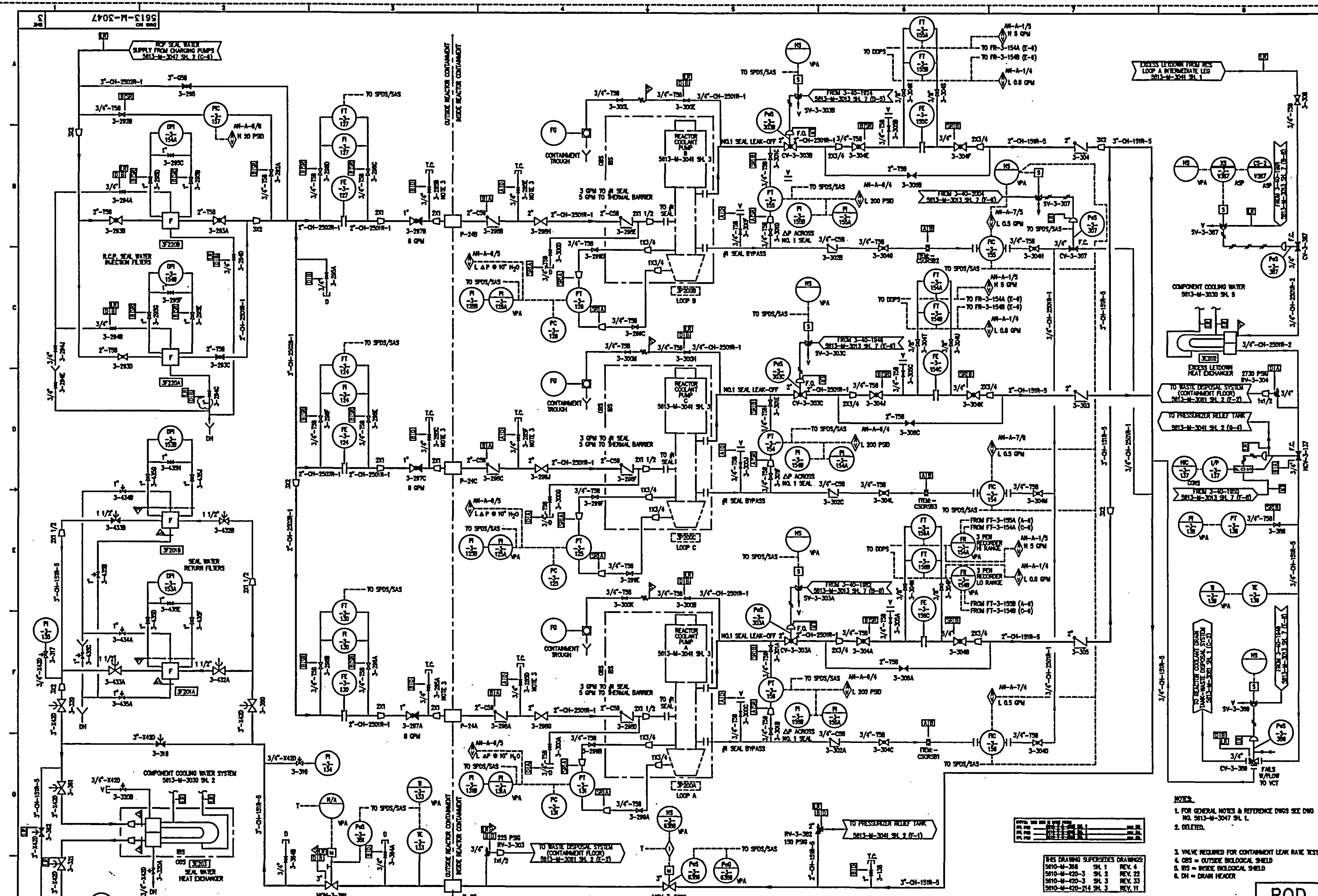
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3047

SYS 047

REV 38

SHEET 2



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3047 SH. 1.
2. DELETED.
3. VALVE REQUIRED FOR CONTAINMENT LEAK RATE TEST.
4. OBS = OUTSIDE BIOLOGICAL SHIELD
5. IBS = INSIDE BIOLOGICAL SHIELD
6. DH = DRAIN HEADER

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-368	SH. 1	REV. 4
5610-M-420-3	SH. 2	REV. 22
5610-M-420-3	SH. 3	REV. 33
5610-M-420-214	SH. 3	REV. 11

POD

REV	DATE	REVISION	BY	CH	APP	APP
20	5-10-00	ISSUED AS-BUILT PER CRN-M-10006 (PC/M 99-061).	RH	RV	JK	ASD
19	04-25-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	KGM	—	JRH
18	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RV	DF	JJC
17	10-23-98	ISSUED AS-BUILT PER PC/M 97-003 AND INCORP. CRN-M-9352.	RH	RV	DF	JJC
16	10-20-98	ISSUED AS-BUILT PER PC/M 97-003. (PARTIAL)	RH	RV	JZ	JJC
15	5-28-98	ISSUED AS-BUILT PER CRN-I-3716(PC/M 98-013).	RV	RH	BP	TS
14	2-19-97	ISSUED AS-BUILT PER CRN-I-3406(PC/M 96-080).	RV	RH	BP	BAP
13	1-27-97	ISSUED AS-BUILT FOR PC/M 96-091.	RV	RH	BP	TS
12	4-25-94	ISSUED AS-BUILT FOR PC/M 93-047.	RH	RV	BAW	JCW
0	3-5-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ~~ISSUED INTO THE FPL DWG SYSTEM~~ PER DCR-TPM-91-045.	SM	MD		LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

CHEMICAL AND VOLUME CONTROL SYSTEM SEAL WATER INJECTION TO RCP

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3047

SHEET 3

SYS 047

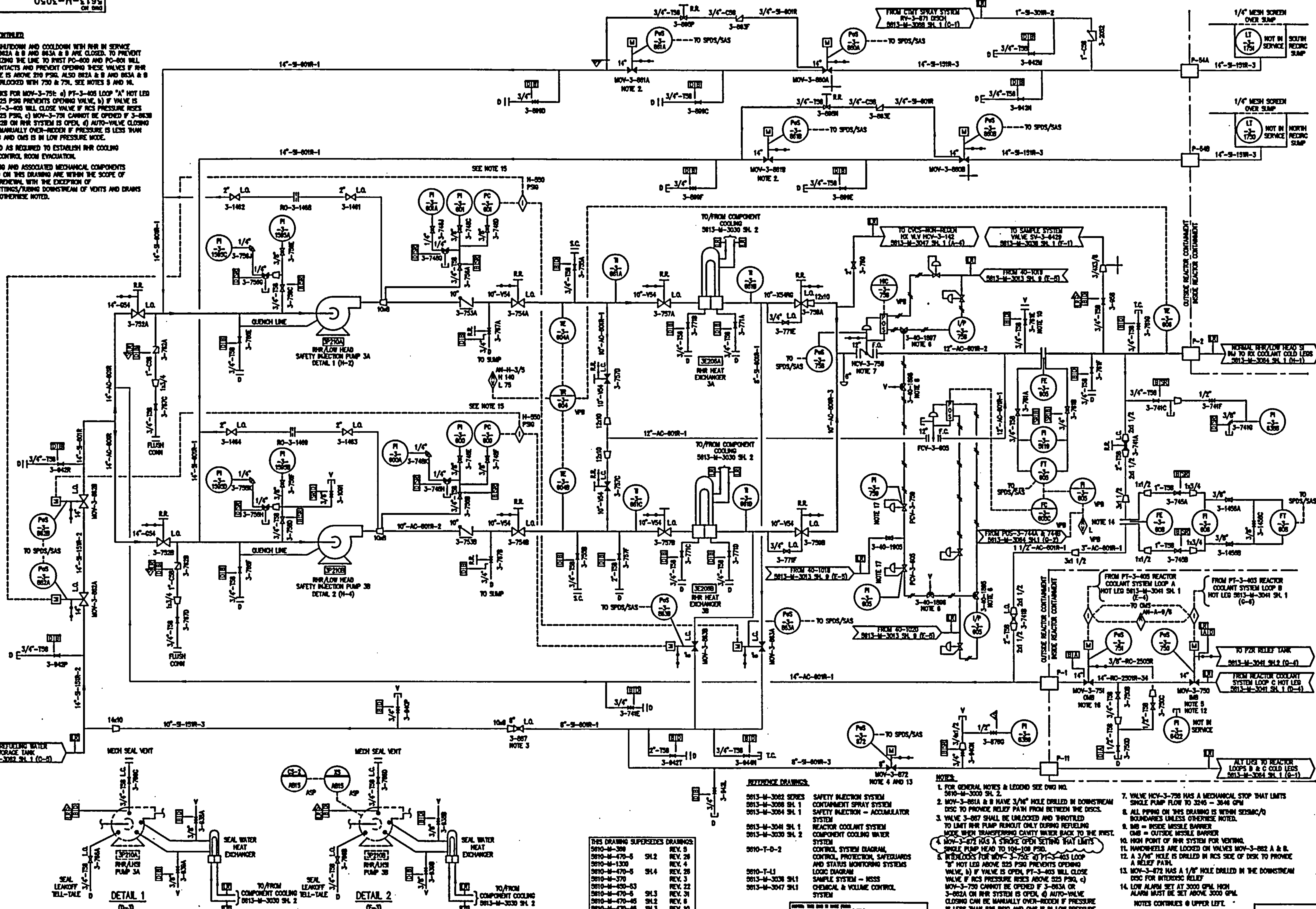
REV 20

UTM00136.DWG

SHEET	DWG NO
1	5613-M-3050

NOTES CONTINUED

15. DURING SHUTDOWN AND COOLDOWN WITH RHR IN SERVICE VALVES 862A & B AND 863A & B ARE CLOSED. TO PREVENT PRESSURIZING THE LINE TO RWST PC-600 AND PC-601 WILL OPEN CONTACTS AND PREVENT OPENING THESE VALVES IF RHR PRESSURE IS ABOVE 210 PSIG. ALSO 862A & B AND 863A & B ARE INTERLOCKED WITH 750 & 751. SEE NOTES 5 AND 16.
16. INTERLOCKS FOR MOV-3-751: a) PT-3-406 LOOP "A" HOT LEG ABOVE 525 PSIG PREVENTS OPENING VALVE, b) IF VALVE IS OPEN, PT-3-406 WILL CLOSE VALVE IF RCS PRESSURE RISES ABOVE 525 PSIG, c) MOV-3-751 CANNOT BE OPENED IF 3-863B OR 3-862B ON RHR SYSTEM IS OPEN, d) AUTO-VALVE CLOSING CAN BE MANUALLY OVER-RIDDEN IF PRESSURE IS LESS THAN 525 PSIG AND OMS IS IN LOW PRESSURE MODE.
17. ADJUSTED AS REQUIRED TO ESTABLISH RHR COOLING DURING CONTROL ROOM EVACUATION.
18. ALL PIPING AND ASSOCIATED MECHANICAL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL WITH THE EXCEPTION OF PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS AND AS OTHERWISE NOTED.



REFERENCE DRAWINGS:

5613-M-3062 SERIES	SAFETY INJECTION SYSTEM
5613-M-3068 SH. 1	CONTAINMENT SPRAY SYSTEM
5613-M-3064 SH. 1	SAFETY INJECTION - ACCUMULATOR SYSTEM
5613-M-3041 SH. 1	REACTOR COOLANT SYSTEM
5613-M-3030 SH. 2	COMPONENT COOLING WATER SYSTEM
5610-T-D-2	CONTROL SYSTEM DIAGRAM, CONTROL, PROTECTION, SAFEGUARDS AND STATUS MONITORING SYSTEMS
5610-T-L1	LOGIC DIAGRAM
5613-M-3036 SH.1	SAMPLE SYSTEM - NSSS
5613-M-3047 SH.1	CHEMICAL & VOLUME CONTROL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-369		REV. 5
5610-M-470-5	SH.2	REV. 28
5610-M-1300		REV. 4
5610-M-470-5	SH.4	REV. 25
5610-M-370		REV. 3
5610-M-430-53		REV. 22
5610-M-470-5	SH.3	REV. 31
5610-M-470-45	SH.2	REV. 6
5610-M-470-45	SH.3	REV. 10
5610-M-470-45	SH.4	REV. 4

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. MOV-3-861A & B HAVE 3/16" HOLE DRILLED IN DOWNSTREAM DISC TO PROVIDE RELIEF PATH FROM BETWEEN THE DISCS.
3. VALVE 3-887 SHALL BE UNLOCKED AND THROTTLED TO LIMIT RHR PUMP RUNOUT ONLY DURING REFUELING MODE WHEN TRANSFERRING CAVITY WATER BACK TO THE RWST.
4. MOV-3-872 HAS A STROKE OPEN SETTING THAT LIMITS SINGLE PUMP HEAD TO 104-108 PSID.
5. INTERLOCKS FOR MOV-3-750: a) PT-3-403 LOOP "B" HOT LEG ABOVE 525 PSIG PREVENTS OPENING VALVE, b) IF VALVE IS OPEN, PT-3-403 WILL CLOSE VALVE IF RCS PRESSURE RISES ABOVE 525 PSIG, c) MOV-3-750 CANNOT BE OPENED IF 3-863A OR 3-862A ON RHR SYSTEM IS OPEN, d) AUTO-VALVE CLOSING CAN BE MANUALLY OVER-RIDDEN IF PRESSURE IS LESS THAN 525 PSIG AND OMS IS IN LOW PRESSURE MODE.
6. SEALED IN AS SHOWN.
7. VALVE HCV-3-758 HAS A MECHANICAL STOP THAT LIMITS SINGLE PUMP FLOW TO 3245 - 3846 GPM
8. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
9. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
10. HIGH POINT OF RHR SYSTEM FOR VENTING.
11. HANDWHEELS ARE LOCKED ON VALVES MOV-3-862 A & B.
12. A 3/16" HOLE IS DRILLED IN RCS SIDE OF DISK TO PROVIDE A RELIEF PATH.
13. MOV-3-872 HAS A 1/8" HOLE DRILLED IN THE DOWNSTREAM DISC FOR INTERDISC RELIEF
14. LOW ALARM SET AT 3000 GPM. HIGH ALARM MUST BE SET ABOVE 3000 GPM.

NOTES CONTINUES @ UPPER LEFT.

POD

REV	DATE	REVISION	BY	CH	APP	APP
25	01-24-02	ISSUED AS-BUILT PER PC/M 01-053.	RY	JK	OMZ	ASD
24	10-11-01	ISSUED AS-BUILT PER PC/M 01-052.	RH	RY	CW	JM
23	10-30-00	ISSUED AS-BUILT PER CRN-M-10131 (PC/M 00-016).	RH	RY	AAP	ASD
22	10-18-00	ISSUED AS-BUILT PER PC/M 00-016 & INCORP. CRN-M-10183.	RY	BSG	JK	JMM
21	8-15-00	ISSUED AS-BUILT PER CRN M-10084 (PC/M 99-081).	RH	RY	AAP	JM
20	5-12-00	ISSUED AS-BUILT PER CRN-M-10073 (PC/M 99-081).	RH	RY	IS	JM

REV	DATE	REVISION	BY	CH	APP	APP
19	3-6-00	ISSUED AS-BUILT PER CRN-M-9962 (PC/M 99-061) AND CRN-M-9963 (PC/M 99-061).	JPG	RH	BSG	JMM
18	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RY	DF	JJC
0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.	TAM	MD		LRB

FPL

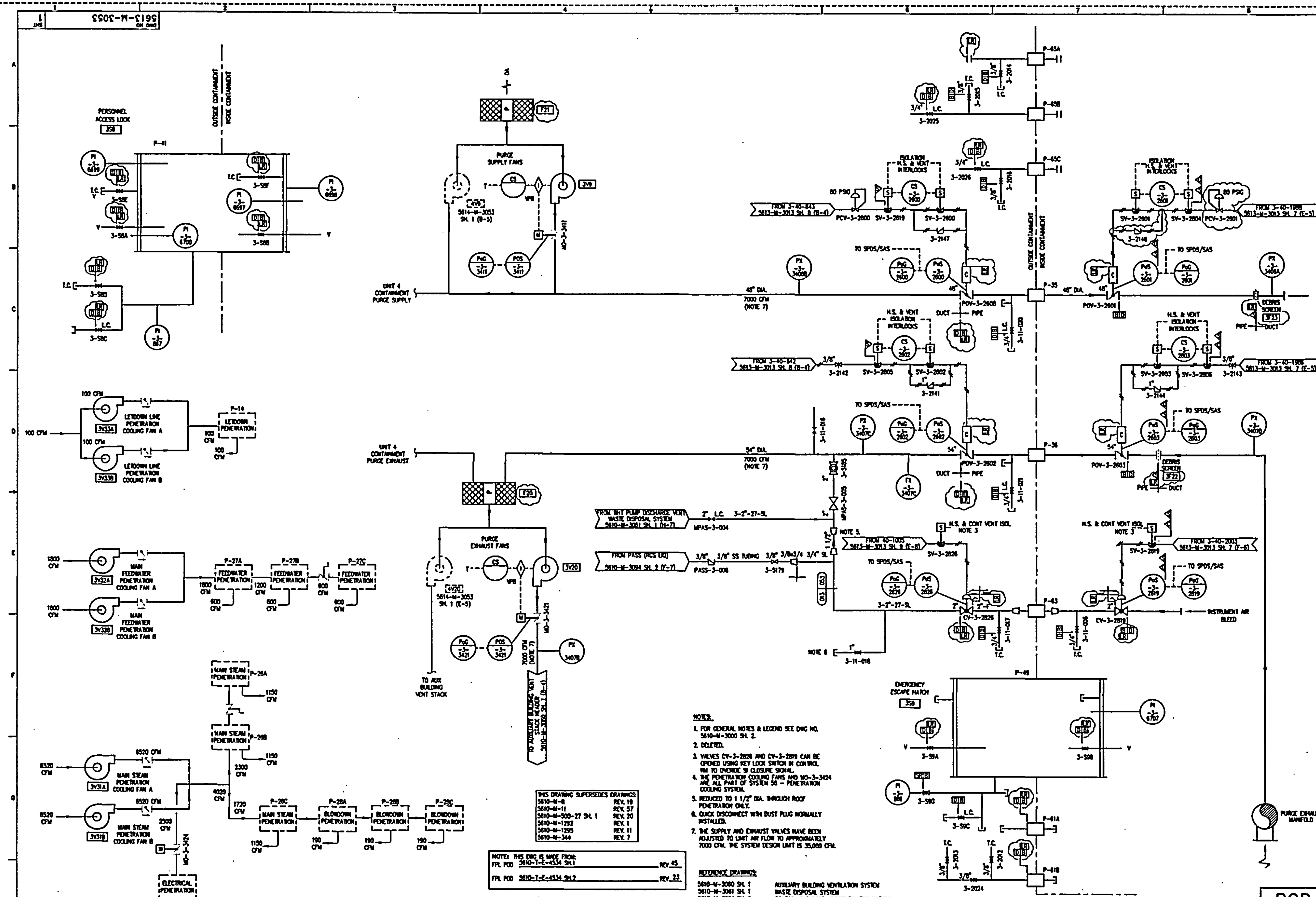
TURKEY POINT NUCLEAR UNIT 3

P & I D

RESIDUAL HEAT REMOVAL SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5613-M-3050	050
SHEET 1	REV 25



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. VALVES CV-3-2826 AND CV-3-2819 CAN BE OPENED USING KEY LOCK SWITCH IN CONTROL RM TO OVERIDE SI CLOSURE SIGNAL.
4. THE PENETRATION COOLING FANS AND MO-3-3424 ARE ALL PART OF SYSTEM 58 - PENETRATION COOLING SYSTEM.
5. REDUCED TO 1 1/2" DIA. THROUGH ROOF PENETRATION ONLY.
6. QUICK DISCONNECT WITH DUST PLUG NORMALLY INSTALLED.
7. THE SUPPLY AND EXHAUST VALVES HAVE BEEN ADJUSTED TO LIMIT AIR FLOW TO APPROXIMATELY 7000 CFM. THE SYSTEM DESIGN LIMIT IS 35,000 CFM.

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-8	REV. 19
5610-M-11	REV. 57
5610-M-500-27 SH. 1	REV. 20
5610-M-1292	REV. 1
5610-M-1295	REV. 11
5610-M-344	REV. 7

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4534 SH.1 REV. 45
FPL POD 5610-T-E-4534 SH.2 REV. 23

REFERENCE DRAWINGS:

5610-M-3080 SH. 1	AUXILIARY BUILDING VENTILATION SYSTEM
5610-M-3061 SH. 1	WASTE DISPOSAL SYSTEM
5613-M-3094 SH. 1	CONTAINMENT POST ACCIDENTAL EVALUATION

REV	DATE	REVISION	BY	CH	APP	APP
17	11-24-98	ISSUED AS-BUILT PER CRN-M-9461 (PC/M 98-036).	RH	RV	JMM	JDL
16	10-19-98	ISSUED AS-BUILT PER PC/M 98-017. (PARTIAL)	RH	RV	JZ	JJC
15	8-5-97	ISSUED AS-BUILT PER CRN-M-9053 (PC/M 97-019)	RH	RV	RSV	JEH
14	10-24-96	ISSUED AS-BUILT FOR PC/M 95-039.	RH	RV	DJB	JJC
13	11-16-95	INCORPORATED CRN-M-8509 FOR PC/M 95-115.	RH	PDK	DJB	BD
12	10-2-95	ISSUED AS-BUILT FOR PC/M 93-227 AND INCORPORATED CRN-M-8427.	RH	RV	JZ	BD

REV	DATE	REVISION	BY	CH	APP	APP
11	2-16-95	INCORPORATED CRN-M-8189 FOR PC/M 94-123.	RH	RV	WMC	JJC
10	11-2-94	INCORPORATED CRN-M-8035 FOR PC/M 89-581.	RH	RV	JJC	JZ
18	03-22-00	ISSUED AS-BUILT PER CRN-M-9849 (PC/M 99-048) AND CRN-M-9993	RH	RV	JK	JMM
—	—	(PC/M 99-081). ISSUED AS-BUILT PER PC/M 98-017 & INCORP. CRN M-10042.	—	—	—	—
0	7-22-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	RAS/JCP	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPN-91-248.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

CONTAINMENT PURGE SYSTEM AND PENETRATION COOLING SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3053

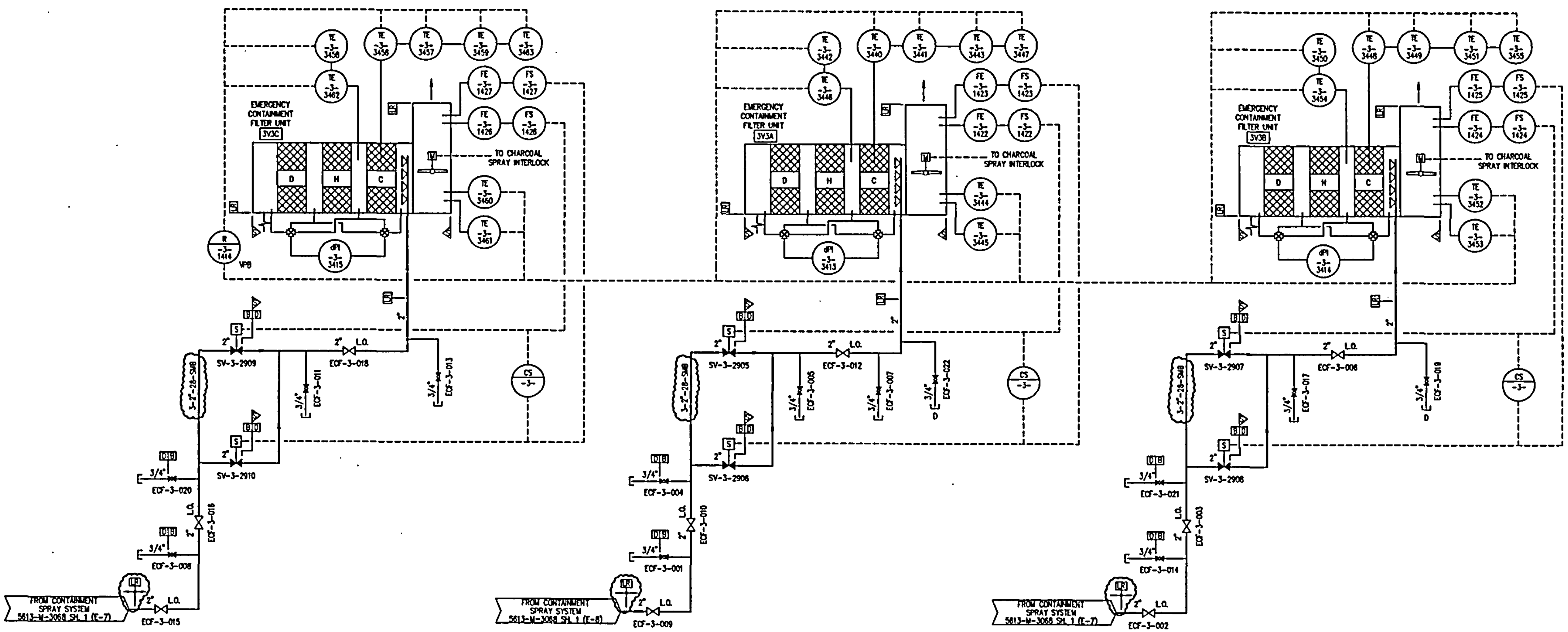
SHEET 1

SYS 053

REV 18

POD

UTM00142.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. ALL ITEMS SHOWN ON THIS DRAWING ARE NUCLEAR SAFETY RELATED.
3. ALL PIPING AND ASSOCIATED MECHANICAL COMPONENTS ARE WITHIN THE SCOPE OF LICENSE RENEWAL EXCEPT FOR PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS.

REFERENCE DRAWINGS:

5613-M-3057 SH. 1 CONTAINMENT NORMAL AND EMERGENCY COOLER SYSTEMS

5613-M-3068 SH. 1 CONTAINMENT SPRAY SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-11 REV. 55
5610-M-1296 REV. 1

NOTE: THIS DWG IS MADE FROM:
FPL POD 5410-T-E-4510 SH. 2 REV. 75
FPL POD 5410-T-E-4534 SH. 2 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP
6	7-15-03	ISSUED AS-BUILT PER CRN-M-10627 (PC/M 02-065).	RH	RV	RSV	ASD
5	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	STH	—	JRH
4	7-19-96	INCORPORATED CRN-M-8789 FOR PC/M 96-045.	RH	RV	DJB	BD
3	9-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-309.	SMM	MD	LK	JRH
2	3-5-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	LSM	MH	LK	JRH
1	12-21-92	ISSUED AS-BUILT FOR PC/M 89-542.	TAM	INITIALS ON FILE		
0	7-24-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-248.	SAM	MD	RAS/JGR	LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

CONTAINMENT EMERGENCY FILTER SYSTEM

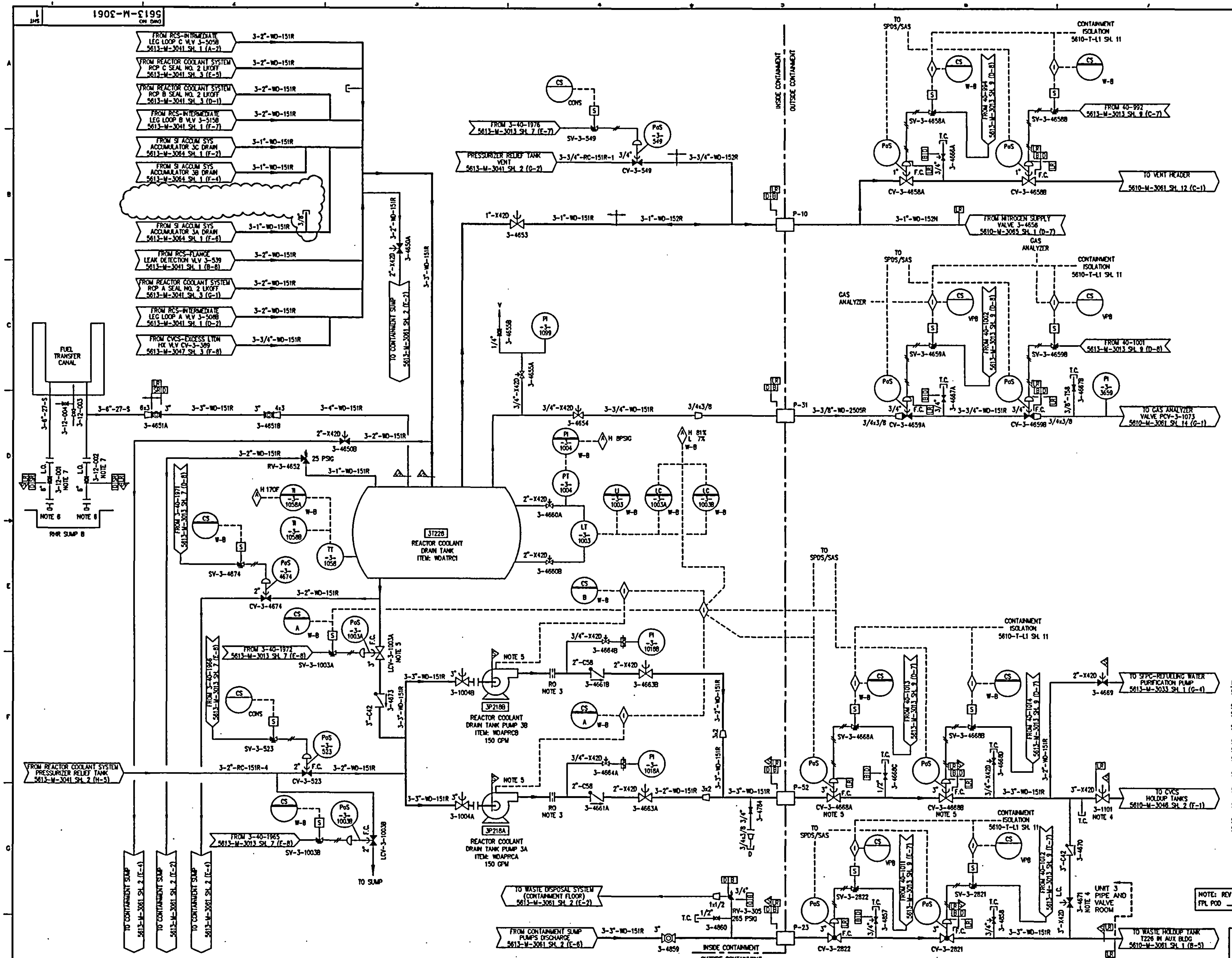
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3056

SYS 056

REV 6

SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. ORIFICE PLATE AND FLANGE SUPPLIED WITH PUMP AND STAMPED WITH CORRESPONDING NUMBER.
4. VALVE SHOULD BE LOCKED CLOSED AND BEAR A TAG STATING THAT VALVE 3-4671 SHOULD NOT BE OPENED UNTIL VALVE 3-1101 IS CLOSED.
5. PUMPS 3P218A & B WILL NOT START WHEN VALVES LCV-3-1003A, CV-3-4668A & B ARE IN CLOSED POSITION.
6. MALE "KAM-LOCK" CONNECTIONS ARE PROVIDED AT THE FUEL TRANSFER CANAL DRAINS. COUPLER SHALL BE REMOVED AFTER COMPLETION OF REFUELING ACTIVITIES.
7. VALVES 3-12-001 AND 3-12-002 MAY BE LOCKED OPEN OR REMOVED DURING NORMAL PLANT OPERATIONS. VALVES 3-12-001 AND 3-12-002 SHALL BE INSTALLED AND CLOSED FOR REFUELING OPERATIONS.

REFERENCE DRAWINGS:

5613-M-3061 SH. 2	WASTE DISPOSAL SYSTEM – LIQUID CONTAINMENT DRAINS
5610-M-3061 SH. 1	WASTE DISPOSAL SYSTEM – LIQUID
5610-M-3061 SH. 12	WASTE DISPOSAL SYSTEM – GAS – WASTE GAS COMPRESSORS
5610-M-3061 SH. 14	WASTE DISPOSAL SYSTEM – GAS – GAS ANALYZERS
5613-M-3033 SH. 1	SPENT FUEL POOL COOLING SYSTEM
5613-M-3041 SH. 1,2	REACTOR COOLANT SYSTEM
5613-M-3041 SH. 3	REACTOR COOLANT SYSTEM – REACTOR COOLANT PUMPS
5613-M-3047 SH. 3	CHEMICAL & VOLUME CONTROL SYSTEM – SEAL WATER INJECTION TO RCP
5613-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT
5610-M-3046 SH. 2	CHEMICAL & VOLUME CONTROL SYSTEM – BORON RECYCLE SYSTEM
5610-M-3065 SH. 1	NITROGEN SYSTEM & HYDROGEN SYSTEM
5610-T-L1 SH. 11	SAFEGUARDS ACTUATION AND STEAM LINE ISOLATION

NOTE: REV 1 OF THIS DWG MADE FROM:
FPL POD 5610-T-E-4518 SH. 2 REV. 37

REV 1 OF THIS DRAWING SUPERSEDES DRAWING:
5610-M-12 REV. 25

POD

REV	DATE	REVISION	BY	CH	APP	APP
19	03-14-03	ISSUED AS-BUILT PER PC/M 98-008 AND INCORP. CRN-M-10420.	RV	RH	PRB	JTL
18	03-04-03	ISSUED AS-BUILT PER PC/M 01-054.	RH	RV	AAP	JTL
17	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	AGM	JTL
16	10-10-01	ISSUED AS-BUILT PER CRN-M-10298 (PC/M 00-016)	RH	RV	AAP	JMM
15	3-16-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	JPG	RH	JK	ASD
14	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RV	DF	JJC
13	10-23-98	ISSUED AS-BUILT PER PC/M 97-003 AND INCORP. CRN-M-9552.	RH	RV	DF	JJC
0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-500-27 SH. 2. DWG SUPERSEDES 5610-M-500-27 SH. 2, 5610-M-500-442 SH. 2, 5610-M-373. AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	GFH	MD	RAS	HAR

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

WASTE DISPOSAL SYSTEM
LIQUID
RCDT AND PUMPS

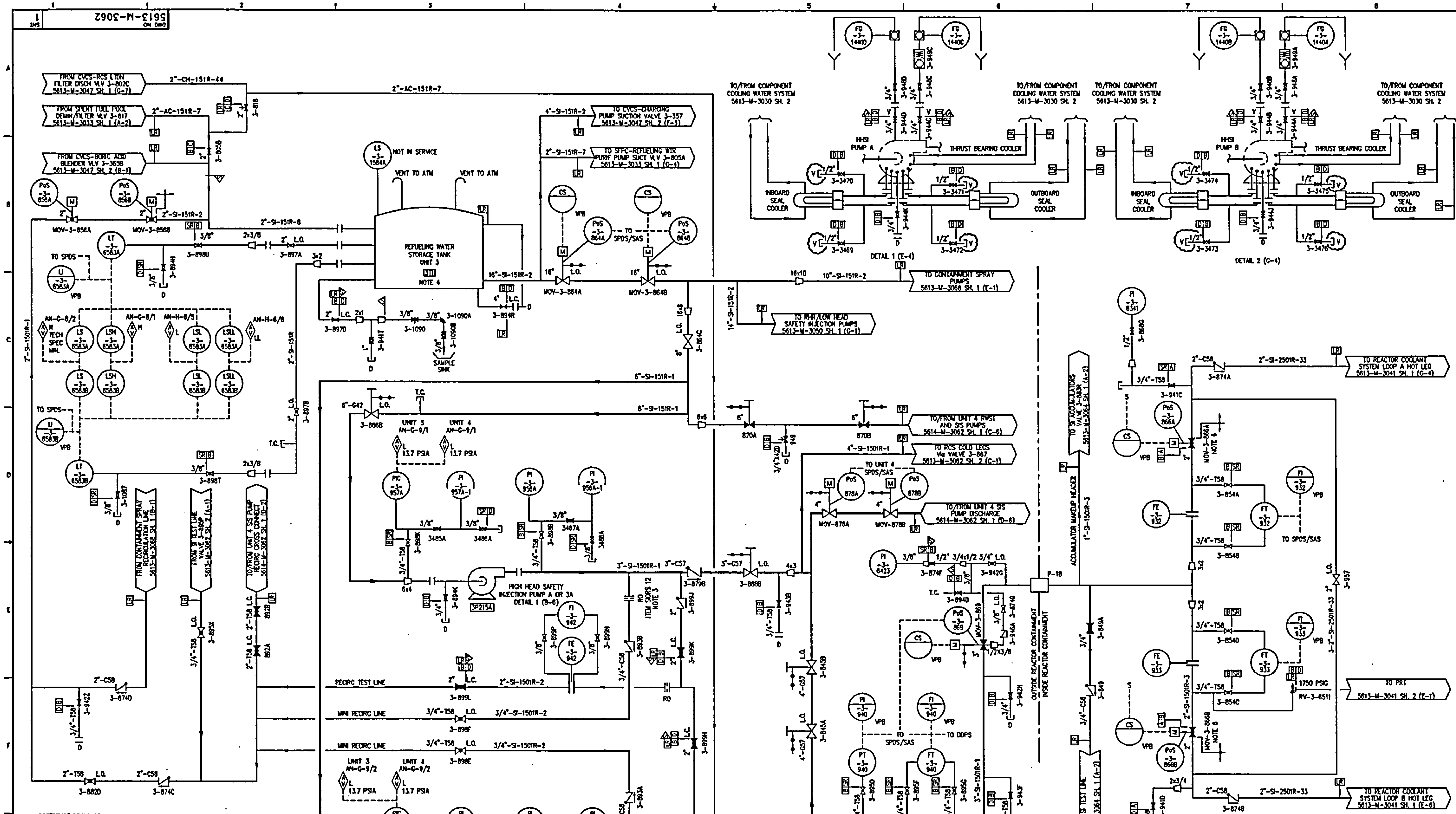
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER: 5613-M-3061

SHEET 1

SYS 061

REV 19



REFERENCE DRAWINGS:

5613-M-3062 SH. 2	SAFETY INJECTION SYSTEM
5613-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR CVCS
5613-M-3030 SH. 2	COMPONENT COOLING WATER SYSTEM
5613-M-3033 SH. 1	SPENT FUEL POOL COOLING SYSTEM
5613-M-3041 SH. 1	REACTOR COOLANT SYSTEM
5613-M-3047 SH. 1&2	CVCS – CHARGING AND LETDOWN SYSTEM
5613-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5613-M-3068 SH. 1	CONTAINMENT SPRAY SYSTEM
5614-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5610-T-L1 (SERIES)	LOGIC DIAGRAMS
5610-T-D-2	CONTROL SYSTEM DIAGRAM, CONTROL, PROTECTION, SAFEGUARDS AND STATUS MONITORING SYSTEMS
5610-M-3046 SH. 1	CVCS – BORON ADDITION AND RECYCLE SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-369		REV. 5
5610-M-370		REV. 3
5610-M-380		REV. 5
5610-M-470-5	SH. 1	REV. 21
5610-M-470-5	SH. 2	REV. 26
5610-M-470-5	SH. 4	REV. 26
5610-M-470-45	SH. 1	REV. 5
5610-M-470-45	SH. 2	REV. 6
5610-M-470-45	SH. 4	REV. 4
5610-M-1300		REV. 4
5610-M-1387		REV. 2

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. WELDED IN PLACE ORIFICE.
4. TECH SPEC MINIMUM LEVEL IS 322,000 GALLONS, HI LEVEL IS 332,000 GALLONS, LOW LEVEL IS 155,000 GALLONS AND LO-LO LEVEL IS 60,000 GALLONS.
5. DELETED.
6. BREAKERS ON VALVES MOV-3-866A & B ARE LOCKED OPEN.
7. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
8. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL, UNLESS NOTED OTHERWISE.

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
20	6-1-01	ISSUED AS-BUILT PER PC/M 99-048.	RH	RV	CMZ	JM	24	10-30-01	ISSUED AS-BUILT PER CRN-M-10453 (PC/M 00-016).	RH	RV	AAP	JM
19	9-18-00	ISSUED AS-BUILT PER CRN'S M-10138 & M-10133 (PC/M 00-016).	RH	RV	JK	JM	23	10-23-01	ISSUED AS-BUILT PER PC/M 01-014 AND INCORP. CRN-M-10443.	RH	RV	CMZ	JMM
18	6-23-00	ISSUED AS-BUILT PER CRN-M-10077 (PC/M 99-061).	RV	JK	AAP	JM	22	10-15-01	ISSUED AS-BUILT PER PC/M 01-014.	RH	RV	AAP	JM
17	04-10-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JD	—	JRH	21	10-11-01	ISSUED AS-BUILT PER PC/M 01-014. (PARTIAL)	RH	RV	AAP	ASD
16	11-9-99	ISSUED AS-BUILT PER CRN-M-9791 (PC/M 99-033).	RH	RV	CMZ	JTL	0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	~~KAS~~ SW	LRB
25	9-18-02	ISSUED AS-BUILT PER CRN-M-10601 (PC/M 02-065).	RH	RV	AAP	JTL	—	—	AND ~~ISSUED INTO THE FPL SYSTEM~~ PER DCR-TPM-91-044.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

SAFETY INJECTION SYSTEM

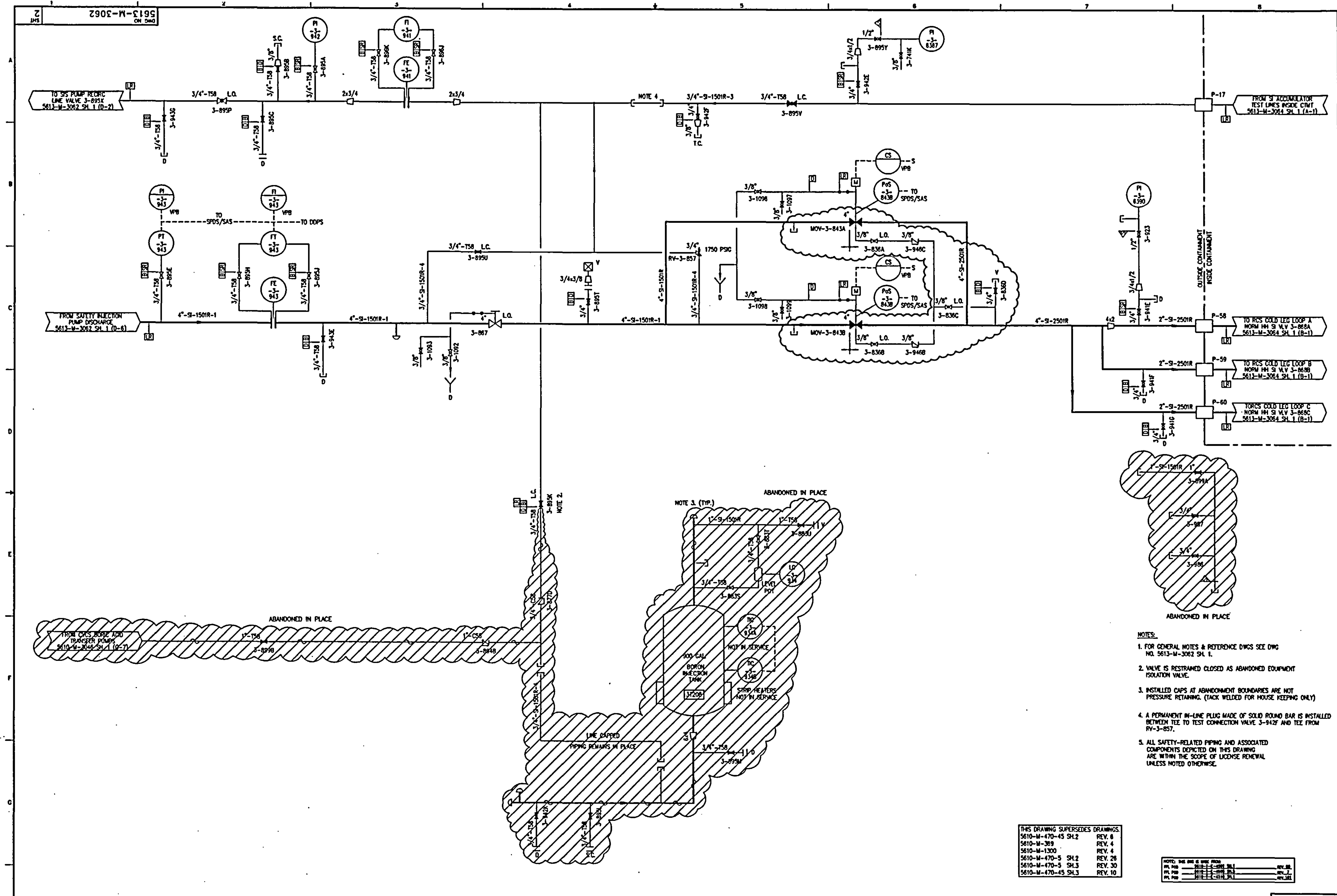
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3062

SYS 062

REV 25

SHEET 1



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3062 SH. 1.
2. VALVE IS RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVE.
3. INSTALLED CAPS AT ABANDONMENT BOUNDARIES ARE NOT PRESSURE RETAINING. (TACK WELDED FOR HOUSE KEEPING ONLY)
4. A PERMANENT IN-LINE PLUG MADE OF SOLID ROUND BAR IS INSTALLED BETWEEN TEE TO TEST CONNECTION VALVE 3-942F AND TEE FROM RV-3-857.
5. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

THIS DRAWING SUPERSEDES DRAWINGS.		
5610-M-470-45	SH.2	REV. 6
5610-M-389		REV. 4
5610-M-1300		REV. 4
5610-M-470-5	SH.2	REV. 26
5610-M-470-5	SH.3	REV. 30
5610-M-470-45	SH.3	REV. 10

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	2-25-94	ISSUED AS-BUILT FOR DCR-TPM-93-512.	RH	RV	TCK	WMC	12	10-23-98	ISSUED AS-BUILT PER PC/M 98-044.	RH	RV	JMM	JJC
17	10-05-01	ISSUED AS-BUILT PER PC/M 01-014	RH	SB	TEJ	JMM	11	3-23-97	ISSUED AS-BUILT FOR PC/M 96-012.	RH	DJB	CM	AAP
16	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD	10	7-31-96	ISSUED AS-BUILT FOR PC/M 95-140.	RH	RV	JMK	JJC
15	06-23-00	ISSUED AS-BUILT PER CRN-M-10077 (PC/M 99-061).	RV	JK	AAP	JM	9	9-7-94	ISSUED AS-BUILT FOR PC\M 94-054 & INCORPORATED CRN-M-8032.	RH	RV	HLM	BD
14	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JD	—	JRH	0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD	RAS SW	LRB
13	3-13-00	ISSUED AS-BUILT PER PC/M 99-029 AND INCORP. CRN M-9913.	RH	RV	BSG	JMM	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.	—	—	—	—

FPL

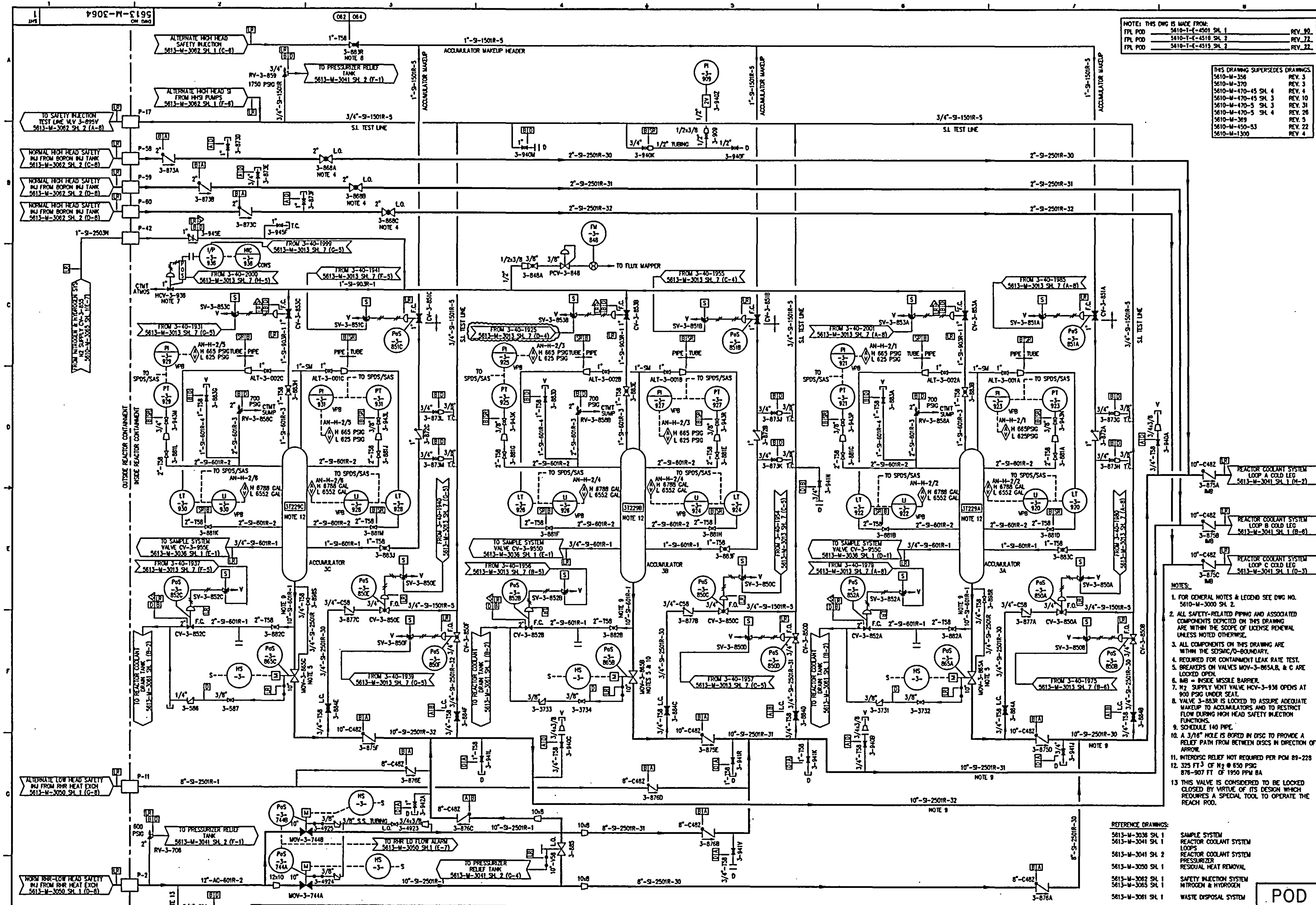
TURKEY POINT NUCLEAR UNIT 3

P & I D

SAFETY INJECTION SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5613-M-3062	062
SHEET 2	REV 17



REV	DATE	REVISION	BY	CH	APP	APP
18	2-3-99	ISSUED AS-BUILT PER CRN-M-9564 (PC/M 98-045).	RH	RV	DF	JJC
17	10-23-98	ISSUED AS-BUILT PER PC/M 97-003.	RH	RV	DF	JJC
16	10-10-98	ISSUED AS-BUILT PER PC/M 98-018.	RH	RV	DF	JLD
15	5-26-98	ISSUED AS-BUILT PER CRN-E-15824(PC/M 98-013).	RV	RH	BP	TS
23	6-23-03	ISSUED AS-BUILT PER CRN-M-10746 (PC/M 02-065).	RH	RV	AAP	JTL
22	10-17-01	ISSUED AS-BUILT PER PC/M 01-014.	RH	RV	ASD	JMM

REV	DATE	REVISION	BY	CH	APP	APP
21	10-02-01	ISSUED AS-BUILT FOR PC/M 93-047.	RH	JK	PRB	JM
20	5-10-00	ISSUED AS-BUILT PER CRN'S M-10039 & M-10065 (PC/M 99-061).	RH	RV	JK	ASD
19	3-18-00	ISSUED AS-BUILT PER CRN-M-9923 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
—	—	(PC/M 99-061).	—	—	—	—
0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	RAS SW	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT

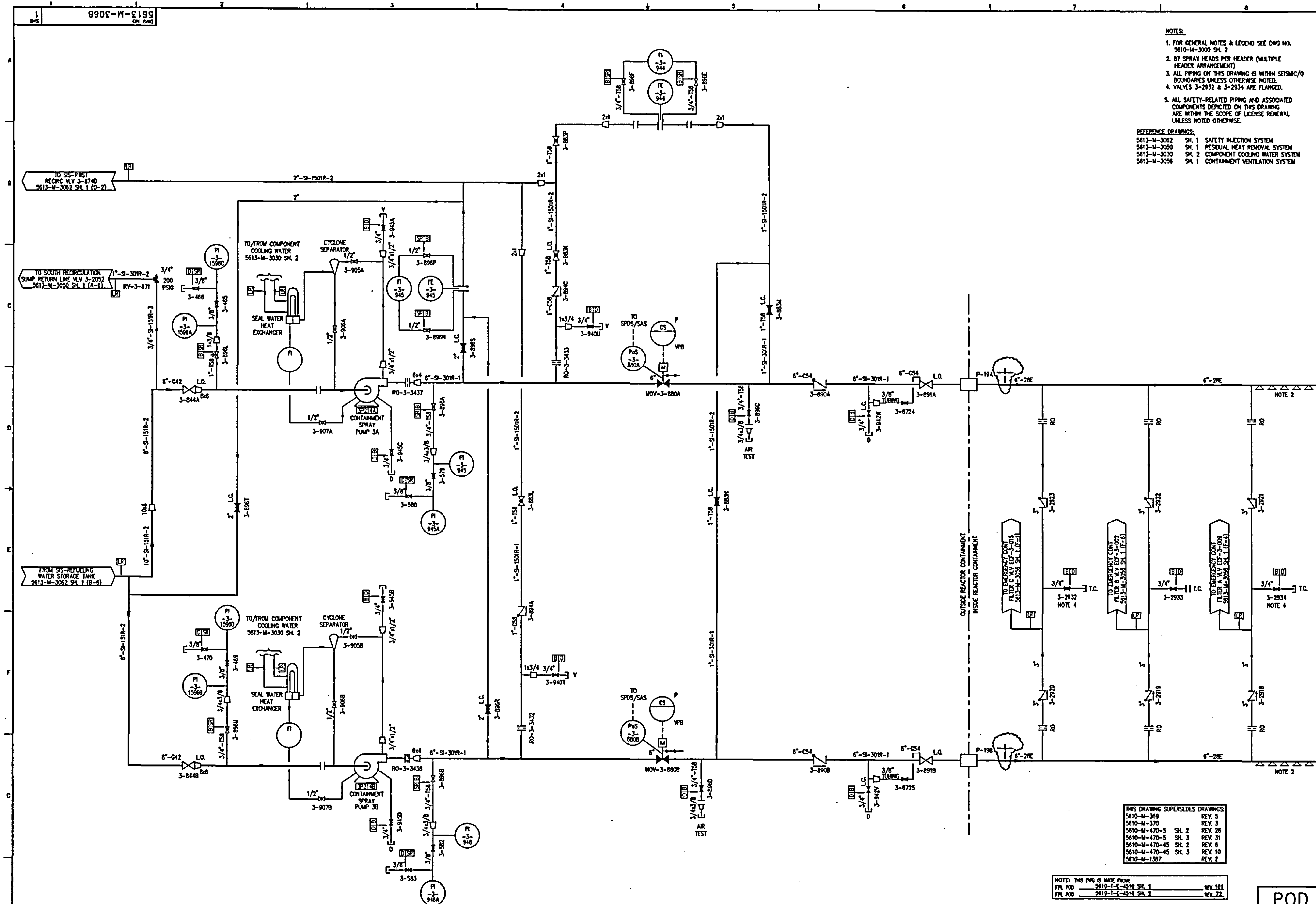
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3064

SYS 064

REV 23

SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2
2. 87 SPRAY HEADS PER HEADER (MULTIPLE HEADER ARRANGEMENT)
3. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
4. VALVES 3-2932 & 3-2934 ARE FLANGED.
5. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS:

5613-M-3062	SH. 1	SAFETY INJECTION SYSTEM
5613-M-3050	SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5613-M-3030	SH. 2	COMPONENT COOLING WATER SYSTEM
5613-M-3056	SH. 1	CONTAINMENT VENTILATION SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-369		REV. 5
5610-M-370		REV. 3
5610-M-470-5	SH. 2	REV. 26
5610-M-470-5	SH. 3	REV. 31
5610-M-470-45	SH. 2	REV. 6
5610-M-470-45	SH. 3	REV. 10
5610-M-1387		REV. 2

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4510 SH. 1 REV. 101
FPL POD 5610-T-E-4510 SH. 2 REV. 72

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
10	3-8-94	INCORPORATED CRN-M-5956 FOR PC/M 93-221.	RH	RV	DJB	JZ	14	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JD	—	JRH
9	2-25-94	ISSUED AS-BUILT FOR DCR-TPM-93-512.	SMM	MO	WMC	JZ	13	6-12-97	ISSUES AS-BUILT PER CRN-M-10394 (PC/M 97-011).	RH	RV	RSV	JEH
8	9-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-309.	SMM	MO	LIK	JRH	12	9-1-95	INCORPORATED CRN-M-8380 FOR PC/M 95-099.	RH	RV	PDK	JZ
16	11-26-01	ISSUED AS-BUILT PER CRN-M-10435 (PC/M 00-016).	RH	RV	AAP	ASD	11	4-25-94	ISSUED AS-BUILT FOR PC/M 93-208.	RH	RV	JJC	BD
15	8-15-01	ISSUED AS-BUILT PER CRN-M-10298 (PC/M 00-016).	RH	RV	AAP	ASD	0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	SM	MO	RAS/SW	LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

CONTAINMENT SPRAY SYSTEM

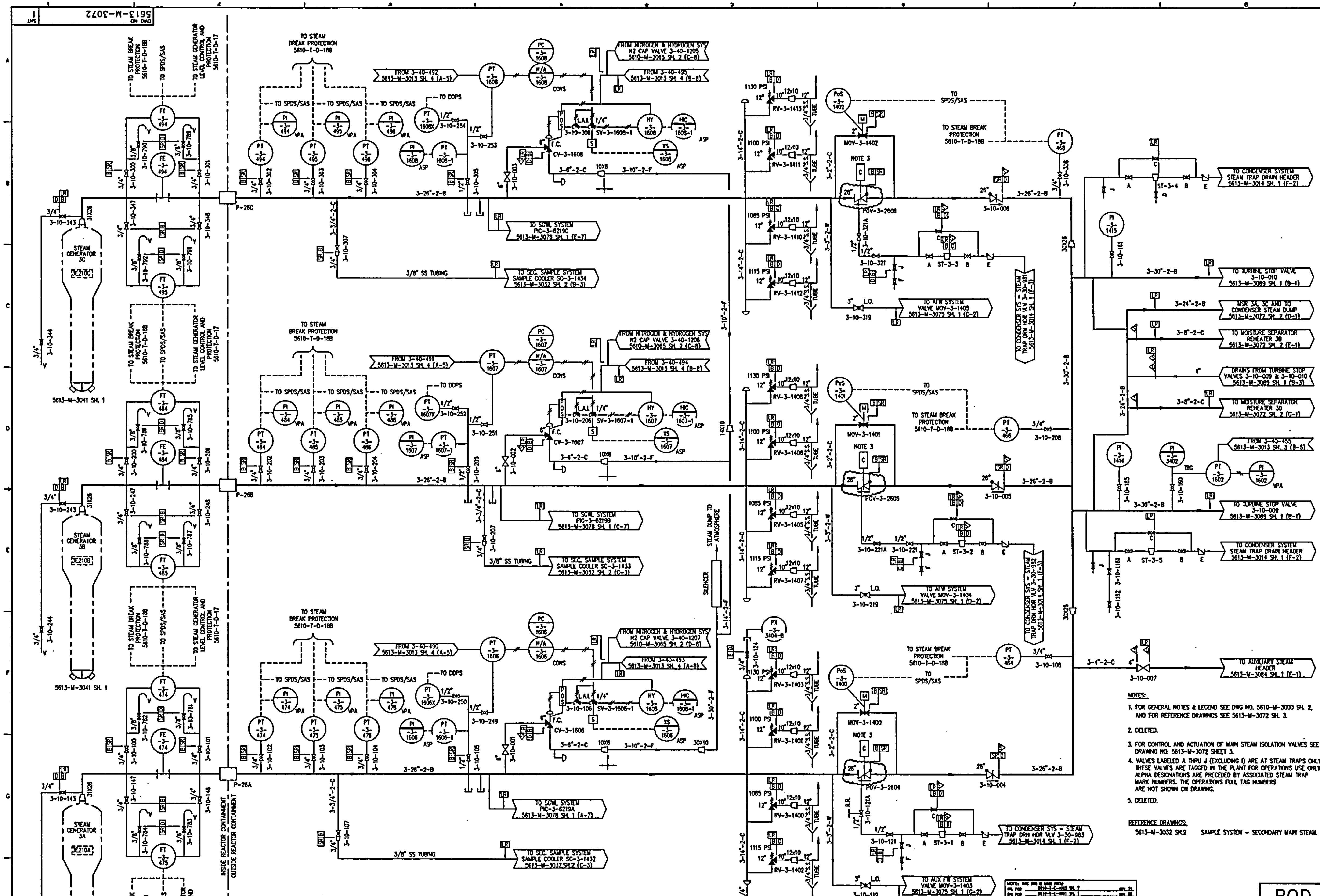
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3068

SYS 068

REV 16

SHEET 1



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2, AND FOR REFERENCE DRAWINGS SEE 5613-M-3072 SH. 3.
2. DELETED.
3. FOR CONTROL AND ACTUATION OF MAIN STEAM ISOLATION VALVES SEE DRAWING NO. 5613-M-3072 SHEET 3.
4. VALVES LABELED A THRU J (EXCLUDING I) ARE AT STEAM TRAPS ONLY. THESE VALVES ARE TAGGED IN THE PLANT FOR OPERATIONS USE ONLY. ALPHA DESIGNATIONS ARE PRECEDED BY ASSOCIATED STEAM TRAP MARK NUMBERS. THE OPERATIONS FULL TAG NUMBERS ARE NOT SHOWN ON DRAWING.
5. DELETED.

REFERENCE DRAWINGS:

5613-M-3032 SH.2 SAMPLE SYSTEM - SECONDARY MAIN STEAM.

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
28	5-25-01	ISSUED AS-BUILT PER PC/M 00-041.	RH	JK	CMZ	JM	22	11-7-95	ISSUED AS-BUILT FOR PC/M 95-075.	RH	RV	DJB	JZ
27	8-15-00	ISSUED AS-BUILT PER CRN M-10068 (PC/M 99-061).	RH	RV	AAP	JM	21	10-4-95	ISSUED AS-BUILT FOR PC/M 95-075. (PARTIAL)	RH	DJB	DJB	TCK
26	04-25-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	KM	—	JRH	20	10-1-95	ISSUED AS-BUILT FOR PC/M 95-037.	RH	PDK	WMC	TCK
25	2-23-00	ISSUED AS-BUILT PER PC/M 99-045.	RH	RV	BP	TS	29	7-1-03	ISSUED AS-BUILT PER CRN-M-10759 (PC/M 02-065).	RH	RV	PRB	ASD
24	8-5-97	ISSUED AS-BUILT PER CRN-M-9030 (PC/M 97-019)	RH	RV	CMZ	JEH	0	1-16-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MO	RH/RAS	HAR
23	2-15-96	INCORPORATED CRN-M-8562 FOR PC/M 95-169.	RH	RV	TSC	BD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-90-512.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

MAIN STEAM SYSTEM

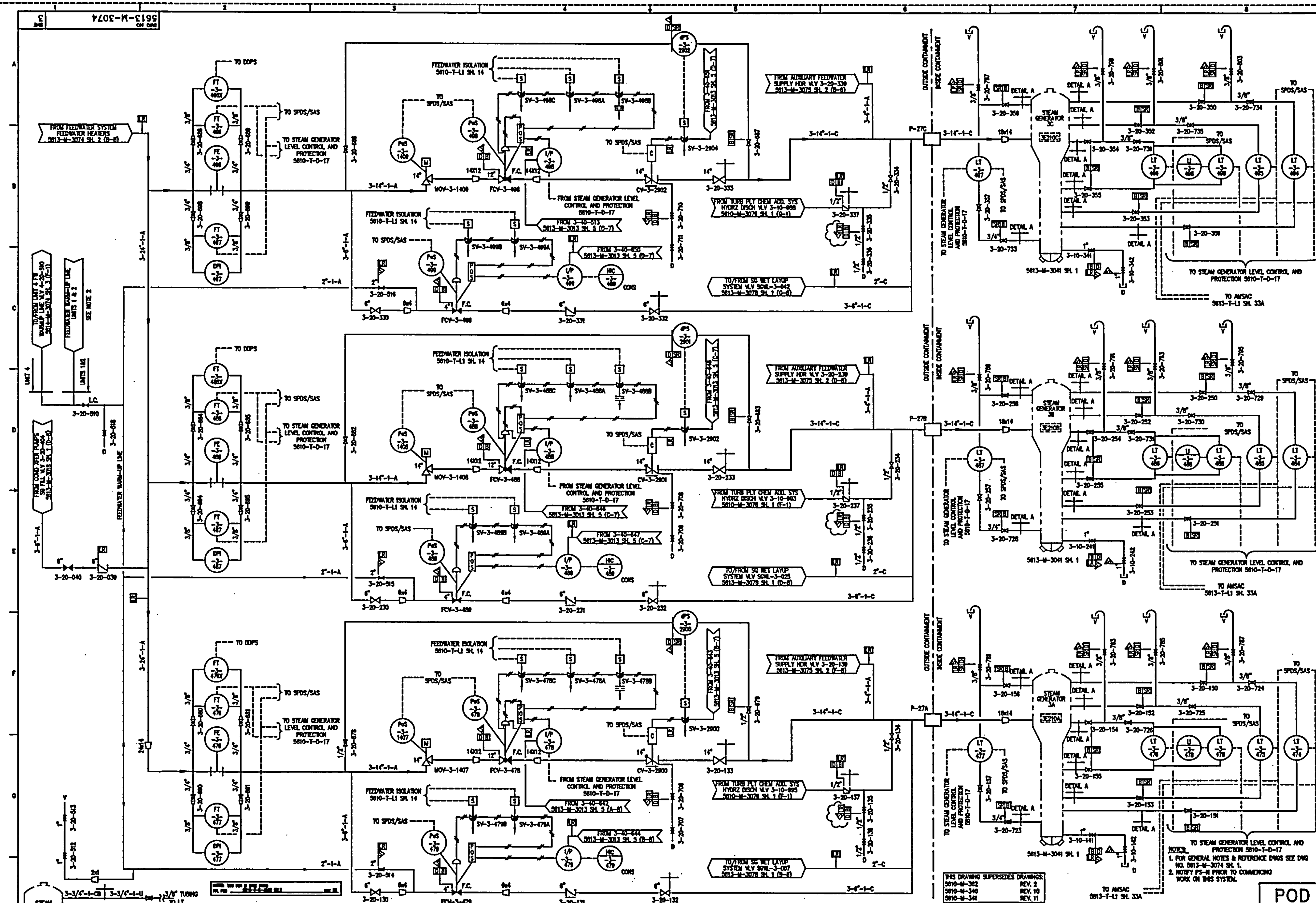
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3072

SYS 072

SHEET 1

REV 29



NOTES:
1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3074 SH. 1.
2. NOTIFY PS-M PRIOR TO COMMENCING WORK ON THIS SYSTEM.

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-362	REV. 2
5610-M-340	REV. 10
5610-M-341	REV. 11

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
7	3-6-03	ISSUED AS-BUILT FOR DCR-TPM-03-075.	KT	INITIALS ON FILE			13	9-6-99	ISSUED AS-BUILT PER CRN-M-9781 (PC/M 99-015).	RH	RV	CMZ	JM
6	2-10-03	ISSUED AS-BUILT FOR DCR'S TPM-02-309, TPM-01-263 & PC/M'S 02-090	TAM	INITIALS ON FILE			12	4-19-94	ISSUED AS-BUILT FOR PC/M 93-058.	RH	RV	JZ	BD
—	—	89-168 AND 92-179.	—	—	—	—	11	2-24-94	ISSUED AS-BUILT FOR DCR-TPM-93-611.	SMM	MD	WMC	BD
15	3-18-00	ISSUED AS-BUILT PER CRN M-9928 (PC/M 99-046).	RH	RV	JK	ASD	10	09-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-308.	SMM	MD	LK	MFW
14	3-6-00	ISSUED AS-BUILT PER CRN-M-9985 (PC/M 99-061) AND CRN-M-9993	JPG	RH	BSG	JMM	0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	RBB	MD		LRB
—	—	(PC/M 99-061).	—	—	—	—	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

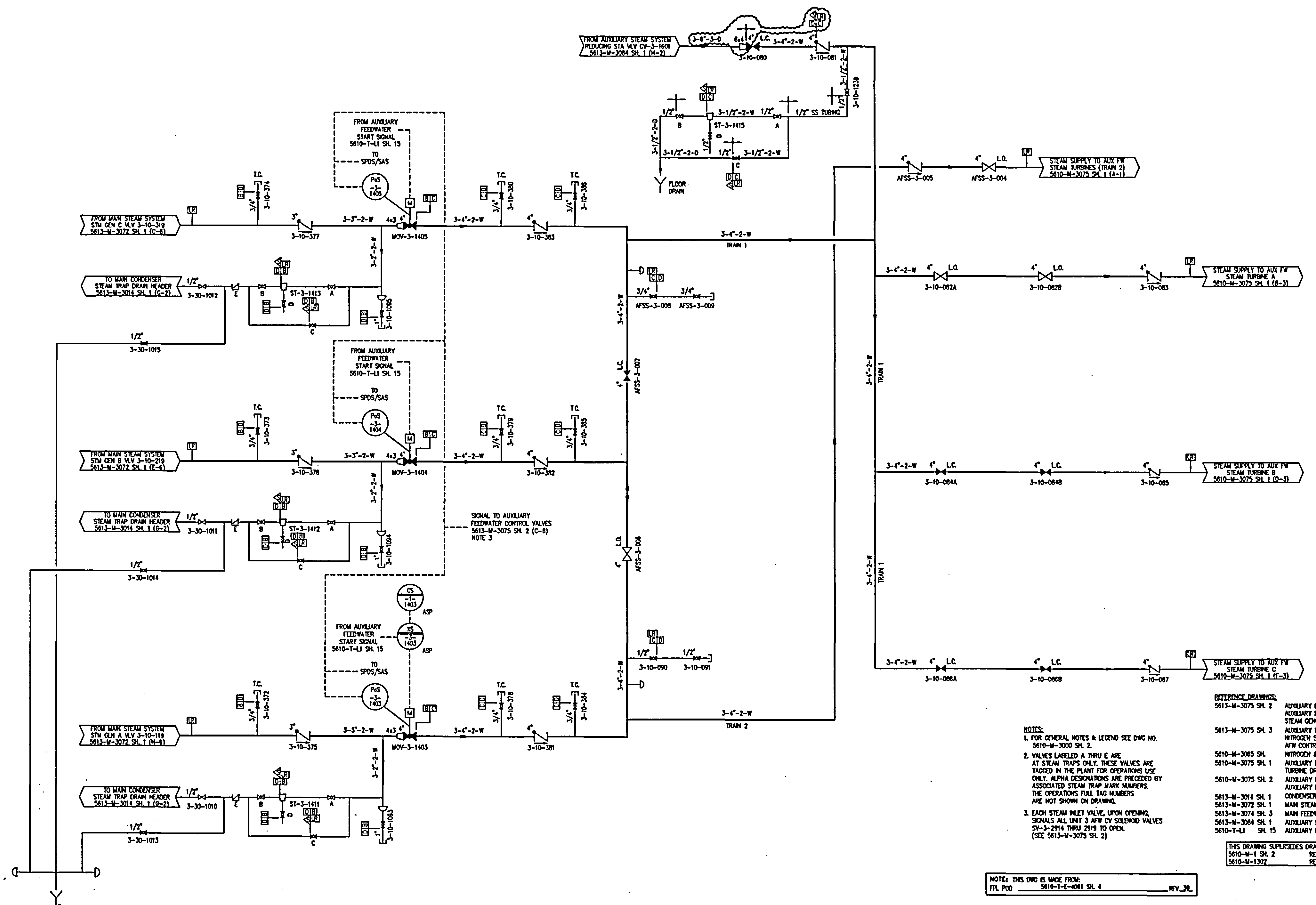
P & I D

FEEDWATER SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3074
SYS 074
SHEET 3
REV 15

UTM00198.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. VALVES LABELED A THRU E ARE AT STEAM TRAPS ONLY. THESE VALVES ARE TAGGED IN THE PLANT FOR OPERATIONS USE ONLY. ALPHA DESIGNATIONS ARE PRECEDED BY ASSOCIATED STEAM TRAP MARK NUMBERS. THE OPERATIONS FULL TAG NUMBERS ARE NOT SHOWN ON DRAWING.
3. EACH STEAM INLET VALVE, UPON OPENING, SIGNALS ALL UNIT 3 AFW CV SOLENOID VALVES SV-3-2914 THRU 2919 TO OPEN. (SEE 5613-M-3075 SH. 2)

REFERENCE DRAWINGS:

5613-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM AUXILIARY FEEDWATER TO STEAM GENERATORS
5613-M-3075 SH. 3	AUXILIARY FEEDWATER SYSTEM NITROGEN SUPPLY TO AFW CONTROL VALVES
5610-M-3065 SH.	NITROGEN & HYDROGEN SYSTEMS
5610-M-3075 SH. 1	AUXILIARY FEEDWATER SYSTEM TURBINE DRIVE FOR AFW PUMPS
5610-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM AUXILIARY FEEDWATER PUMPS
5613-M-3014 SH. 1	CONDENSER SYSTEM
5613-M-3072 SH. 1	MAIN STEAM SYSTEM
5613-M-3074 SH. 3	MAIN FEEDWATER SYSTEM
5613-M-3084 SH. 1	AUXILIARY STEAM SYSTEM
5610-T-L1 SH. 15	AUXILIARY FEEDWATER PUMP START

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-1 SH. 2	REV. 5
5610-M-1302	REV. 5

NOTE: THIS DWG IS MADE FROM: FPL POO 5610-T-E-4061 SH. 4 REV. 30

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	9-5-95	INCORPORATED CRN-M-8346 FOR PC/M 95-099.	RH	RV	DJB	BD	12	03-29-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081).	JPG	RGR	—	JRH
7	2-25-94	ISSUED AS-BUILT FOR DCR-TPM-93-548.		INITIALS ON FILE			11	11-24-98	ISSUED AS-BUILT PER CRN-M-9439 (PC/M 98-036).	RH	RV	JMM	JDL
6	12-16-93	ISSUED AS-BUILT FOR PC/M 93-054.	RH	RV	DJB	BD	10	6-3-97	ISSUED AS-BUILT PER PC/M 96-029 AND INCORPORATED CRN-M-8922.	RH	JK	JZ	JJC
5	06-08-93	ISSUED AS-BUILT FOR DCR-TPM-93-242.	DQ	AB	LIK	MFM	9	6-18-96	INCORPORATED CRN-M-8684 FOR PC/M 96-023.	RH	RV	PDK	BD
14	02-07-02	ISSUED AS-BUILT PER CRN-C-10939 (PC/M 00-016).	RH	RV	CMZ	JTL	0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	AM/RAS	LRB
13	05-09-01	ISSUED AS-BUILT PER CRN-M-10292 (PC/M 00-016).	RH	RV	AAP	JM	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 3

P & ID

AUXILIARY FEEDWATER SYSTEM STEAM TO AUXILIARY FEEDWATER PUMP TURBINES

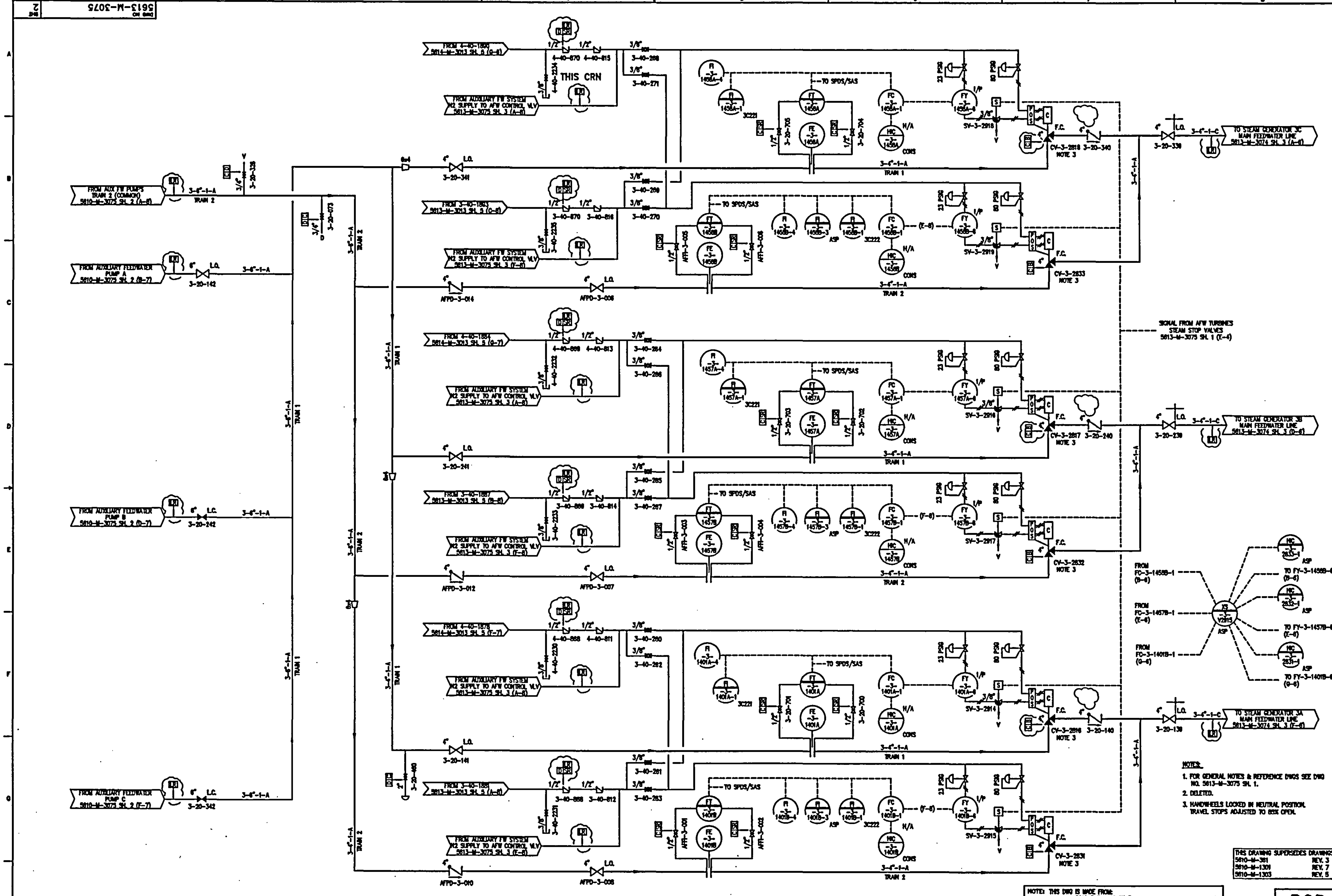
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3075

SHEET 1

SYS 075

REV 14



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3075 SH. 1.
2. DELETED.
3. HANDWHEELS LOCKED IN NEUTRAL POSITION, TRAVEL STOPS ADJUSTED TO 85% OPEN.

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-381	REV. 3
5610-M-1301	REV. 7
5610-M-1303	REV. 5

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4062 SH 3 REV 84

POD

REV	DATE	REVISION	BY	CH	APP	APP
7	02-24-94	ISSUED AS-BUILT FOR DCR-TPM-93-510.	SMM	INITIALS ON FILE		
6	04-01-93	ISSUED AS-BUILT FOR PC/M 93-002 FINAL.	SP	GM	LK	MFM
5	03-05-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	SP	INITIALS ON FILE		
12	3-8-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081) AND CRN-M-9997 (PC/M 99-081).	JPG	RH	BSG	JMM

REV	DATE	REVISION	BY	CH	APP	APP
11	10-14-98	ISSUED AS-BUILT PER PC/M 98-005.	RH	RV	CMZ	JJC
10	5-28-98	ISSUED AS-BUILT PER CRN-I-3712(PC/M 98-013).	RV	RH	BP	TS
9	5-19-98	ISSUED AS-BUILT PER PC/M 98-005.	RH	RV	JZ	JJC
8	04-12-95	INCORPORATED CRN-I-3150 FOR PC/M 95-031.	RV	RH	DSR	JCW
0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	RHB	MD	RS	LRB

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

AUXILIARY FEEDWATER SYSTEM
AUXILIARY FEEDWATER TO
STEAM GENERATORS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

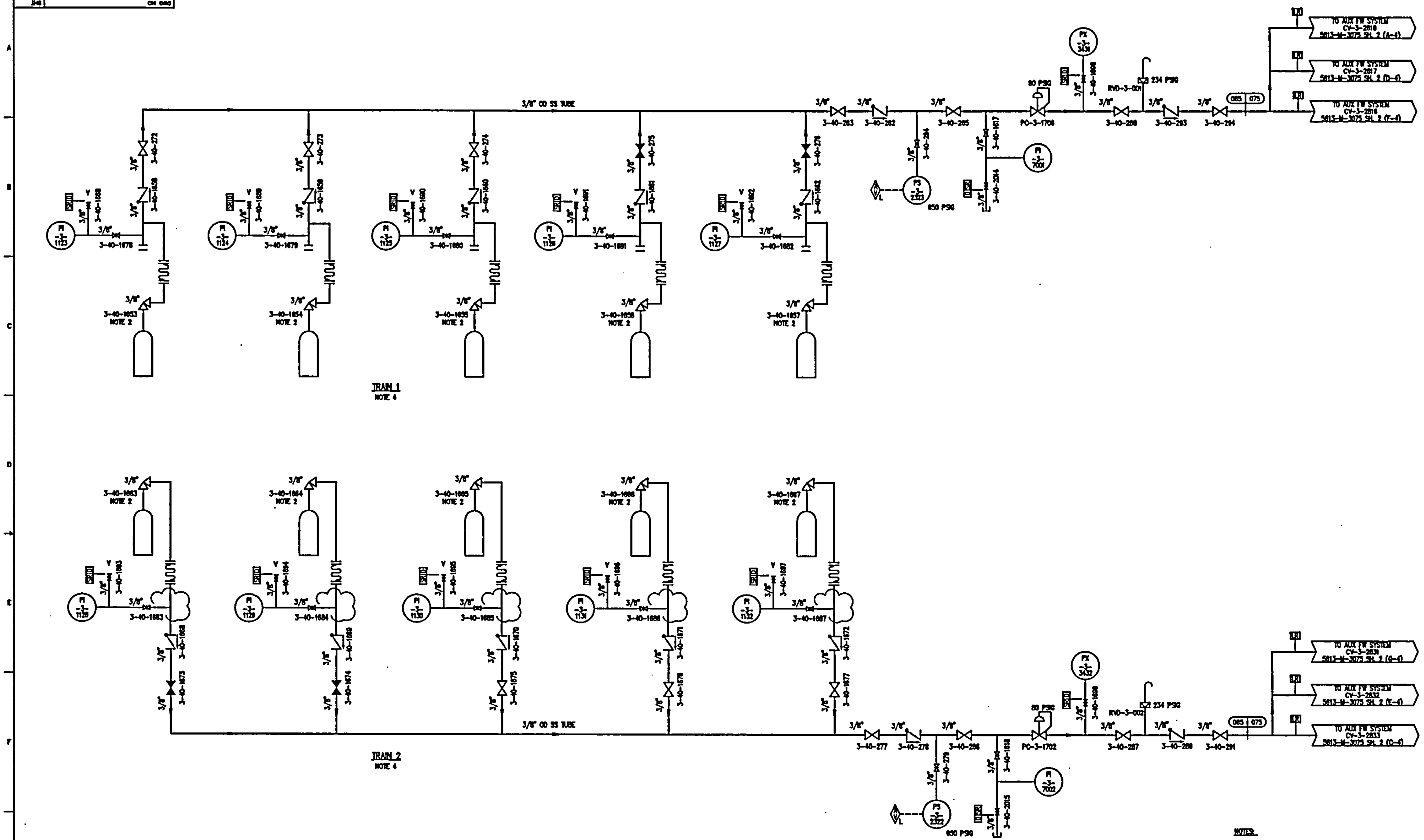
DRAWING NUMBER 5613-M-3075

SHEET 2

SYS 075

REV 12

UTM00207.DWG



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5613-M-3075 SH. 1.
2. FURNISHED WITH ASSOCIATED EQUIPMENT.
3. ALL PORTIONS OF THIS SYSTEM WITHIN THE SEISMIC FLAG ARE NUCLEAR SAFETY RELATED.
4. N2 HEADER ISOLATION VALVES (272,273,274,275 & 276 FOR TRAIN 1 AND 1673,1674,1675,1676 & 1677 FOR TRAIN 2) ARE SHOWN IN A TYPICAL VALVE LINEUP. ANY THREE OF THE FIVE VALVES PER TRAIN SHALL BE OPEN WITH THE REMAINING TWO VALVES CLOSED.
5. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-M-330 SH. 1 REV. 48

POD

REV	DATE	REVISION	BY	CH	APP	APP
3	03-29-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081).	JPG	RGR	—	JRH
2	3-6-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	KT	EMV	LIK	MFM
1	12-14-92	ISSUED AS-BUILT FOR PC/M 88-542.	TAM	INITIALS ON FILE		
0	3-20-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-030.	SM	MD	KT/AM	LRB
4	8-2-00	ISSUED AS-BUILT PER PC/M 99-024.	RH	JK	LJR	RR

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

AUXILIARY FEEDWATER SYSTEM
NITROGEN SUPPLY TO
AFW CONTROL VALVES

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

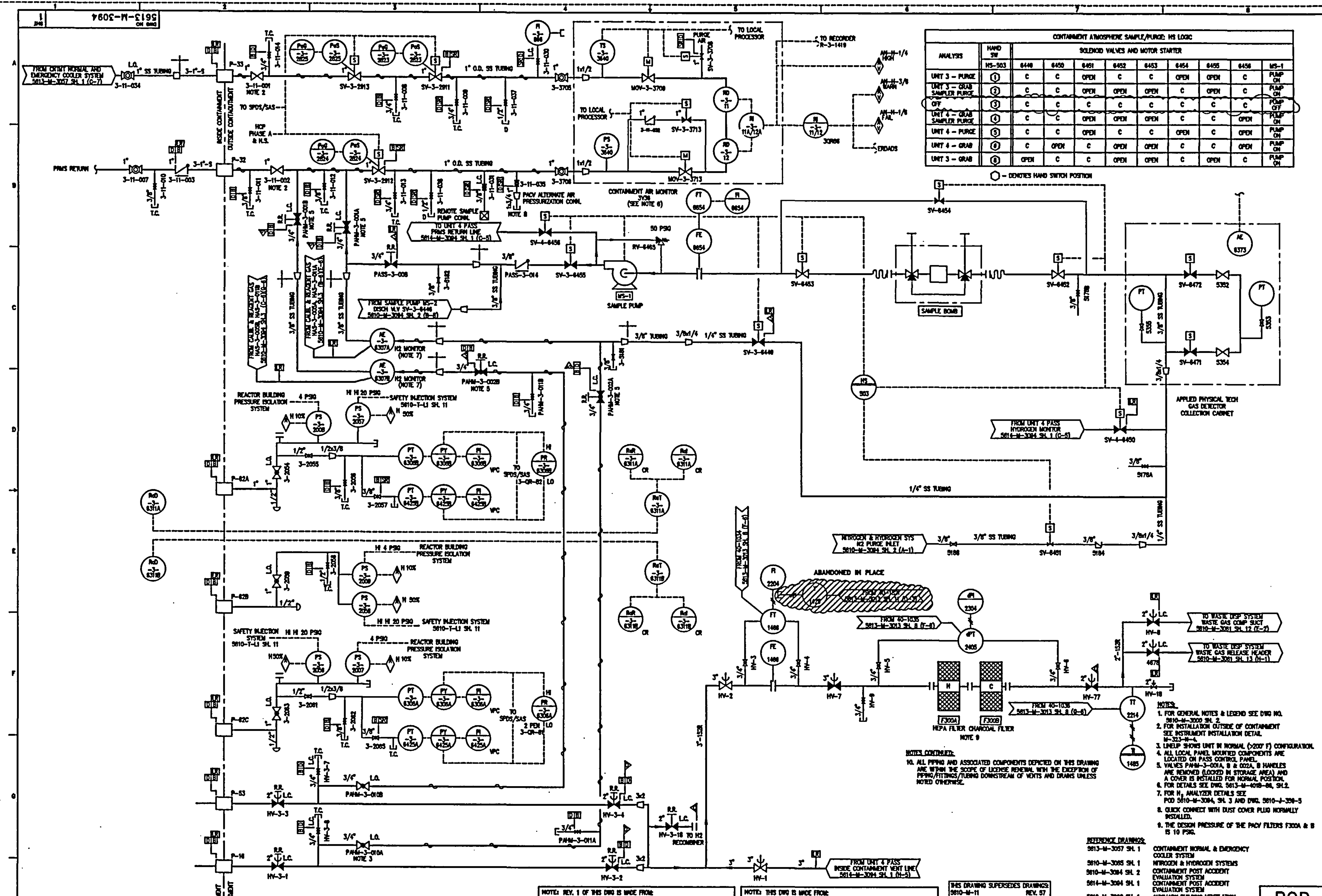
DRAWING NUMBER 5613-M-3075

SYS 075

SHEET 3

REV 4

UTM00208.DWG



CONTAINMENT ATMOSPHERE SAMPLE/PURGE: HS LOGIC										
ANALYSIS	HAND SW	SOLENOID VALVES AND MOTOR STARTER								
	HS-503	6449	6450	6451	6452	6453	6454	6455	6456	MS-1
UNIT 3 – PURGE	1	C	C	OPEN	C	C	OPEN	OPEN	C	PUMP ON
UNIT 3 – GRAB SAMPLER PURGE	2	C	C	OPEN	OPEN	OPEN	C	OPEN	C	PUMP ON
OFF	3	C	C	C	C	C	C	C	C	PUMP OFF
UNIT 4 – GRAB SAMPLER PURGE	4	C	C	OPEN	OPEN	OPEN	C	C	OPEN	PUMP ON
UNIT 4 – PURGE	5	C	C	OPEN	C	C	OPEN	C	OPEN	PUMP ON
UNIT 4 – GRAB	6	C	OPEN	C	OPEN	OPEN	C	C	OPEN	PUMP ON
UNIT 3 – GRAB	8	OPEN	C	C	OPEN	OPEN	C	OPEN	C	PUMP ON

⬡ – DENOTES HAND SWITCH POSITION

NOTES CONTINUED:

10. ALL PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL WITH THE EXCEPTION OF PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS UNLESS NOTED OTHERWISE.

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. FOR INSTALLATION OUTSIDE OF CONTAINMENT SEE INSTRUMENT INSTALLATION DETAIL M-323-N-4.
3. LINEUP SHOWS UNIT IN NORMAL (>200° F) CONFIGURATION.
4. ALL LOCAL PANEL MOUNTED COMPONENTS ARE LOCATED ON PASS CONTROL PANEL.
5. VALVES PAHM-3-001A, B & 002A, B HANDLES ARE REMOVED (LOCKED IN STORAGE AREA) AND A COVER IS INSTALLED FOR NORMAL POSITION.
6. FOR DETAILS SEE DWG. 5613-M-4018-88, SH.2.
7. FOR H_2 ANALYZER DETAILS SEE POD 5610-M-3094, SH. 3 AND DWG. 5610-J-330-5
8. QUICK CONNECT WITH DUST COVER PLUG NORMALLY INSTALLED.
9. THE DESIGN PRESSURE OF THE PACV FILTERS F300A & B IS 10 PSIG.

REFERENCE DRAWINGS:

5613-M-3057 SH. 1	CONTAINMENT NORMAL & EMERGENCY COOLER SYSTEM
5610-M-3065 SH. 1	NITROGEN & HYDROGEN SYSTEMS
5610-M-3094 SH. 2	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5614-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5610-M-3060 SH. 1	AUXILIARY BUILDING VENTILATION
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM

NOTE: REV. 1 OF THIS DWG IS MADE FROM: FPL POD 5610-T-E-4534 SH. 1 REV. 40

NOTE: THIS DWG IS MADE FROM: FPL P&ID 5610-M-11 REV. 56

THIS DRAWING SUPERSEDES DRAWINGS: 5610-M-11 REV. 57; 5610-M-344 REV. 7

POD

REV	DATE	REVISION	BY	CH	APP	APP
32	04-05-00	ISSUED AS-BUILT PER CRN-M-903 (PC/M 99-061).	JPG	JD	—	JRH
31	12-21-99	ISSUED AS-BUILT PER PC/M 99-031.	RH	RV	RSV	31
30	11-2-99	ISSUED AS-BUILT PER PC/M 99-031 (PARTIAL) & INCORP. CRN-M-9908.	RH	RV	RSV	ASD
29	8-24-99	ISSUED AS-BUILT PER PC/M 97-048.	RV	RH	BP	TS
28	5-21-98	ISSUED AS-BUILT PER CRN-M-9369 (PC/M 96-013)	RH	RV	RSV	JJC
27	1-19-98	ISSUED AS-BUILT PER CRN-M-9216 (PC/M 97-042).	RH	RV	CMZ	JJC

REV	DATE	REVISION	BY	CH	APP	APP
26	8-5-97	ISSUED AS-BUILT PER CRN'S M-9053 & M-9060 (PC/M 97-019)	RH	RV	AAP	JEH
25	5-28-97	ISSUED AS-BUILT PER CRN-M-8997 (PC/M 97-004).	RH	RV	CMZ	JJC
33	5-10-00	ISSUED AS-BUILT PER CRN-I-3667. (PC/M 99-061)	RV	RH	BP	BAP
0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-11. DWG SUPERSEDES 5610-M-11, 5610-M-344, AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	GFH	MD	RAS	HAR

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

CONTAINMENT POST ACCIDENT EVALUATION SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

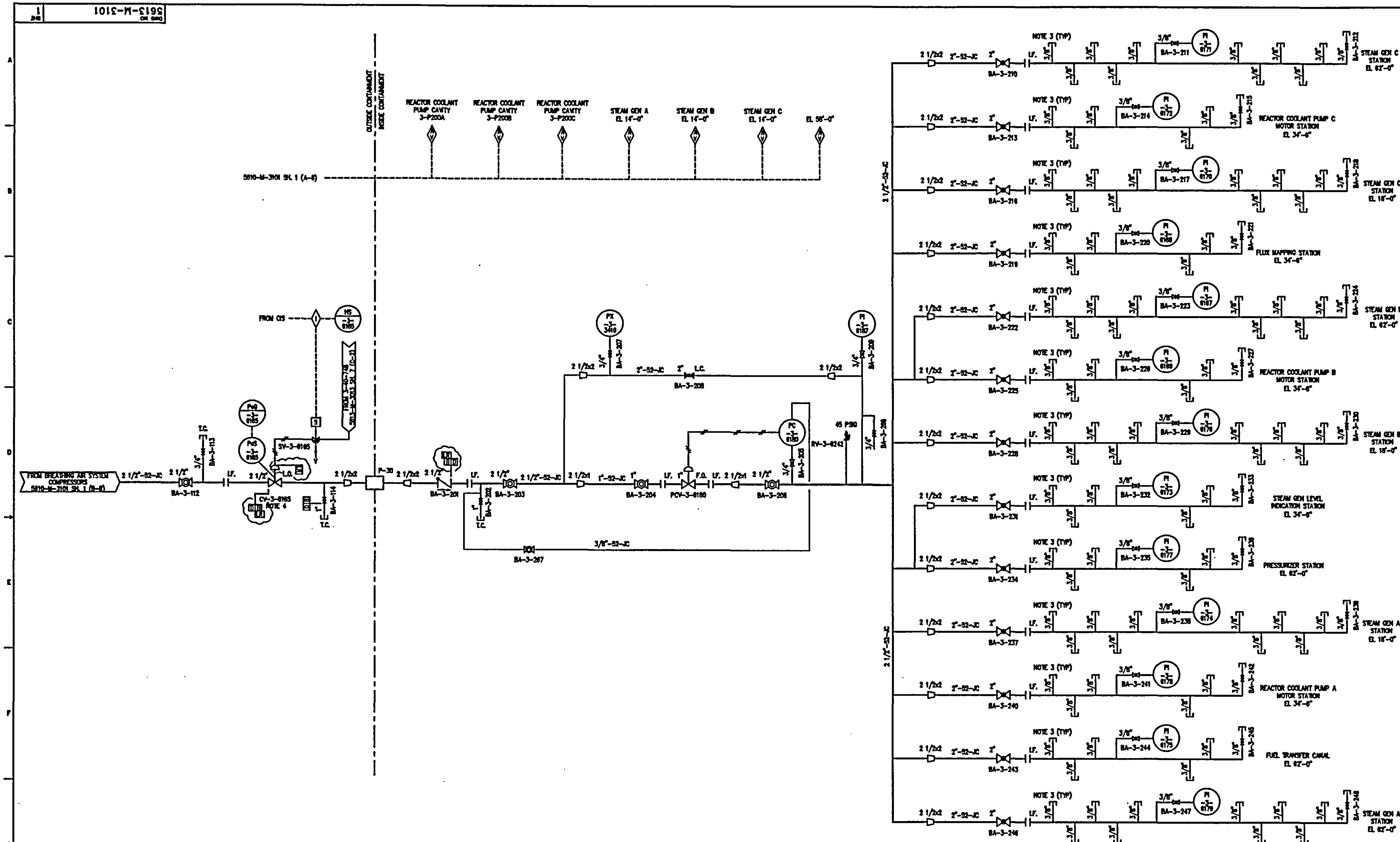
DRAWING NUMBER 5613-M-3094

SYS 094

REV 33

SHEET 1

UTM00280.DWG



4. HAND LOCKED OPEN ONLY WHEN PLANT IS SHUTDOWN AND COOLED DOWN AND AIR IS USED INSIDE CONTAINMENT. VALVE WILL FAIL AS-IS UPON LOSS OF INSTRUMENT AIR. NUPRO CHECK VALVE MODEL NO. B-4C-1 ADDED TO VALVE ACTUATOR PNEUMATIC CIRCUIT PER PC/M NOS. 83-12/13.
5. VALVE POSITIONS DEPICTED ON THIS DRAWING ARE FOR NORMAL OPERATION OF THE BREATHING AIR SYSTEM AND DO NOT REPRESENT VALVE POSITIONS MAINTAINED DURING NORMAL PLANT OPERATION.

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. TYPICAL CONNECTION SHALL CONSIST OF A 3/8" QUICK DISCONNECT COUPLING. THE COUPLING SHALL HAVE A ONE-WAY SHUT-OFF, SWIVELLING, NON-INTERCHANGEABLE CONNECTION, AND RELEASE DEVICE TO SEPARATE HALVES. PROVIDE DUST CUPS FOR COUPLER AND NIPPLE. HOSE WILL BE 3/8" I.D.

REFERENCE DRAWINGS:

5610-M-3101 SH. 1 BREATHING AIR SYSTEM - COMPRESSOR

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-M-1315 SH. 1 REV. 18

POD

REV	DATE	REVISION	BY	CH	APP	APP
5	04-10-00	ISSUED AS-BUILT PER CRN-M-0093 (PC/M 99-061).	JPG	VRS	—	JRH
4	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RH	RV	TON	BD

REV	DATE	REVISION	BY	CH	APP	APP
3	10-3-95	ISSUED AS-BUILT FOR PC/M 95-063.	RH	RV	DJB	BD
2	4-5-94	ISSUED AS-BUILT FOR PC/M 83-194.	RH	RV	DJB	BD
1	2-7-93	ISSUED AS-BUILT FOR PC/M 92-090.	SP	INITIALS ON FILE		
0	9-3-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-137.	GFH	INITIALS ON FILE		

FPL

TURKEY POINT NUCLEAR UNIT 3

P & I D

BREATHING AIR SYSTEM DISTRIBUTION

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5613-M-3101

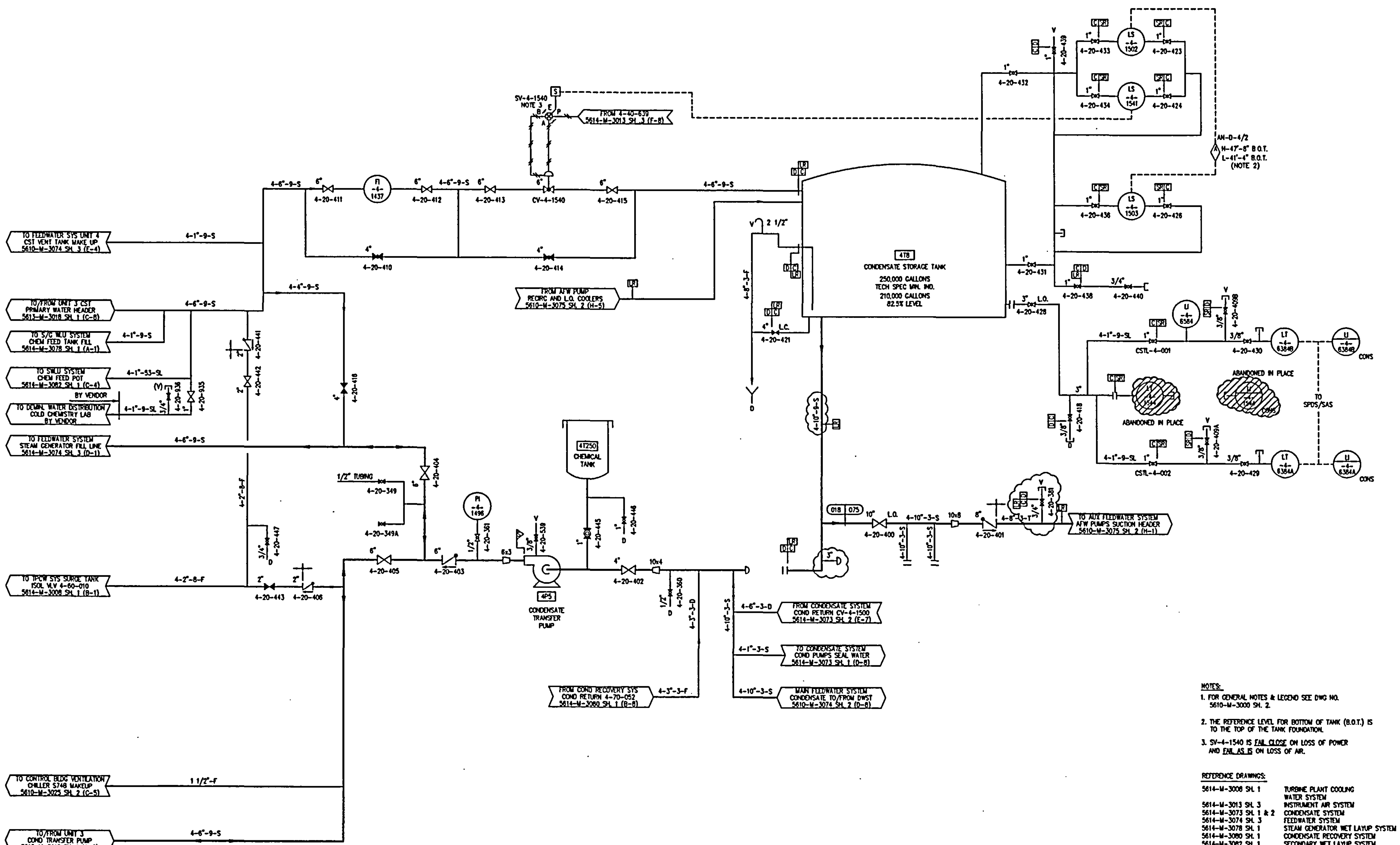
SYS 101

SHEET 1

REV 5

UTM00264.DWG

5614-M-3018 DWG NO | 1 SHT



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. THE REFERENCE LEVEL FOR BOTTOM OF TANK (B.O.T.) IS TO THE TOP OF THE TANK FOUNDATION.
3. SV-4-1540 IS FAIL CLOSE ON LOSS OF POWER AND FAIL AS IS ON LOSS OF AIR.

REFERENCE DRAWINGS:

5614-M-3008 SH. 1	TURBINE PLANT COOLING WATER SYSTEM
5614-M-3013 SH. 3	INSTRUMENT AIR SYSTEM
5614-M-3073 SH. 1 & 2	CONDENSATE SYSTEM
5614-M-3074 SH. 3	FEEDWATER SYSTEM
5614-M-3078 SH. 1	STEAM GENERATOR WET LAYUP SYSTEM
5614-M-3080 SH. 1	CONDENSATE RECOVERY SYSTEM
5614-M-3082 SH. 1	SECONDARY WET LAYUP SYSTEM
5613-M-3018 SH. 1	CONDENSATE STORAGE SYSTEM
5610-M-3025 SH. 2	CONTROL BUILDING VENTILATION – COMPUTER FACILITY/CABLE SPREADING ROOM HVAC
5610-M-3074 SH. 2 & 3	FEEDWATER SYSTEM – DEMINERALIZED STORAGE & DEAERATION
5610-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM – AUXILIARY FEEDWATER PUMPS

POD

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-363 REV. 4
5610-M-1311 REV. 3

NOTE: THIS DWG IS MADE FROM:
FPL POO 5610-T-E-4062 SH. 8 REV. 22

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
18	2-19-98	ISSUED AS-BUILT PER PC/M 97-045 (PARTIAL).	RH	JK	JZ	JJC	22	4-15-03	ISSUED AS-BUILT PER PC/M 02-032.	RH	RV	LJR	ASD
17	8-5-97	ISSUED AS-BUILT PER CRN-C-10397 (PC/M 97-019)	RH	RV	AAP	JEH	21	04-12-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RCR	—	JRH
16	5-28-97	ISSUED AS-BUILT PER CRN's I-3509 & M-8923 (PC/M 97-004).	RV	RH	RSV	JJC	20	1-5-00	ISSUED AS-BUILT PER PC/M 99-025.	RH	RV	CMZ	JM
15	10-28-96	ISSUED AS-BUILT FOR PC/M 96-022.	RH	RV	JM	JJC	19	3-25-98	ISSUED AS-BUILT PER PC/M 97-045.	RH	RV	JZ	JJC
14	9-19-96	ISSUED AS-BUILT FOR PC/M 95-142.	RH	RV	JM	JJC	0	11-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	KAS/KPC	LRB
23	10-17-03	ISSUED AS-BUILT PER PC/M 03-055.	RH	JK	JH	JTL	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-426.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

CONDENSATE STORAGE SYSTEM

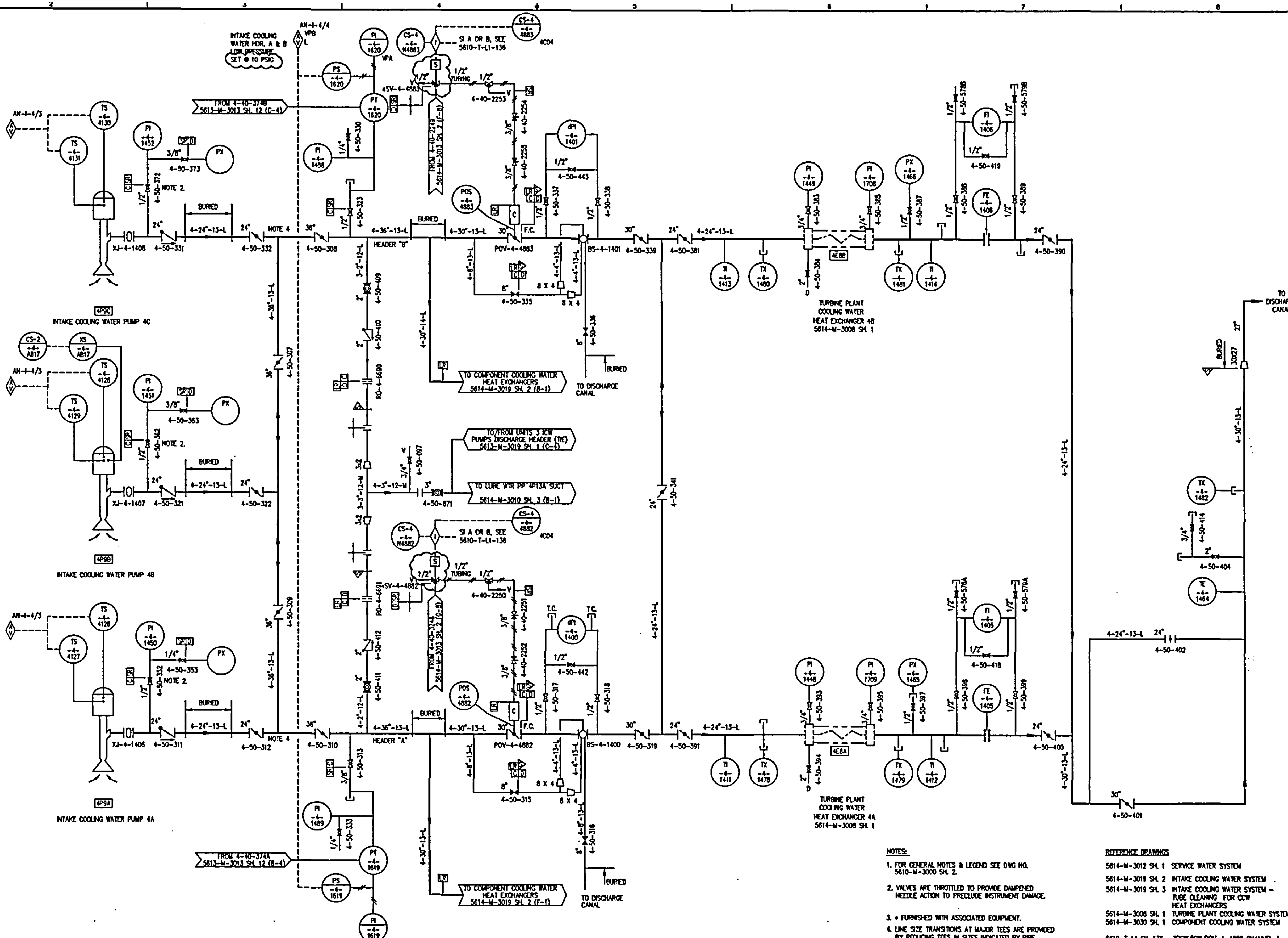
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3018

SHEET 1

SYS 018

REV 23



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. VALVES ARE THROTTLED TO PROVIDE DAMPENED NEEDLE ACTION TO PRECLUDE INSTRUMENT DAMAGE.
3. • FURNISHED WITH ASSOCIATED EQUIPMENT.
4. LINE SIZE TRANSITIONS AT MAJOR TEES ARE PROVIDED BY REDUCING TEES IN SIZES INDICATED BY PIPE LINE SPECIFICATIONS.

REFERENCE DRAWINGS

5614-M-3012 SH. 1	SERVICE WATER SYSTEM
5614-M-3019 SH. 2	INTAKE COOLING WATER SYSTEM
5614-M-3019 SH. 3	INTAKE COOLING WATER SYSTEM – TUBE CLEANING FOR CCW HEAT EXCHANGERS
5614-M-3008 SH. 1	TURBINE PLANT COOLING WATER SYSTEM
5614-M-3030 SH. 1	COMPONENT COOLING WATER SYSTEM
5610-T-L1 SH. 136	TPCW/ICW POV-4-4882 CHANNEL A. POV-4-4883 CHANNEL B.

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-5	SH. 1	REV. 41
5610-M-342	SH. 1	REV. 9
5610-M-342	SH. 5	REV. 0
5610-M-364		REV. 2
5610-M-365	SH. 1	REV. 5

NOTE: THIS DWG IS MADE FROM:

FPL POD	5610-T-E-4064 SH.12	REV. 32
FPL POD	5610-T-E-4065 SH.2	REV. 58
FPL POD	5610-T-E-4065 SH.3	REV. 25

POD

REV	DATE	REVISION	BY	CH	APP	APP
28	11-04-02	ISSUED AS-BUILT PER CRN-I-4071(PC/M 02-065) AND PC/M 02-018	RV	RH	BP	TS
27	09-10-01	ISSUED AS-BUILT PER PC/M 98-048.	RH	RY	CMZ	JM
26	07-31-01	ISSUED AS-BUILT PER CRN-M-10331 (PC/M 00-016).	RV	RH	CMZ	JM
25	03-23-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH
24	4-6-98	ISSUED AS-BUILT PER CRN-I-3691(PC/M 98-003)	RV	RH	BP	TS
23	2-19-97	ISSUED AS-BUILT PER PC/M 96-002 AND INCORPORATED CRN-M-8948	RH	JK	JZ	JJC
22	11-19-96	ISSUED AS-BUILT PER CRN-M-8856. (PC/M 96-064)	RH	RY	JK	JJC
21	6-12-96	INCORPORATED CRN-M-8768 FOR PC/M 93-164.	RH	PDK	JMM	JZ
20	3-30-96	ISSUED AS-BUILT FOR PC/M 95-163.	RH	RV	JK	SHC
19	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RV	RH	TDN	BD
0	1-29-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-90-541.	SM	MO	SVM/RAS	LRB

FPL

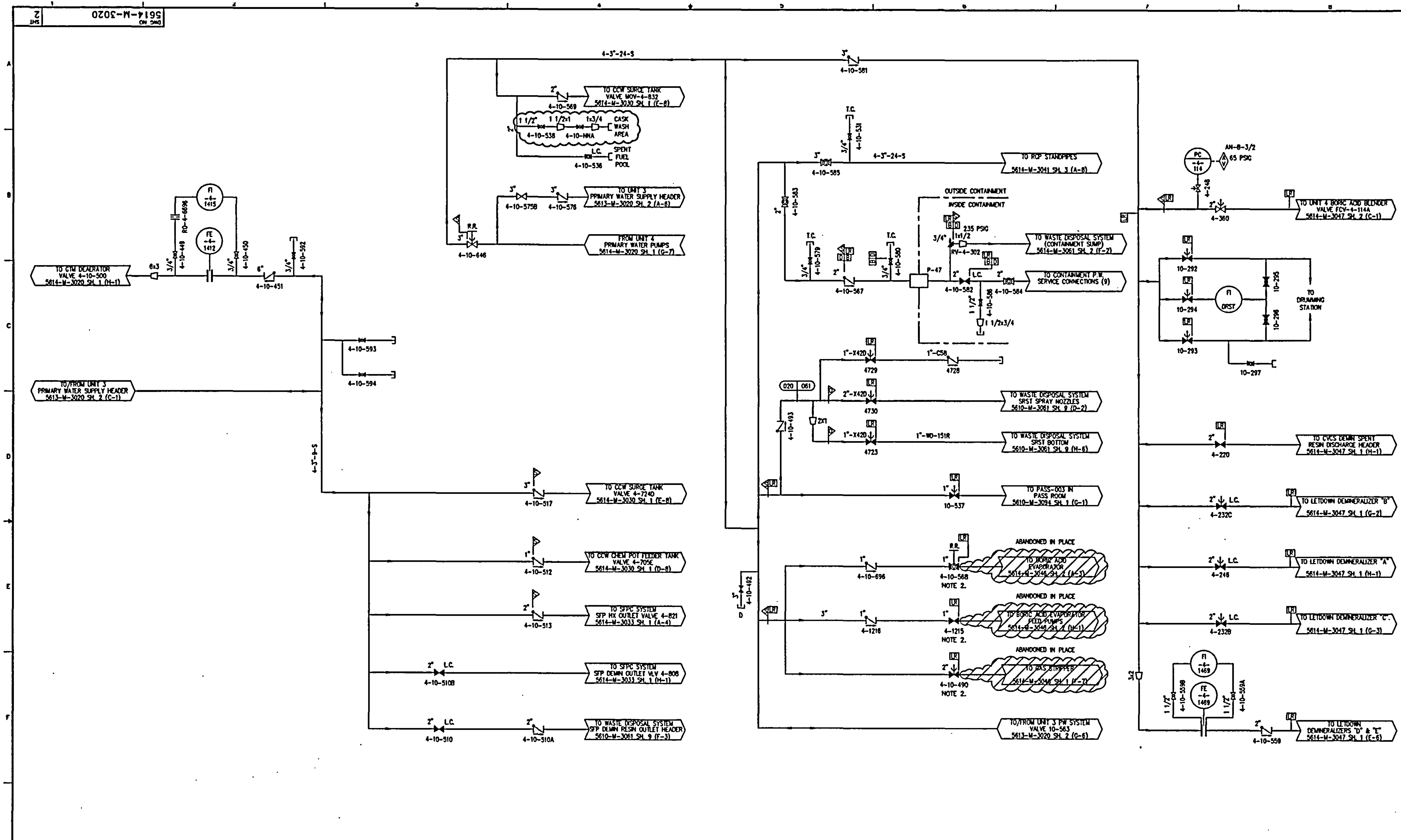
TURKEY POINT NUCLEAR UNIT 4

P & ID

INTAKE COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5614-M-3019	019
SHEET 1	REV 28



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3020 SH. 1.
2. VALVES ARE RESTRAINED CLOSED AS ABANDONED EQUIPMENT ISOLATION VALVES.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4531 SH. 1 REV. 61

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
20	8-12-98	ISSUED AS BUILT PER CRN-4-3733(PC/M 98-027).	RV	RH	BP	TS	24	1-31-01	ISSUED AS-BUILT PER CRN-M-10192 (PC/M 00-016).	RH	RV	RSV	ASD
19	10-2-97	ISSUED AS-BUILT PER PC/M 97-012 AND INCORPORATED CRN-M-9166.	RH	RV	JZ	JJC	23	10-30-00	ISSUED AS-BUILT PER CRN-M-10122 (PC/M 00-016).	RH	RV	AAP	ASD
18	9/24/97	ISSUED AS-BUILT PER PC/M 97-018.	RH	RV	AAP	JJC	22	9-22-00	ISSUED AS-BUILT PER PC/M 99-055.	RH	RV	NRE	JM
27	9-24-02	ISSUED AS-BUILT PER CRN-M-10278 (PC/M 00-016).	RH	RV	AAP	JTL	21	3-23-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH
26	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	AGM	JTL	0	11-4-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MD	RAS/JGR	LRB
25	07-20-01	ISSUED AS-BUILT PER CRN-M-10348 (PC/M 00-016).	RV	JK	PB	JM	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-426.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & ID

PRIMARY MAKEUP WATER SYSTEM

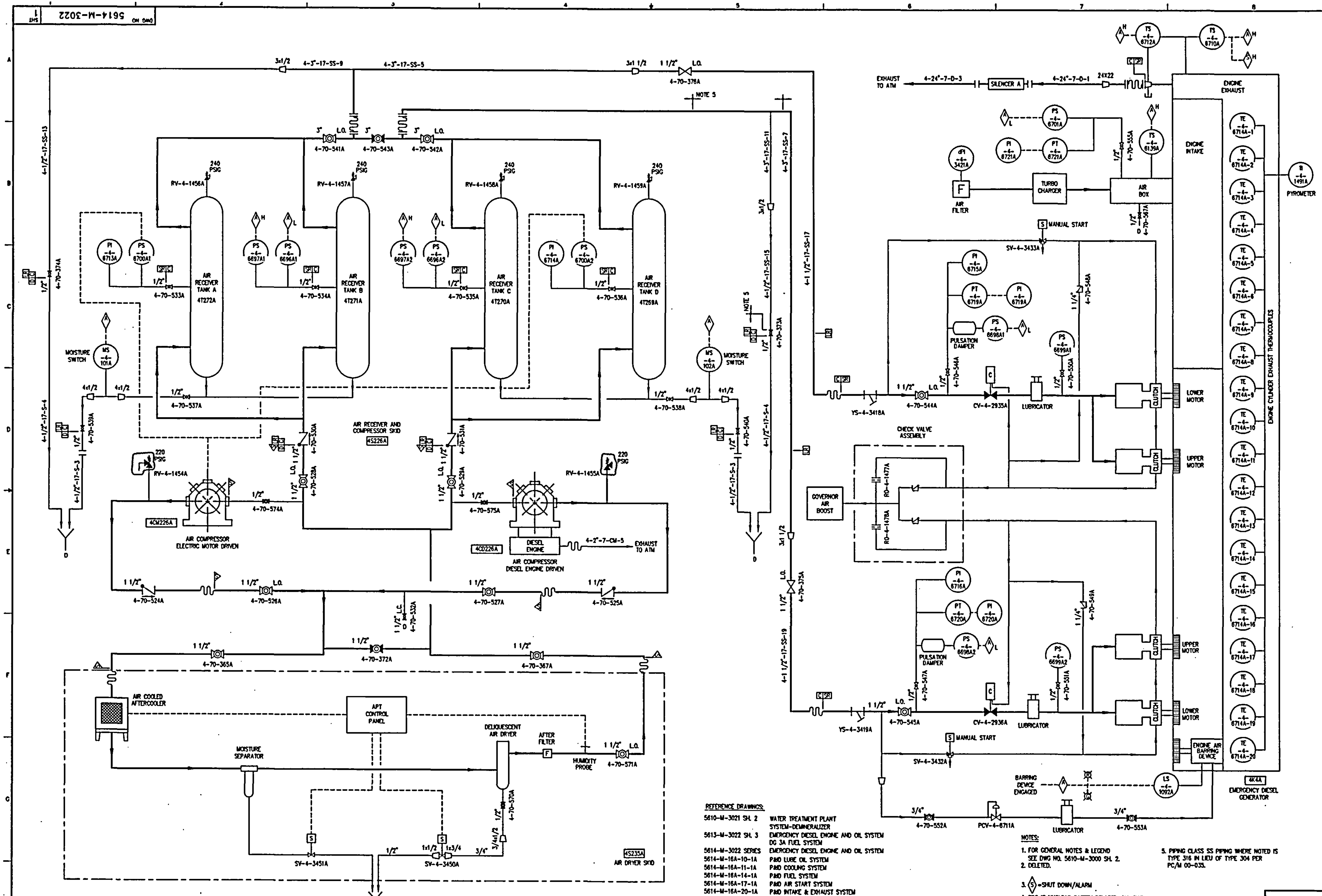
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3020

SHEET 2

SYS 020

REV 27



REFERENCE DRAWINGS:

5610-M-3021 SH. 2	WATER TREATMENT PLANT SYSTEM-DEMINERALIZER
5613-M-3022 SH. 3	EMERGENCY DIESEL ENGINE AND OIL SYSTEM DG 3A FUEL SYSTEM
5614-M-3022 SERIES	EMERGENCY DIESEL ENGINE AND OIL SYSTEM
5614-M-16A-10-1A	P&ID LUBE OIL SYSTEM
5614-M-16A-11-1A	P&ID COOLING SYSTEM
5614-M-16A-14-1A	P&ID FUEL SYSTEM
5614-M-16A-17-1A	P&ID AIR START SYSTEM
5614-M-16A-20-1A	P&ID INTAKE & EXHAUST SYSTEM

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. (S) =SHUT DOWN/ALARM
4. EDG IS NUCLEAR SAFETY RELATED. ALL SKID MOUNTED PIPING IS SEISMIC CATEGORY I.
5. PIPING CLASS SS PIPING WHERE NOTED IS TYPE 316 IN LIEU OF TYPE 304 PER PC/M 00-035.

POD

NOTE: THIS DWG IS MADE FROM:

FPL POO	5614-M-738 SH. 2	REV 5
FPL POO	5614-M-738 SH. 4	REV 0
FPL P&ID	5614-M-16A-17 SH. 1A	REV 1
FPL P&ID	5614-M-16A-20 SH. 1A	REV 2

REV	DATE	REVISION	BY	CH	APP	APP
8	12-02-02	ISSUED AS-BUILT PER PC/M 02-098.	RH	JPG	AAP	JTL
7	05-09-01	ISSUED AS-BUILT PER CRN-M-10253 (PC/M 00-016).	RH	RV	AAP	JM
6	1-24-01	ISSUED AS-BUILT PER PC/M 00-035 & INCORP. CRN-M-10218.	RH	RV	CMZ	JM
5	10-27-00	ISSUED AS-BUILT PER PC/M 00-035.	RH	RV	NAB	JM
4	8-15-00	ISSUED AS-BUILT PER CRN-M-10051. (PC/M 96-061)	RH	RV	AAP	JM

REV	DATE	REVISION	BY	CH	APP	APP
3	3-18-00	ISSUED AS-BUILT PER CRN-M-9899 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	JPG	RH	JK	ASD
2	11-20-96	ISSUED AS-BUILT PER CRN-M-8839. (PC/M 96-064)	RH	RV	JK	JJC
1	05-19-93	ISSUED AS-BUILT FOR DCR-TPM-93-129.	DQ	CM	LJK	MFM
0	3-18-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-93-026.	SMM	SM MO	LRB	HAR

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

EMERGENCY DIESEL ENGINE AND OIL SYSTEM EDG 4A AIR STARTING SYSTEM

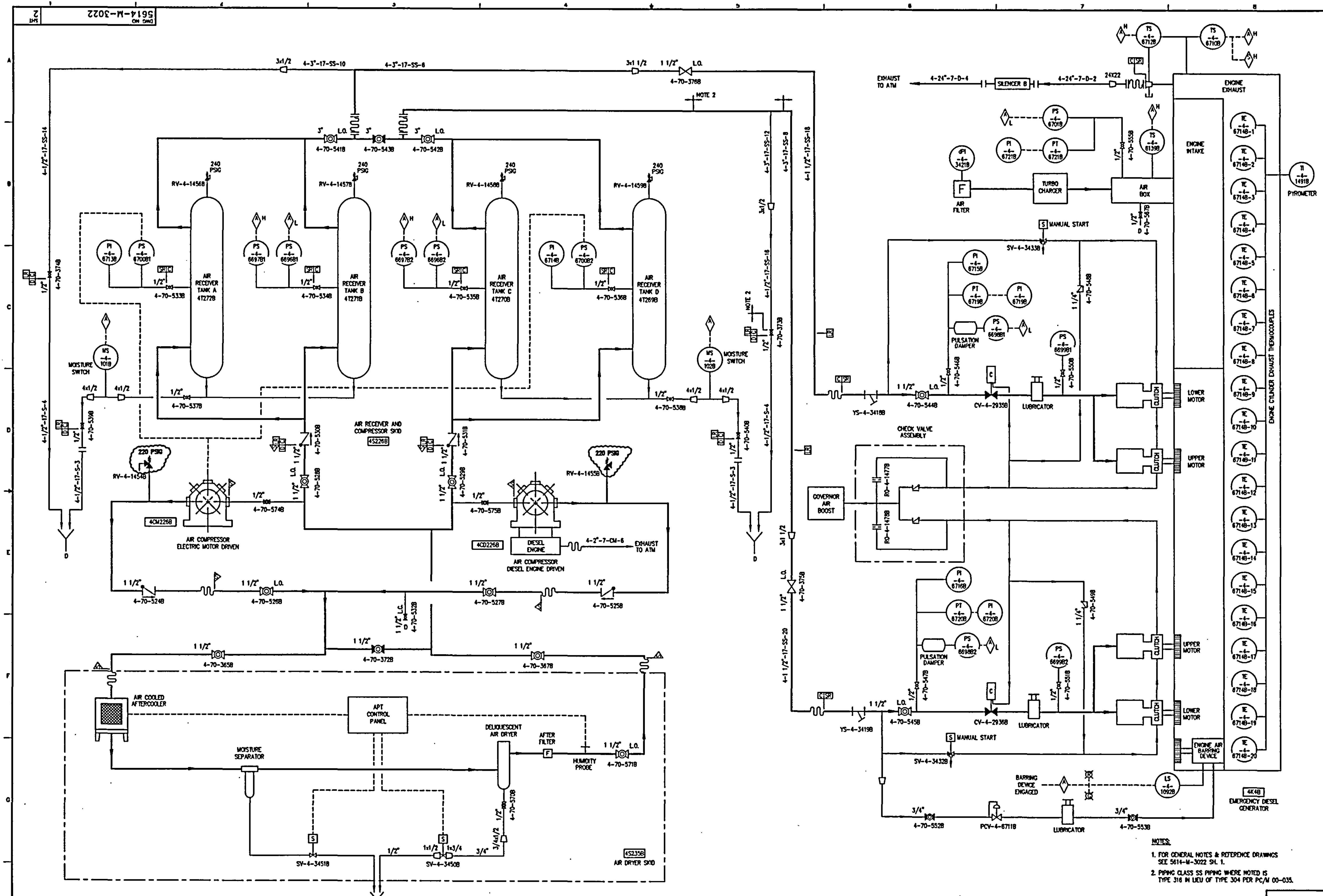
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3022

SYS 022

REV 8

SHEET 1



NOTE: THIS DWG IS MADE FROM:

FPL POO	5614-M-736 SH. 3	REV 5
FPL POO	5614-M-736 SH. 4	REV 0
FPL P&ID	5614-M-16A-17 SH. 1B	REV 1
FPL P&ID	5614-M-16A-20 SH. 1B	REV 0

REV	DATE	REVISION	BY	CH	APP	APP
8	04-29-03	ISSUED AS-BUILT PER PC/M 02-098.	RH	RV	CMZ	ASD
7	05-09-01	ISSUED AS-BUILT PER CRN-M-10253 (PC/M 00-016).	RH	RV	AAP	JM
6	1-24-01	ISSUED AS-BUILT PER PC/M 00-035 & INCORP. CRN-M-10218.	RH	RV	CMZ	JM
5	11-27-00	ISSUED AS-BUILT PER PC/M 00-035.	RH	JK	RR	JM
4	8-15-00	ISSUED AS-BUILT PER CRN-M-10051. (PC/M 99-061)	RH	RV	AAP	JM

REV	DATE	REVISION	BY	CH	APP	APP
3	3-18-00	ISSUED AS-BUILT PER CRN-M-9899 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	JPC	RH	JK	ASD
2	11-20-96	ISSUED AS-BUILT PER CRN-M-8839. (PC/M 96-064)	RH	RV	JK	JJC
1	05-19-93	ISSUED AS-BUILT FOR DCR-TPM-93-129	DQ	CM	UK	MFM
0	3-18-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-93-026.	SMM	SM MD	LRB	HAR

POD

FPL

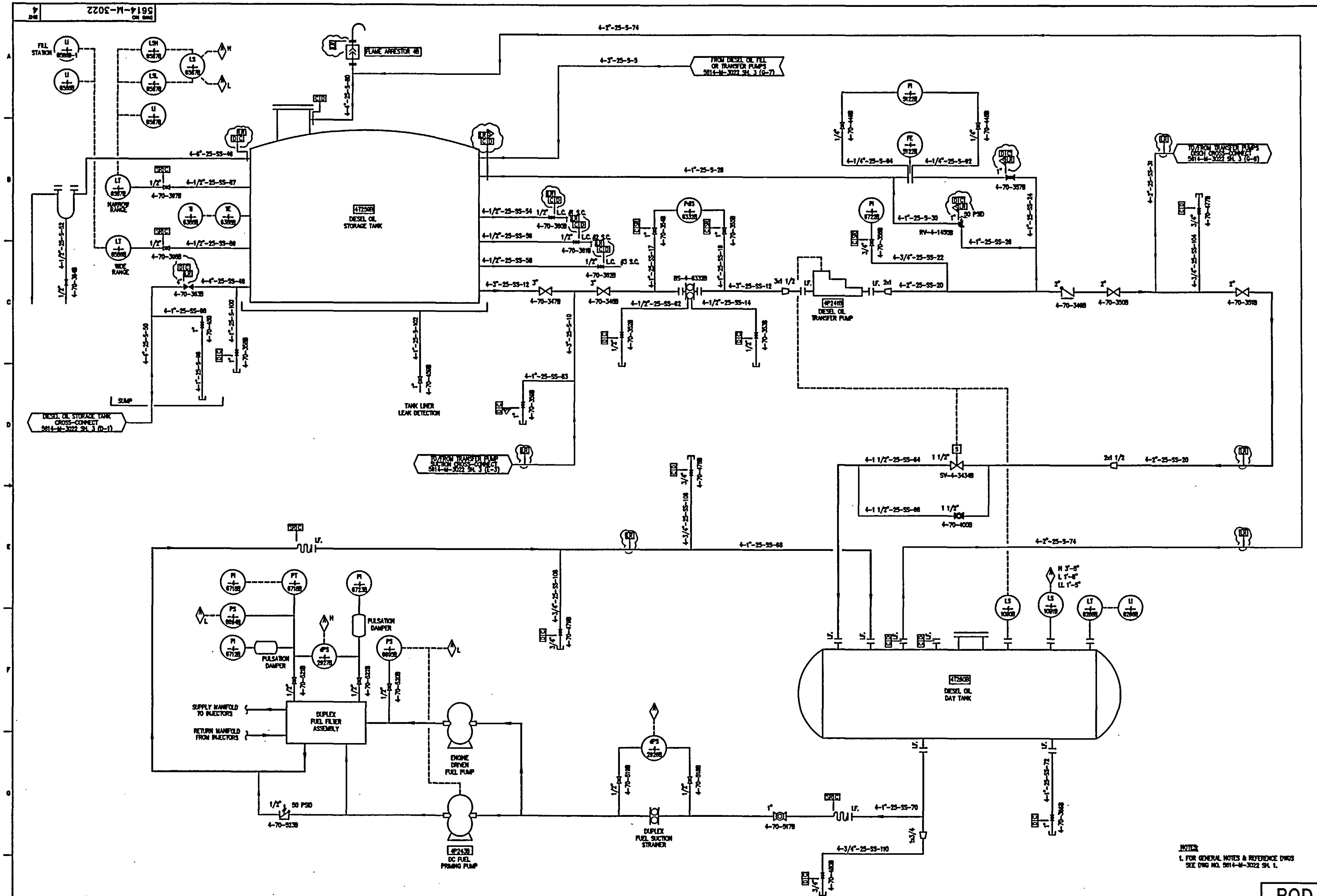
TURKEY POINT NUCLEAR UNIT 4

P & ID

EMERGENCY DIESEL ENGINE AND OIL SYSTEM EDG 4B AIR STARTING SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3022 | SYS 022 | REV 8 | SHEET 2



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3022 SH. 1.

NOTE: THIS DWG IS MADE FROM:

FPL POD 5614-M-736 SH. 1 REV. 2

FPL POD 5614-M-736 SH. 3 REV. 5

FPL P&ID 5614-M-18A-14 SH. 19 REV. 0

REV	DATE	REVISION	BY	CH	APP	APP
5	3-20-00	ISSUED AS-BUILT PER CRN-M-9903 (PC/M 99-081).	JPG	SRE	—	JRH
4	5-12-99	ISSUED AS-BUILT PER CRN-M-9863 (PC/M 99-010).	RH	RV	DF	JIL

REV	DATE	REVISION	BY	CH	APP	APP
3	4-14-99	ISSUED AS-BUILT PER CRN-4-3788(PC/M 99-004)	RV	RH	BP	TS
2	05-19-93	ISSUED AS-BUILT FOR DCR-TPM-93-129	DQ	GM	UK	MFM
1	04-19-93	INCORPORATED CRN-M-5781 FOR PC/M 93-046.	SP	GM	UK	JRH
0	3-18-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	SMM	SM MD	URB	HAR
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-93-028.	—	—	—	—

POD

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

EMERGENCY DIESEL ENGINE AND OIL SYSTEM EDG 4B FUEL SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

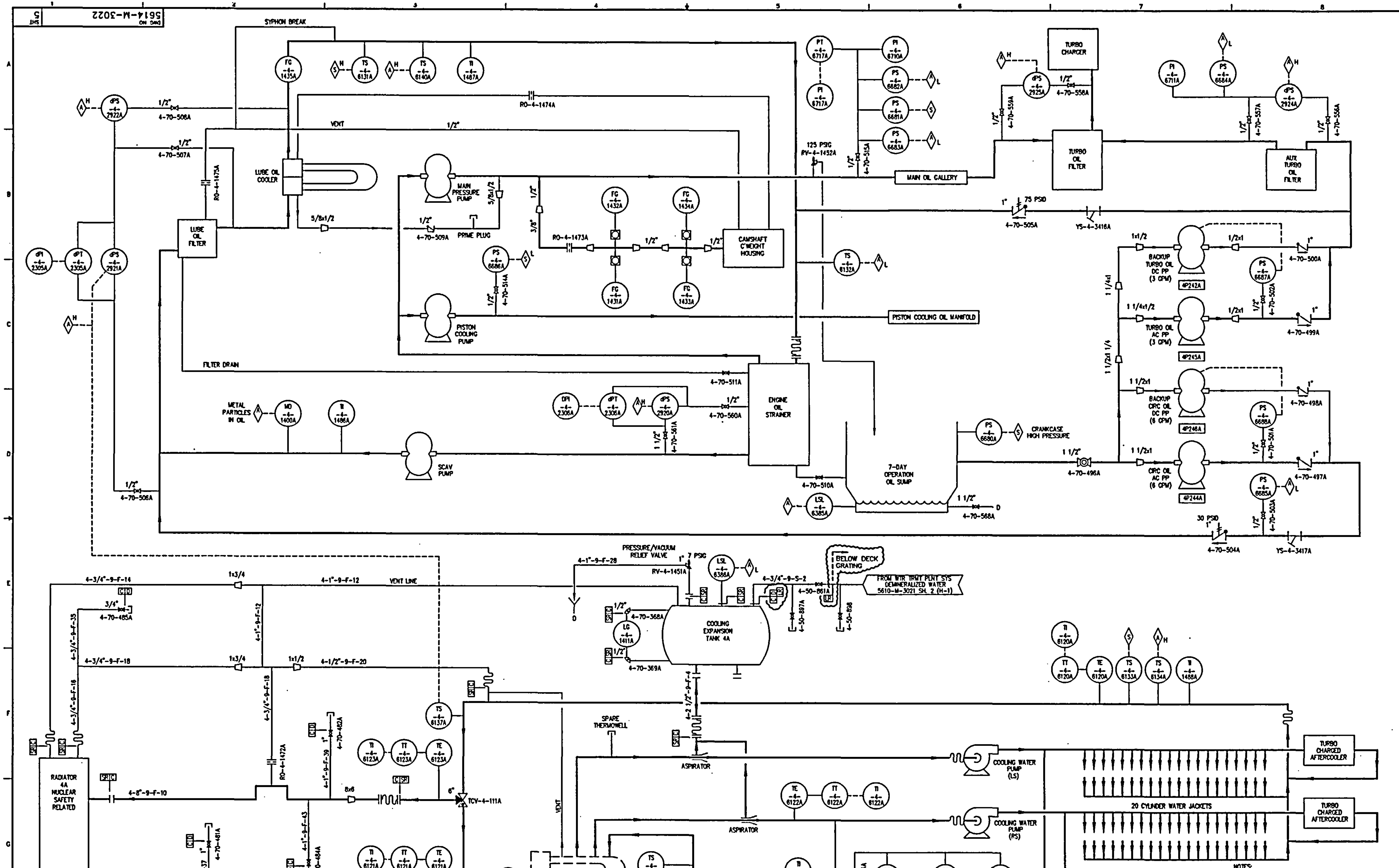
DRAWING NUMBER 5614-M-3022

SHEET 4

SYS 022

REV 5

UTM00275.DWG



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3022 SH. 1.
2. MD=METAL DETECTOR
3. (S) = SHUT DOWN/ALARM
4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5614-M-736 SH. 2 REV. 5
FPL P&ID 5614-M-16A-10 SH. 1A REV. 0
FPL P&ID 5614-M-16A-11 SH. 1A REV. 1

POD

REV	DATE	REVISION	BY	CH	APP	APP
6	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-061).	RH	RV	AGM	JTL
5	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH
4	11-9-99	ISSUED AS-BUILT PER CRN-M-9836 (PC/M 99-033).	RH	RV	CMZ	JTL

REV	DATE	REVISION	BY	CH	APP	APP
3	2-16-95	INCORPORATED CRN-M-8200 FOR PC/M 94-123.	RH	RV	WMC	JJC
2	12-19-94	ISSUED AS-BUILT FOR PC/M 94-110 AND INCORP CRN-M-8095.	RH	RV	POK	BO
1	05-19-93	ISSUED AS-BUILT FOR DCR-TPM-93-129	DQ	GM	LK	MFM
0	3-18-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	SMM	SM MD	LRB	HAR
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-93-026.	—	—	—	—

FPL

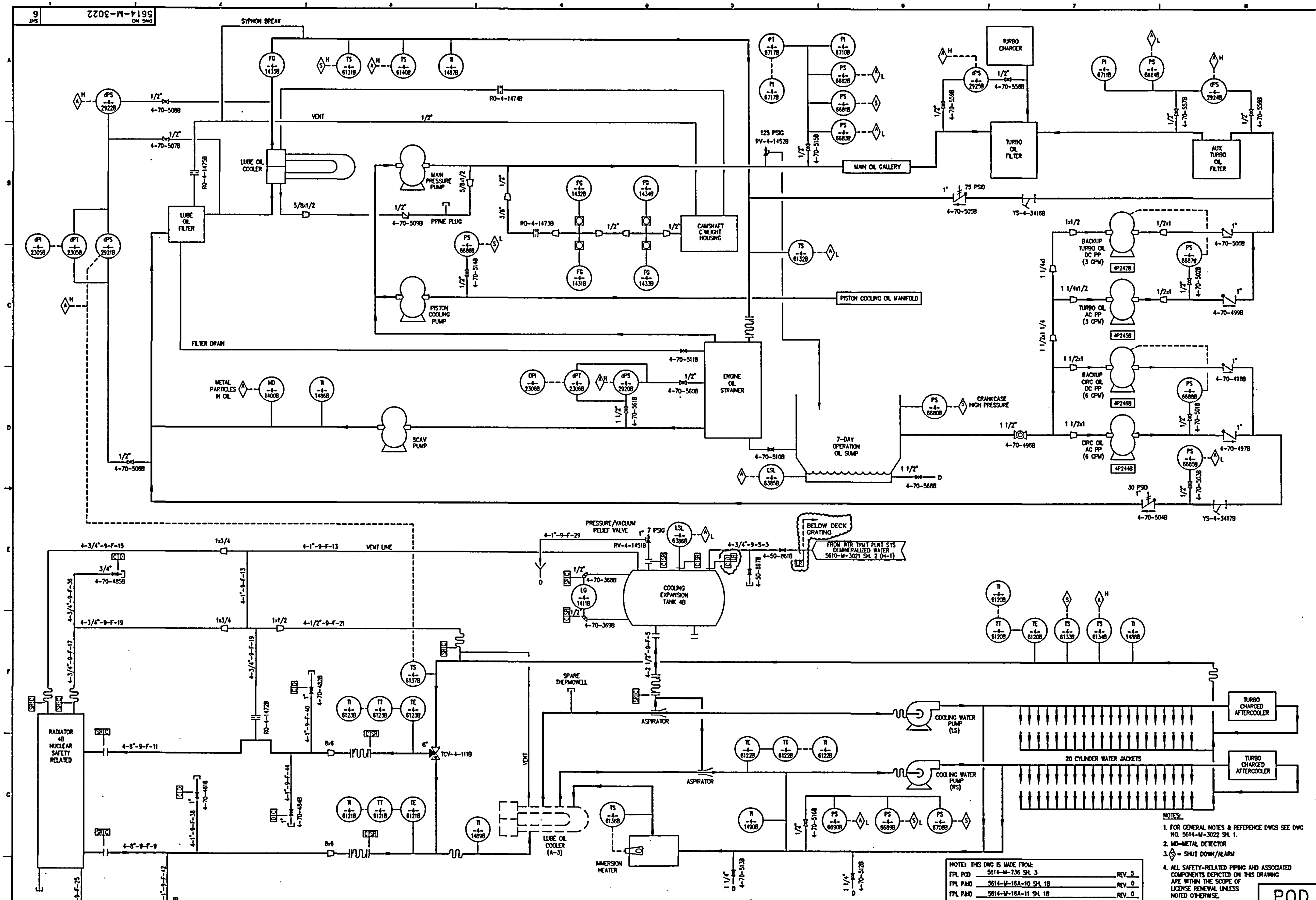
TURKEY POINT NUCLEAR UNIT 4

P & I D

EMERGENCY DIESEL
ENGINE AND OIL SYSTEM
DG 4A LO & COOLING WATER

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3022
SYS 022
SHEET 5
REV 6



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3022 SH. 1.
2. MD–METAL DETECTOR
3. (S) = SHUT DOWN/ALARM
4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5614-M-736 SH. 3 REV. 5
FPL P&ID 5614-M-16A-10 SH. 1B REV. 0
FPL P&ID 5614-M-16A-11 SH. 1B REV. 0

POD

REV	DATE	REVISION	BY	CH	APP	APP
6	6-17-02	ISSUED AS-BUILT PER CRN-M-10463 (PC/M 00-016).	RH	RV	ACM	JTL
5	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	SRE	—	JRH
4	11-9-99	ISSUED AS-BUILT PER CRN-M-9636 (PC/M 99-033).	RH	RV	CMZ	JTL
3	2-16-95	INCORPORATED CRN-M-8200 FOR PC/M 94-123.	RH	RV	WMC	JJC
2	12-19-94	ISSUED AS-BUILT FOR PC/M 94-110 AND INCORP. CRN-M-8095.	RH	RV	PDK	BD
1	05-19-93	ISSUED AS-BUILT FOR DCR-TPM-93-129	DQ	GM	UK	MFM
0	3-18-93	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-93-026.	SMM	SM MD	LRB	HAR

FPL

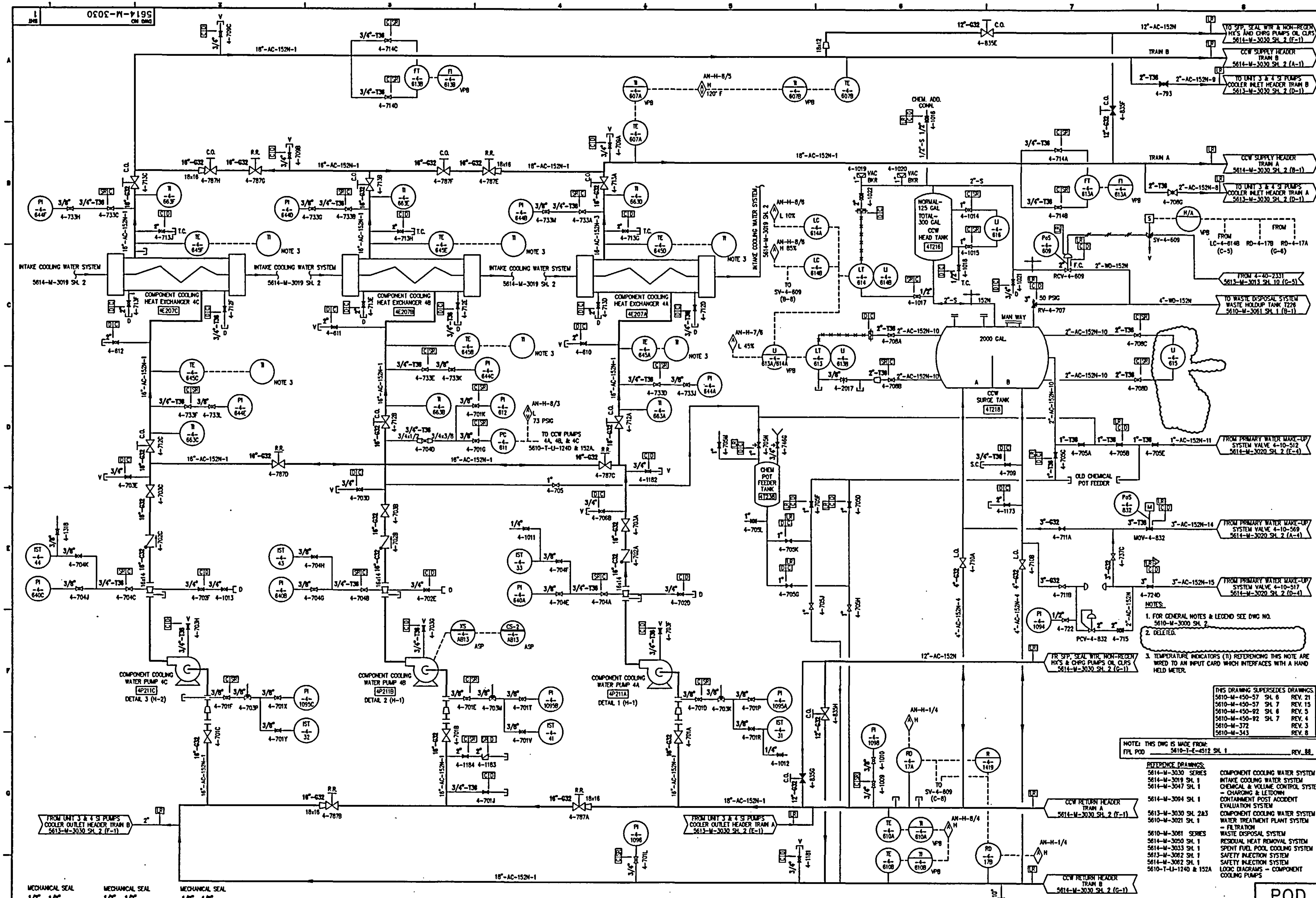
TURKEY POINT NUCLEAR UNIT 4

P & I D

EMERGENCY DIESEL
ENGINE AND OIL SYSTEM
DG 4B LO & COOLING WATER

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3022
SHEET 6
SYS 022
REV 6



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. TEMPERATURE INDICATORS (TI) REFERENCING THIS NOTE ARE WIRED TO AN INPUT CARD WHICH INTERFACES WITH A HAND HELD METER.

THIS DRAWING SUPERSEDES DRAWINGS.		
5610-M-450-57	SH. 6	REV. 21
5610-M-450-57	SH. 7	REV. 15
5610-M-450-92	SH. 6	REV. 5
5610-M-450-92	SH. 7	REV. 4
5610-M-372		REV. 3
5610-M-343		REV. 8

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4512 SH. 1 REV. 88

REFERENCE DRAWINGS:

5614-M-3030 SERIES	COMPONENT COOLING WATER SYSTEM
5614-M-3019 SH. 1	INTAKE COOLING WATER SYSTEM
5614-M-3047 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM – CHARGING & LETDOWN
5614-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5613-M-3030 SH. 2&3	COMPONENT COOLING WATER SYSTEM
5610-M-3021 SH. 1	WATER TREATMENT PLANT SYSTEM – FILTRATION
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5614-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3033 SH. 1	SPENT FUEL POOL COOLING SYSTEM
5613-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5614-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5610-T-LI-1240 & 152A	LOGIC DIAGRAMS – COMPONENT COOLING PUMPS

POD

REV	DATE	REVISION	BY	CH	APP	APP
22	6-10-99	ISSUED AS-BUILT PER PC/M 96-022.	RV	JK	BP	TS
21	3-18-99	ISSUED AS-BUILT PER PC/M 96-093.	RH	RV	BP	TS
20	3-17-99	ISSUED AS-BUILT PER PC/M 96-093 (PARTIAL).	RH	RV	CMZ	JMM
19	6-30-98	~~ISSUED AS-BUILT PER CRN-M-9394 (PC/M 98-021).~~	RH	RV	AAP	JZ
18	10-7-97	ISSUED AS-BUILT PER PC/M 96-093.	RH	RV	AAP	JJC
17	10-1-97	ISSUED AS-BUILT PER PC/M 96-093.	RH	RV	JMM	JJC

REV	DATE	REVISION	BY	CH	APP	APP
16	9-30-96	INCORPORATED CRN-4-3435 FOR PC/M 96-058.	RV	BP	-	TS
24	1-9-03	ISSUED AS-BUILT PER CRN-M-10471 (PC/M 00-016) & INCORP. DCRR 03-M-0001	RH	RV	IJR	JTL
23	3-18-00	ISSUED AS-BUILT PER CRN-4-3832 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
—	—	(PC/M 99-061).	—	—	—	—
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	RNB	MO	RAS/SW	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	—	—	—	—

FPL

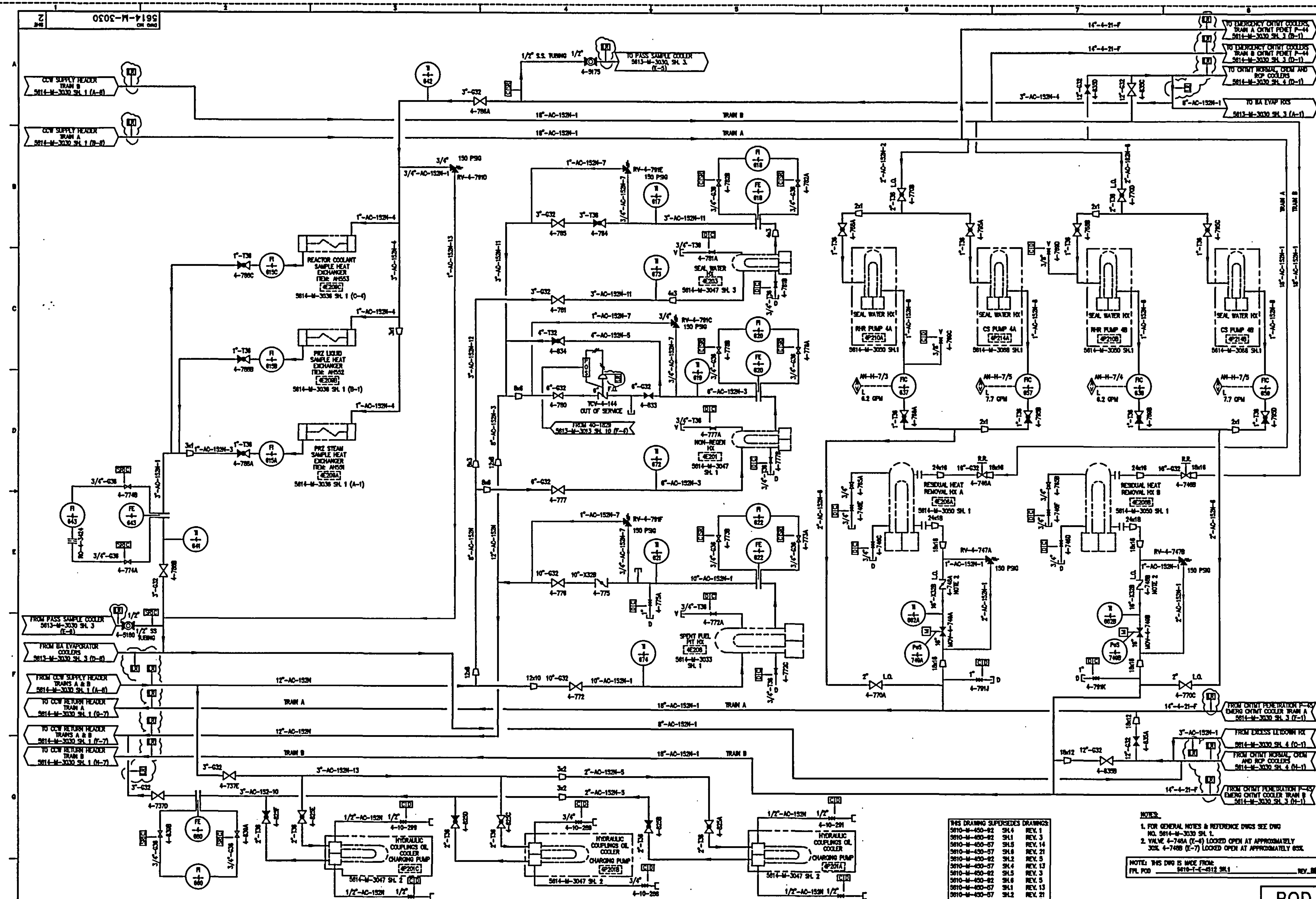
TURKEY POINT NUCLEAR UNIT 4

P & I D

COMPONENT COOLING WATER SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3030 | SYS 030
SHEET 1 | REV 24



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3030 SH. 1.
2. VALVE 4-746A (E-6) LOCKED OPEN AT APPROXIMATELY 30% 4-746B (E-7) LOCKED OPEN AT APPROXIMATELY 65%

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-450-92	SH.4	REV. 1
5610-M-450-92	SH.1	REV. 3
5610-M-450-57	SH.5	REV. 14
5610-M-450-57	SH.6	REV. 21
5610-M-450-92	SH.2	REV. 5
5610-M-450-57	SH.4	REV. 13
5610-M-450-92	SH.5	REV. 3
5610-M-450-92	SH.6	REV. 5
5610-M-450-57	SH.1	REV. 13
5610-M-450-57	SH.2	REV. 21
5610-M-372		REV. 3

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4512 SH.1 REV. 8

POD

REV	DATE	REVISION	BY	CH	APP	APP
6	04-01-93	ISSUED AS-BUILT FOR PC/M 92-087 AND DCR-TPM-93-133.	DG	GHR	RFR	MFM
5	03-05-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	INITIALS ON FILE			
4	02-11-93	ISSUED AS-BUILT FOR PC/M 92-090 & CORRECTED PC/M 91-064.	SP	INITIALS ON FILE		
3	12-15-92	ISSUED AS-BUILT FOR PC/M 86-542	SMM	INITIALS ON FILE		
2	3-4-92	ISSUED AS-BUILT FOR DCR-TPM-91-0532		MW	LTB	FTH

REV	DATE	REVISION	BY	CH	APP	APP
8	3-20-00	ISSUED AS-BUILT PER CRN-M-0083 (PC/M 99-061).	JPG	TEL	-	JRH
7	8-21-95	ISSUED AS-BUILT PER PC/M 95-054.	RH	LMc	-	TJC
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-138.	RB	MD		LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

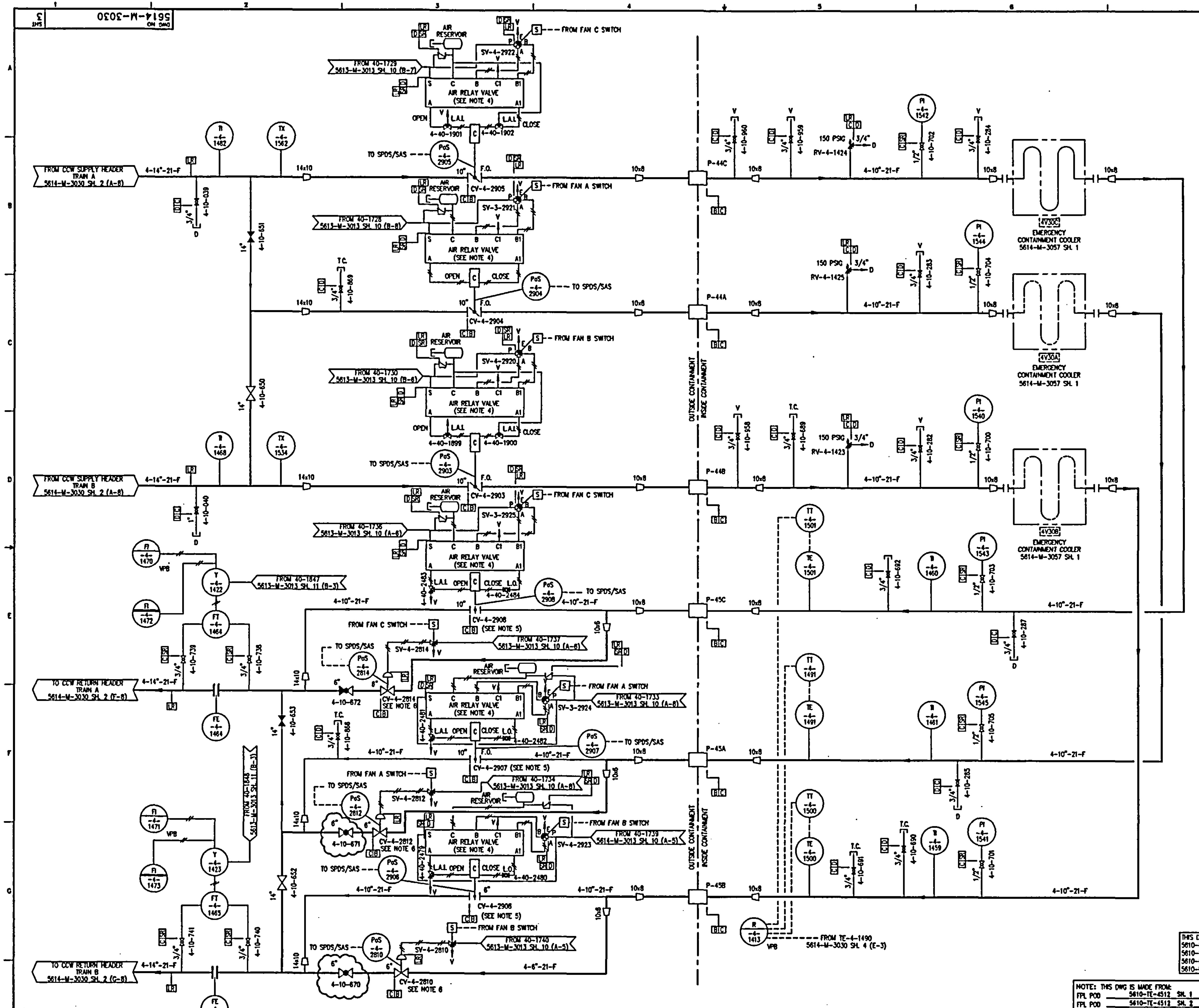
P & I D

COMPONENT COOLING WATER SYSTEM

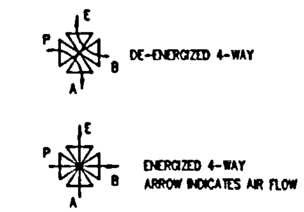
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5614-M-3030	030
SHEET 2	REV 8

UTM00103.DWG



LEGEND: (FOR SV-4-2920, SV-4-2921, SV-4-2922, SV-4-2923, SV-4-2924 & SV-4-2925)



EMERGENCY CONTAINMENT COOLERS 4B & 4C VALVE POSITION			
FAN SWITCH POSITION	INLET VALVE	OUTLET VALVE	OUTLET BYPASS VALVE
AUTO (FAN NOT RUNNING)	OPEN	CLOSED	OPEN
AUTO FAN STARTS	OPEN	OPEN	OPEN
HELD IN START (FAN RUNNING)	OPEN	OPEN	OPEN
STOP	CLOSED	CLOSED	CLOSED

IN AUTO SEQUENCER STARTS FAN. "A" CONTACT ON MOTORS OPENS RESPECTIVE MAIN OUTLET VALVES. NOTE: IF FAN SWITCH IS IN STOP POSITION AND THE SEQUENCER STARTS FAN, OUTLET OPENS BUT INLET AND OUTLET BYPASS WILL NOT OPEN.

EMERGENCY CONTAINMENT COOLER 4A VALVE POSITION			
FAN SWITCH POSITION	INLET VALVE	OUTLET VALVE	OUTLET BYPASS VALVE
MID POSITION (FAN NOT RUNNING)	OPEN	CLOSED	OPEN
MANUAL FAN START	OPEN	OPEN	OPEN
MID POSITION (FAN RUNNING)	OPEN	OPEN	OPEN
STOP	CLOSED	CLOSED	CLOSED

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3030 SH. 1.
2. DELETED.
3. ALL PIPING INSIDE CONTAINMENT SHOWN ON THIS DRAWING ARE SAFETY RELATED AND ARE WITHIN THE SEISMIC/Q BOUNDARIES.
4. WITH PRESSURE AT S: (B ALIGNS TO A) & (B1 ALIGNS TO A1). ON LOSS OF SUPPLY PRESSURE (C ALIGNS TO A) & (C1 ALIGNS TO A1).
5. OUTLET VALVES FAIL OPEN ON LOSS OF INSTRUMENT AIR, FAIL CLOSED ON LOSS OF POWER TO ECC.
6. OUTLET BYPASS VALVES FAIL CLOSE ON LOSS OF INSTRUMENT AIR, FAIL OPEN ON LOSS OF POWER TO ECC.
7. SWING COOLER (4A) IS MANUAL START ONLY.

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-450-92 SH. 2	REV. 5
5610-M-343	REV. 8
5610-M-371	REV. 2
5610-M-372	REV. 3

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-TE-4512 SH. 1 REV. 88
FPL POD 5610-TE-4512 SH. 2 REV. 32

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
17	05-09-01	ISSUED AS-BUILT PER CRN-M-10308 (PC/M 00-016).	RH	RV	AAP	JM	11	2-16-94	ISSUED AS-BUILT FOR PC/M 94-008. REV.1 (PARTIAL)	RH	RV	TCK	BD
16	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH	10	2-16-94	ISSUED AS-BUILT FOR PC/M 94-008. REV.1 (PARTIAL)	RH	RV	TCK	BD
15	10-21-96	ISSUED AS-BUILT PER PC/M 95-148.	RV	RH	BP	TS	9	2-3-94	ISSUED AS-BUILT FOR PC/M 94-008. (PARTIAL)	RH	RV	TCK	BD
14	7-19-96	INCORPORATED CRN-M-8765 FOR PC/M 96-045.	RH	RV	DJB	BD	18	02-15-02	ISSUED AS-BUILT PER CRN-M-10467 (PC/M 00-016).	RH	RV	CMZ	JTL
13	5-21-96	ISSUED AS-BUILT FOR PC/M 96-036.	RH	RV	JMM	BD	0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD	RAS SW	LRB
12	2-17-94	ISSUED AS-BUILT FOR PC/M 94-008 REV.1	RH	RV	TCK	BD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & ID

COMPONENT COOLING WATER SYSTEM

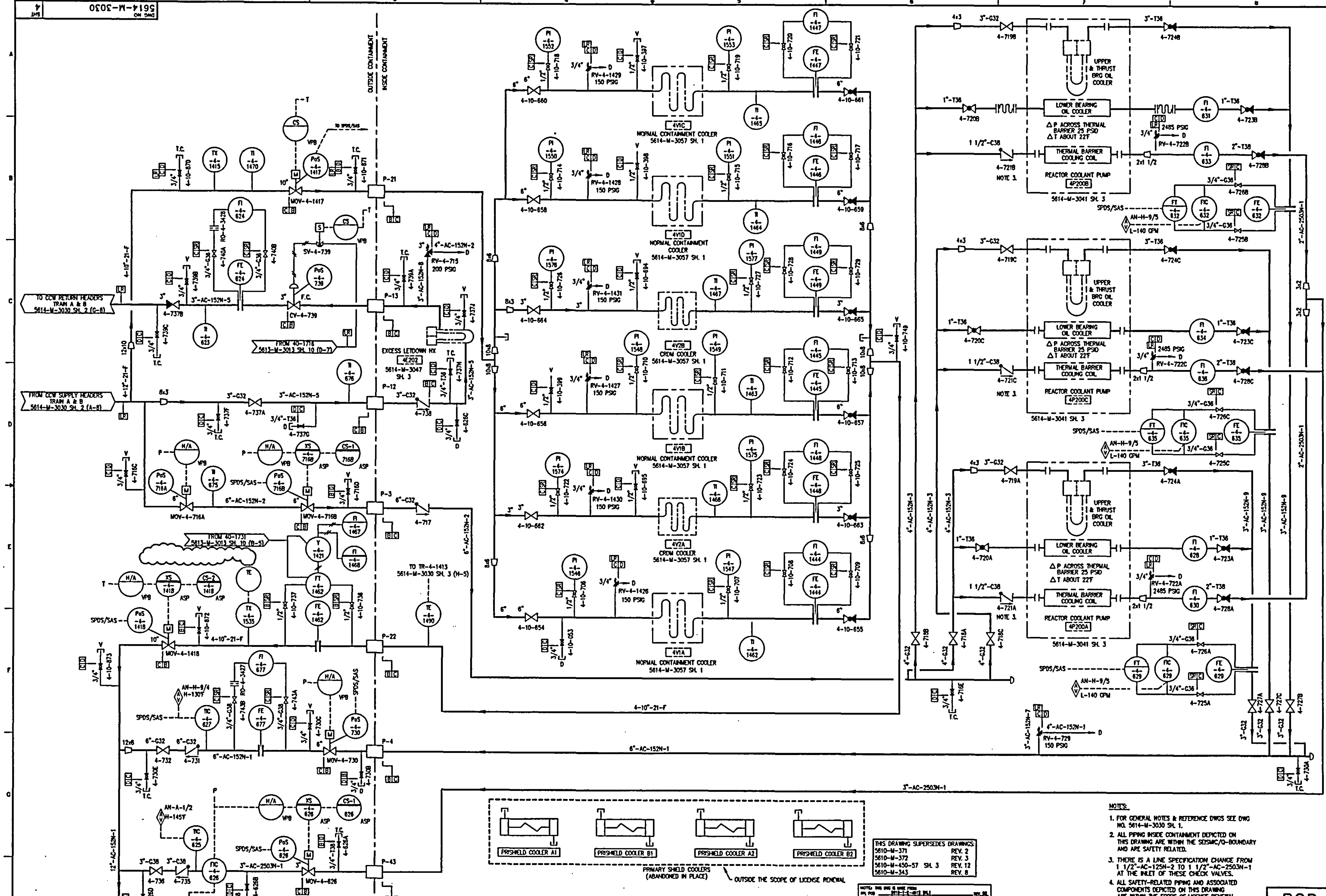
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3030

SYS 030

SHEET 3

REV 18



THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-371	REV. 2
5610-M-372	REV. 3
5610-M-450-57 SH. 3	REV. 12
5610-M-343	REV. 8

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3030 SH. 1.
2. ALL PIPING INSIDE CONTAINMENT DEPICTED ON THIS DRAWING ARE WITHIN THE SEISMIC/Q-BOUNDARY AND ARE SAFETY RELATED.
3. THERE IS A LINE SPECIFICATION CHANGE FROM 1 1/2"-AC-125N-2 TO 1 1/2"-AC-2503N-1 AT THE INLET OF THESE CHECK VALVES.
4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

POD

REV	DATE	REVISION	BY	CH	APP	APP
17	3-22-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	–	JRH
16	5-21-98	ISSUED AS-BUILT PER CRN-M-9368 (PC/M 98-013).	RH	RV	RSV	JJC
15	10-7-97	ISSUED AS-BUILT PER PC/M 96-093.	RH	RV	AAP	JJC
14	10-1-97	ISSUED AS-BUILT PER PC/M 96-093.	RH	RV	JMM	JJC
13	9-30-96	INCORPORATED CRN-E-15518 FOR PC/M 96-058.	RV	BP	–	TS
12	9-19-96	ISSUED AS-BUILT FOR PC/M 95-171.	RV	RH	JG	TS

REV	DATE	REVISION	BY	CH	APP	APP
11	7-19-96	INCORPORATED CRN-M-8765 FOR PC/M 96-045.	RH	RV	DJB	BD
10	6-20-95	INCORPORATED CRN-M-8302 FOR PC/M 95-065.	RH	RV	WMC	JJC
19	05-09-01	ISSUED AS-BUILT PER CRN-M-10306 (PC/M 00-016).	RH	RV	AAP	JM
18	8-15-00	ISSUED AS-BUILT PER CRN M-10088 (PC/M 99-061).	RH	RV	AAP	JM
0	4-23-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	MO	KAS/SW	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-136.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & ID

COMPONENT COOLING WATER SYSTEM

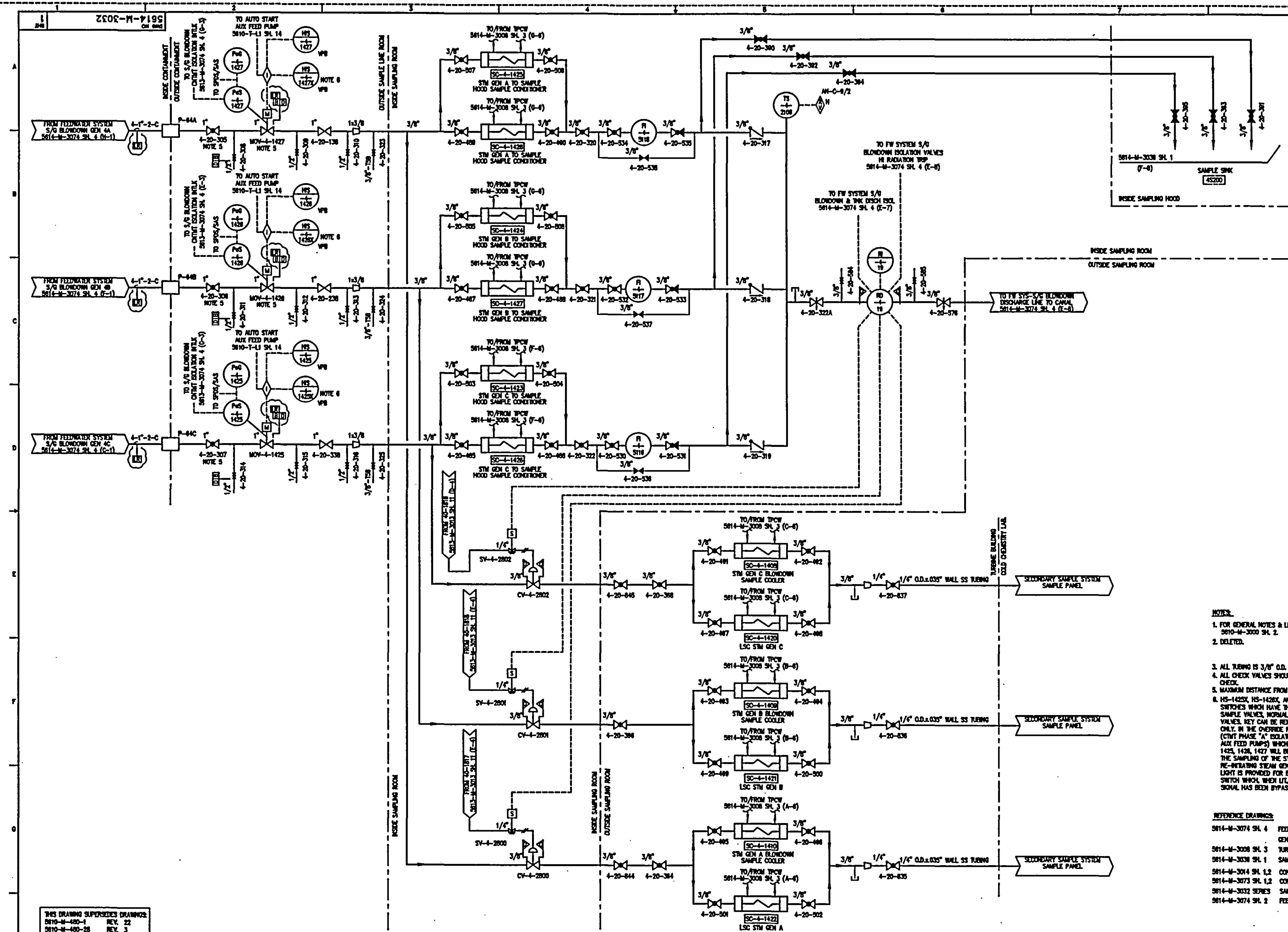
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3030

SHEET 4

SYS 030

REV 19



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. ALL TUBING IS 3/8" O.D. EXCEPT AS DETAILED.
4. ALL CHECK VALVES SHOULD BE "Y" TYPE LIFT CHECK.
5. MAXIMUM DISTANCE FROM PENETRATION 10'-0".
6. HS-1425X, HS-1426X, AND HS-1427X ARE KEYLOCK SWITCHES WHICH HAVE THREE POSITIONS, OVERRIDE SAMPLE VALVES, NORMAL AND OVERRIDE DRAIN/FILL VALVES. KEY CAN BE REMOVED IN NORMAL POSITION ONLY. IN THE OVERRIDE POSITION, THE SAFETY SIGNALS (CTMT PHASE "A" ISOLATION AND AUTO START FOR AUX FEED PUMPS) WHICH WILL CLOSE SAMPLING MOV'S 1425, 1426, 1427 WILL BE OVERRIDDEN. THIS WILL ENABLE THE SAMPLING OF THE STEAM GENERATORS PRIOR TO RE-INITIATING STEAM GENERATOR BLOWDOWN. AN AMBER LIGHT IS PROVIDED FOR EACH KEYLOCK OVERRIDE SWITCH WHICH, WHEN LIT, WILL INDICATE THE SAFETY SIGNAL HAS BEEN BYPASSED.

REFERENCE DRAWINGS:

5614-M-3074 SH. 4	FEEDWATER SYSTEM - STEAM GENERATOR BLOWDOWN RECOVERY
5614-M-3008 SH. 3	TURB PLANT COOLING WTR SYSTEM
5614-M-3036 SH. 1	SAMPLE SYSTEM - NSSS
5614-M-3014 SH. 1,2	CONDENSER SYSTEM
5614-M-3073 SH. 1,2	CONDENSATE SYSTEM
5614-M-3032 SERIES	SAMPLE SYSTEM-SECONDARY
5614-M-3074 SH. 2	FEEDWATER SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-480-1 REV. 22
5610-M-480-28 REV. 3

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4062 SH. 4 REV. 31

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-480-1 REV. 22

REV	DATE	REVISION	BY	CH	APP	APP
8	9-30-98	INCORPORATED CRN-4-3425 FOR PC/M 98-058.	RV	BP	—	TS
7	3-2-95	ISSUED AS-BUILT FOR PC/M 93-208.	RH	RV	PH	AJC
6	12-2-94	ISSUED AS-BUILT FOR PC/M 92-178 & PC/M 93-098.	RH	RV	JK	BO
5	9-20-93	ISSUED AS-BUILT FOR PCM-93-084.	SMM	MD	LK	JRH
4	04-01-93	ISSUED AS-BUILT FOR PC/M 93-007 AND DCR-TPM-93-133.	DQ	AB	WFR	MFM
3	02-10-93	ISSUED AS-BUILT FOR PC/M 92-080 & DCR-TPI-91-600.	SP	INITIALS ON FILE		

REV	DATE	REVISION	BY	CH	APP	APP
2	12-23-92	ISSUED AS-BUILT FOR PC/M 89-542, DCR-TPM-92-206, AND DCR-TPM-92-215.	SMM	INITIALS ON FILE		
10	3-20-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPO	JZ	—	JRH
9	6-12-97	ISSUED AS-BUILT PER CRN-4-3540(PC/M 97-011).	RV	RH	BP	TS
0	11-29-91	THIS DWG REDRAWN ON CAD FROM 5610-M-480-1.	GFH	MD	LRB / RAS	HAR
—	—	DWG SUPERSEDES 5610-M-480-1, 5610-M-480-28, AND ISSUED	—	—	—	—
—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

POD

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

SAMPLE SYSTEM - SECONDARY STEAM GENERATOR BLOWDOWN

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

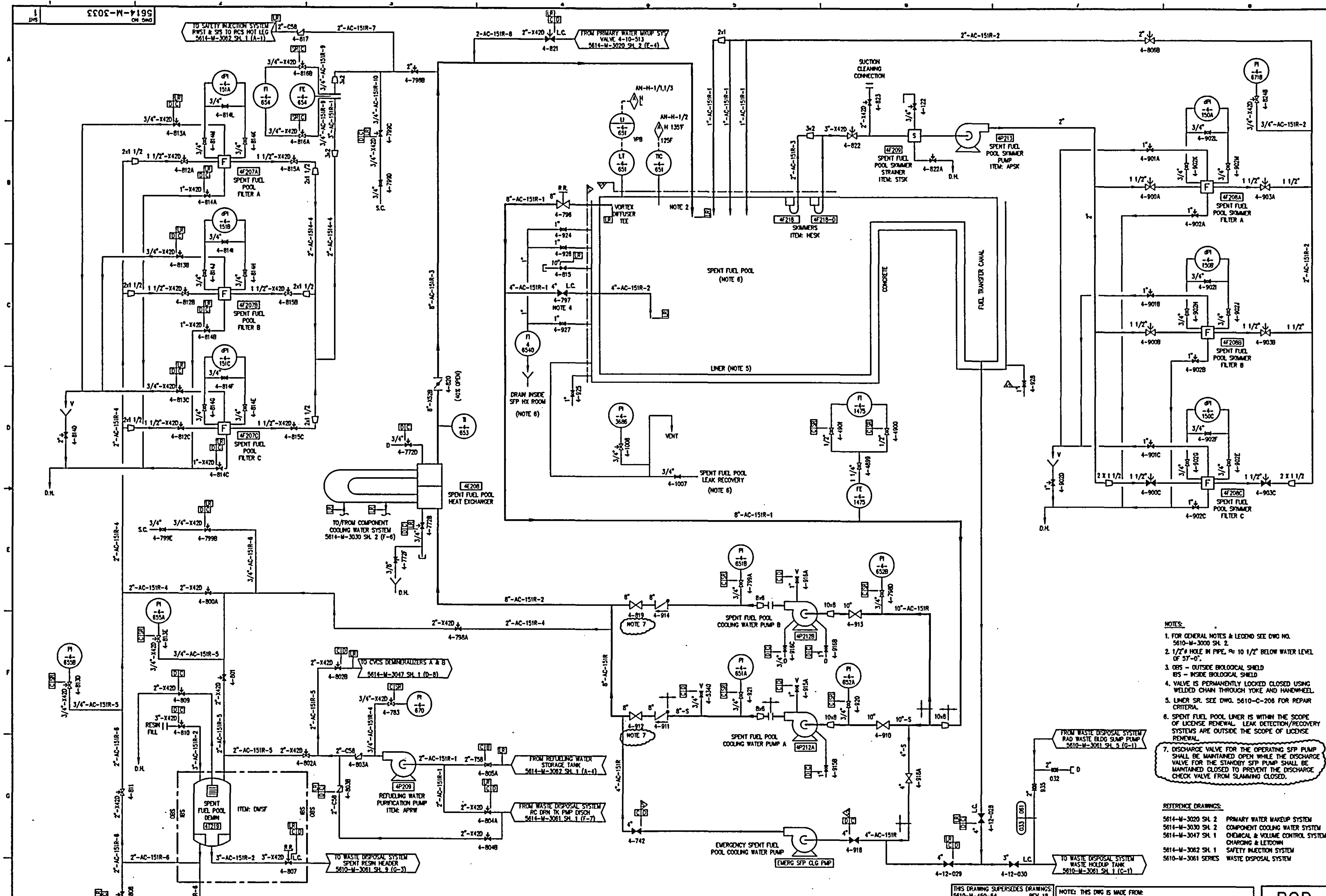
DRAWING NUMBER 5614-M-3032

SYS 032

SHEET 1

REV 10

UTM0110.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2
2. 1/2"ø HOLE IN PIPE, ≈ 10 1/2" BELOW WATER LEVEL OF 57'-0".
3. OBS – OUTSIDE BIOLOGICAL SHIELD
   IBS – INSIDE BIOLOGICAL SHIELD
4. VALVE IS PERMANENTLY LOCKED CLOSED USING WELDED CHAIN THROUGH YOKE AND HANDWHEEL.
5. LINER SR. SEE DWG. 5610-C-206 FOR REPAIR CRITERIA.
6. SPENT FUEL POOL LINER IS WITHIN THE SCOPE OF LICENSE RENEWAL. LEAK DETECTION/RECOVERY SYSTEMS ARE OUTSIDE THE SCOPE OF LICENSE RENEWAL.
7. DISCHARGE VALVE FOR THE OPERATING SFP PUMP SHALL BE MAINTAINED OPEN WHILE THE DISCHARGE VALVE FOR THE STANDBY SFP PUMP SHALL BE MAINTAINED CLOSED TO PREVENT THE DISCHARGE CHECK VALVE FROM SLAMMING CLOSED.

REFERENCE DRAWINGS:

5614-M-3020 SH. 2	PRIMARY WATER MAKEUP SYSTEM
5614-M-3030 SH. 2	COMPONENT COOLING WATER SYSTEM
5614-M-3047 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM CHARGING & LETDOWN
5614-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-450-54 REV. 18
5610-M-450-91 REV. 6

NOTE: THIS DWG IS MADE FROM: FPL POD 5610-T-E-4515 SH. 1 REV. 58

POD

REV	DATE	REVISION	BY	CH	APP	APP
17	07-31-01	ISSUED AS-BUILT PER CRN-M-10344 (PC/M 00-016).	RV	RH	CMZ	JM
16	05-09-01	ISSUED AS-BUILT PER CRN-M-10272 (PC/M 00-016).	RH	RV	AAP	JM
15	04-06-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	TEL	—	JRH
14	11-16-99	ISSUED AS-BUILT PER PC/M 98-031.	RH	RV	LJR	JTL
13	9-20-99	ISSUED AS-BUILT PER PC/M 96-042.	RH	RV	RSV	JEH
12	1-22-97	ISSUED AS-BUILT PER CRN-M-8882. (PC/M 96-080)	RH	RV	CMZ	JJC

REV	DATE	REVISION	BY	CH	APP	APP
11	9-30-96	INCORPORATED CRN-4-3427 FOR PC/M 96-058.	RV	BP	-	TS
18	5-22-02	ISSUED AS-BUILT PER CRN-M-10513 (PC/M 00-016).	RH	RV	CMZ	RR
1	3-4-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE, SUPERSEDING DWGS 5610-M-450-54 AND 5610-M-450-91 PER DCR-TPM-91-425. ISSUED AS-BUILT FOR DCR-TPM-91-532 AND ISSUED INTO THE FPL SYSTEM.	LJC MDW	GEA	LTB	FTH

FPL

TURKEY POINT NUCLEAR UNIT 4

P & ID

SPENT FUEL POOL

COOLING SYSTEM

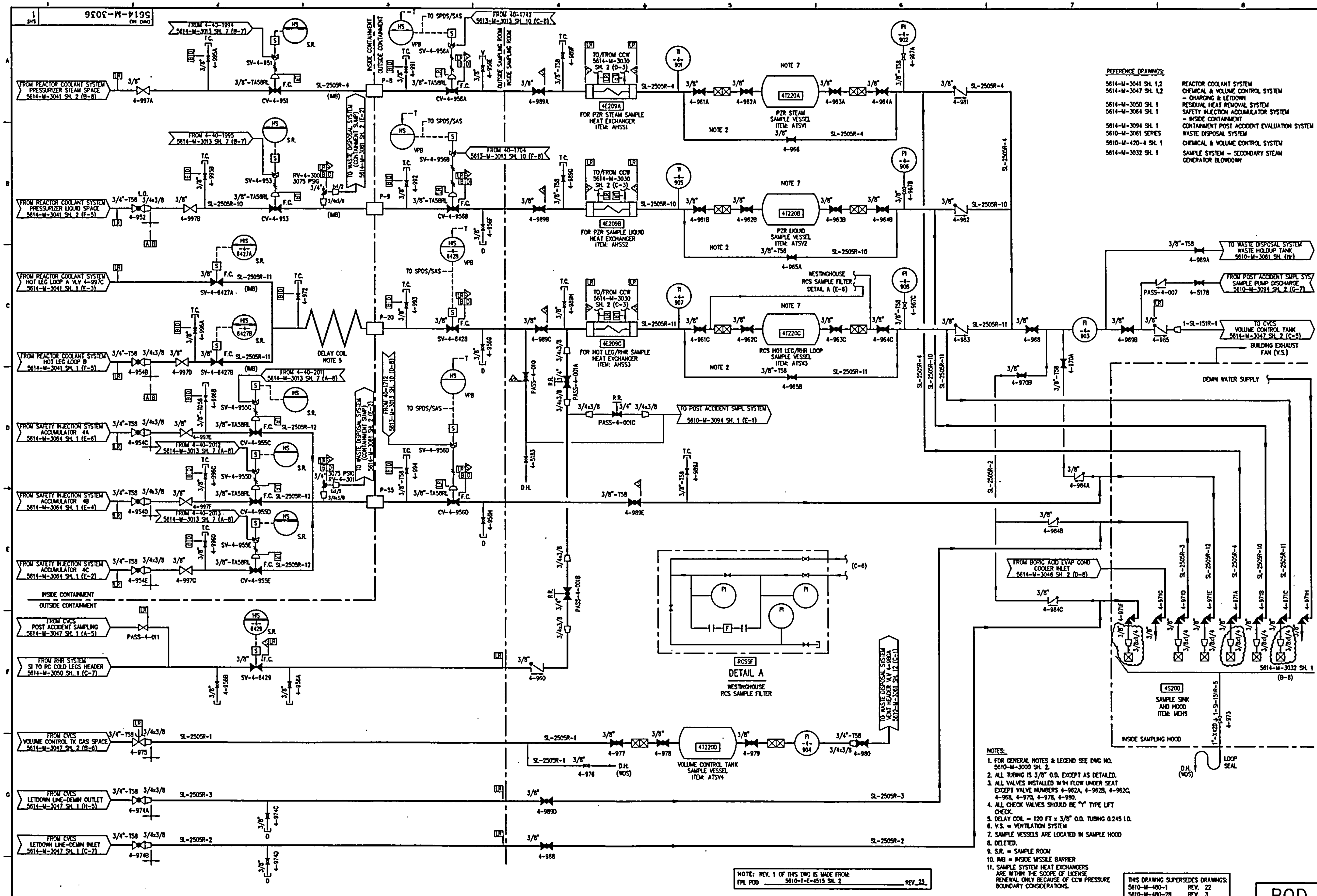
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3033

SHEET 1

SYS 033

REV 18



REFERENCE DRAWINGS:

5614-M-3041 SH. 1,2	REACTOR COOLANT SYSTEM
5614-M-3047 SH. 1,2	CHEMICAL & VOLUME CONTROL SYSTEM - CHARGING & LETDOWN
5614-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM - INSIDE CONTAINMENT
5614-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5610-M-420-4 SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM
5614-M-3032 SH. 1	SAMPLE SYSTEM - SECONDARY STEAM GENERATOR BLOWDOWN

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. ALL TUBING IS 3/8" O.D. EXCEPT AS DETAILED.
3. ALL VALVES INSTALLED WITH FLOW UNDER SEAT EXCEPT VALVE NUMBERS 4-962A, 4-962B, 4-962C, 4-968, 4-970, 4-978, 4-980.
4. ALL CHECK VALVES SHOULD BE "Y" TYPE LIFT CHECK.
5. DELAY COIL - 120 FT x 3/8" O.D. TUBING 0.245 I.D.
6. V.S. = VENTILATION SYSTEM
7. SAMPLE VESSELS ARE LOCATED IN SAMPLE HOOD
8. DELETED.
9. S.R. = SAMPLE ROOM
10. IMB = INSIDE MISSILE BARRIER
11. SAMPLE SYSTEM HEAT EXCHANGERS ARE WITHIN THE SCOPE OF LICENSE RENEWAL ONLY BECAUSE OF CCW PRESSURE BOUNDARY CONSIDERATIONS.

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-480-1 REV. 22
5610-M-480-28 REV. 3

NOTE: REV. 1 OF THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4515 SH. 2 REV. 23

NOTE: THIS DWG IS MADE FROM:
FPL P&ID 5610-M-480-1 REV. 22
AND 5610-M-1295 REV. 9

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
14	9-21-97	ISSUED AS-BUILT PER PC/M 97-012. (PARTIAL)	RH	RV	CMZ	RSV	16	3-18-00	ISSUED AS BUILT PER CRN-M-9877 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
13	7-19-96	INCORPORATED CRN-M-8781 FOR PC/M 96-045.	RH	RV	DJB	BD	—	—	(PC/M 99-061).	—	—	—	—
12	6-18-96	INCORPORATED CRN-C-10288 FOR PC/M 96-023.	RH	RV	PDK	BD	15	10-2-97	ISSUED AS-BUILT PER PC/M 97-012 AND INCORPORATED CRN-M-9166.	RH	RV	JZ	JJC
19	12-12-02	ISSUED AS-BUILT PER PC/M 02-106.	RH	RV	AAP	JTL	0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-480-1 AND 5610-M-1295.	GFH	MD	RAS	HAR
18	11-19-02	ISSUED AS-BUILT PER PC/M 02-106. (PARTIAL)	RH	JPG	AAP	JTL	—	—	DWG SUPERSEDES 5610-M-480-1, 5610-M-480-28 AND ISSUED	—	—	—	—
17	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	AGM	JTL	—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

SAMPLE SYSTEM - NSSS

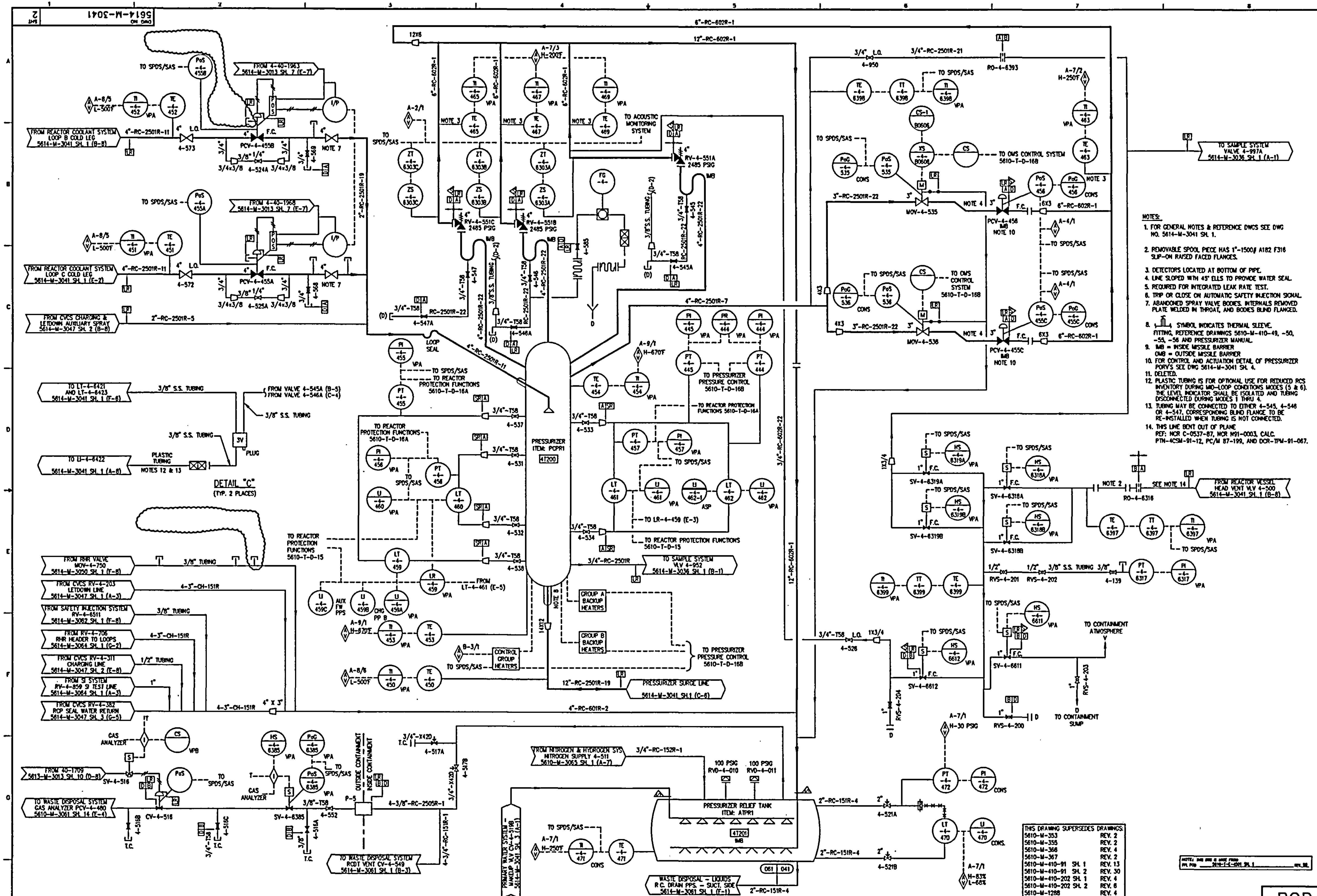
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3036

SHEET 1

SYS 036

REV 19



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3041 SH. 1.
2. REMOVABLE SPOOL PIECE HAS 1"-1500# A182 F316 SLIP-ON RAISED FACED FLANGES.
3. DETECTORS LOCATED AT BOTTOM OF PIPE.
4. LINE SLOPED WITH 45° ELLS TO PROVIDE WATER SEAL.
5. REQUIRED FOR INTEGRATED LEAK RATE TEST.
6. TRIP OR CLOSE ON AUTOMATIC SAFETY INJECTION SIGNAL.
7. ABANDONED SPRAY VALVE BODIES. INTERNALS REMOVED PLATE WELDED IN THROAT, AND BODIES BLIND FLANCED.
8. SYMBOL INDICATES THERMAL SLEEVE. FITTING, REFERENCE DRAWINGS 5610-M-410-49, -50, -55, -56 AND PRESSURIZER MANUAL.
9. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
10. FOR CONTROL AND ACTUATION DETAIL OF PRESSURIZER PORV'S SEE DWG 5614-M-3041 SH. 4.
11. DELETED.
12. PLASTIC TUBING IS FOR OPTIONAL USE FOR REDUCED RCS INVENTORY DURING MID-LOOP CONDITIONS MODES (5 & 6). THE LEVEL INDICATOR SHALL BE ISOLATED AND TUBING DISCONNECTED DURING MODES 1 THRU 4.
13. TUBING MAY BE CONNECTED TO EITHER 4-545, 4-546 OR 4-547. CORRESPONDING BLIND FLANGE TO BE RE-INSTALLED WHEN TUBING IS NOT CONNECTED.
14. THIS LINE BENT OUT OF PLANE
    REF: NCR C-0537-87, NCR N91-0003, CALC. PTN-4CSM-91-12, PC/M 87-199, AND DCR-TPM-91-067.

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-353	REV. 2
5610-M-355	REV. 2
5610-M-366	REV. 4
5610-M-367	REV. 2
5610-M-410-91 SH. 1	REV. 13
5610-M-410-91 SH. 2	REV. 30
5610-M-410-202 SH. 1	REV. 4
5610-M-410-202 SH. 2	REV. 6
5610-M-1288	REV. 4
5610-M-1310	REV. 2

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
21	9-27-97	ISSUED AS-BUILT PER PC/M 97-026.	RH	RV	AAP	JM	26	1-31-01	ISSUED AS-BUILT PER CRN-M-10177 (PC/M 00-016).	RH	RV	RSV	ASD
20	9-25-97	ISSUED AS-BUILT PER PC/M 97-040.	RH	RV	JMM	JJC	25	10-18-00	ISSUED AS-BUILT PER PC/M 99-064.	RV	RH	BP	BAP
19	3-21-96	ISSUED AS-BUILT FOR PC/M 95-156.	RH	RV	TSC	BD	24	5-10-00	ISSUED AS-BUILT PER CRN-M-10061 (PC/M 99-061).	RH	RV	JK	ASD
29	10-23-03	ISSUED AS-BUILT PER PC/M 98-009.	RH	RV	ASD	JMM	23	3-18-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
28	5-13-02	ISSUED AS-BUILT PER CRN-M-10537 (PC/M 00-016).	RH	RV	RSV	JTL	—	—	(PC/M 99-061).	—	—	—	—
27	03-31-02	ISSUED AS-BUILT PER PC/M 98-009.(PARTIAL)	RV	JK	CW	JMM	22	5-12-99	ISSUED AS-BUILT PER CRN'S M-9686 AND M-9707 (PC/M 99-010).	RH	RV	DF	JTL

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

REACTOR COOLANT SYSTEM

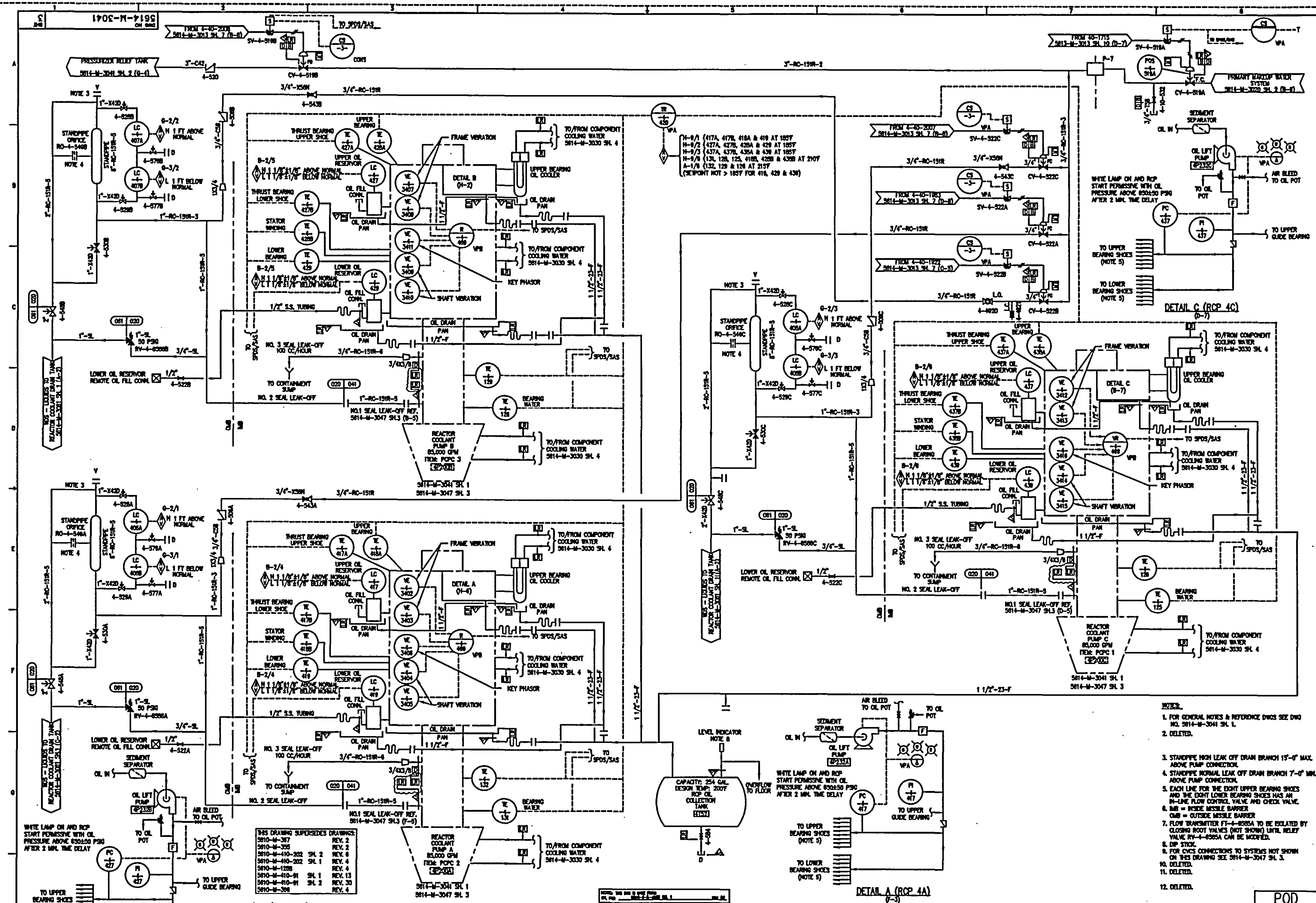
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3041

SHEET 2

SYS 041

REV 29



THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-387		REV. 2
5610-M-355		REV. 2
5610-M-410-202	SH. 2	REV. 6
5610-M-410-202	SH. 1	REV. 4
5610-M-1288		REV. 4
5610-M-410-91	SH. 1	REV. 13
5610-M-410-91	SH. 2	REV. 30
5610-M-386		REV. 4

NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3041 SH. 1.
2. DELETED.
3. STANDPIPE HIGH LEAK OFF DRAIN BRANCH 15'-0" MAX. ABOVE PUMP CONNECTION.
4. STANDPIPE NORMAL LEAK OFF DRAIN BRANCH 7'-0" MIN. ABOVE PUMP CONNECTION.
5. EACH LINE FOR THE EIGHT UPPER BEARING SHOES AND THE EIGHT LOWER BEARING SHOES HAS AN IN-LINE FLOW CONTROL VALVE AND CHECK VALVE.
6. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
7. FLOW TRANSMITTER FT-4-6585A TO BE ISOLATED BY CLOSING ROOT VALVES (NOT SHOWN) UNTIL RELIEF VALVE RV-4-6585A CAN BE MODIFIED.
8. DIP STICK.
9. FOR CVCS CONNECTIONS TO SYSTEMS NOT SHOWN ON THIS DRAWING SEE 5614-M-3047 SH. 3.
10. DELETED.
11. DELETED.
12. DELETED.

REV	DATE	REVISION	BY	CH	APP	APP
20	10-5-97	ISSUED AS-BUILT PER PC/M'S 97-018 & 97-027 & INCORP. CRN-M-9197.	RH	RV	RSV	AAP
19	11-20-96	ISSUED AS-BUILT PER CRN-M-8843. (PC/M 96-064)	RH	RV	JK	JJC
18	10-23-96	ISSUED AS-BUILT FOR PC/M 96-022.	RH	RV	JM	JJC
17	7-14-95	INCORPORATED CRN-4-3200 FOR PC/M 95-065.	RV	RH	DSR	JJN
24	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD

REV	DATE	REVISION	BY	CH	APP	APP
23	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPQ	JZ	—	JRH
22	11-9-99	ISSUED AS-BUILT PER CRN-M-9794 (PC/M 99-033).	RH	RV	CMZ	JTL
21	10-5-97	ISSUED AS-BUILT PER PC/M 97-027 & INCORP. CRN-M-9198	RV	RSV	AAP	JJC
0	2-19-91	THIS DRAWING CREATED PER THE THE P AND RECONSTITUTION PROJECT SCOPE	MAB	MB		LRB
—	—	AND ISSUED INTO THE FPL DRAWING SYSTEM PER DCR-TPM-91-043.	—	—	—	—

POD

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

REACTOR COOLANT SYSTEM

REACTOR COOLANT PUMPS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3041

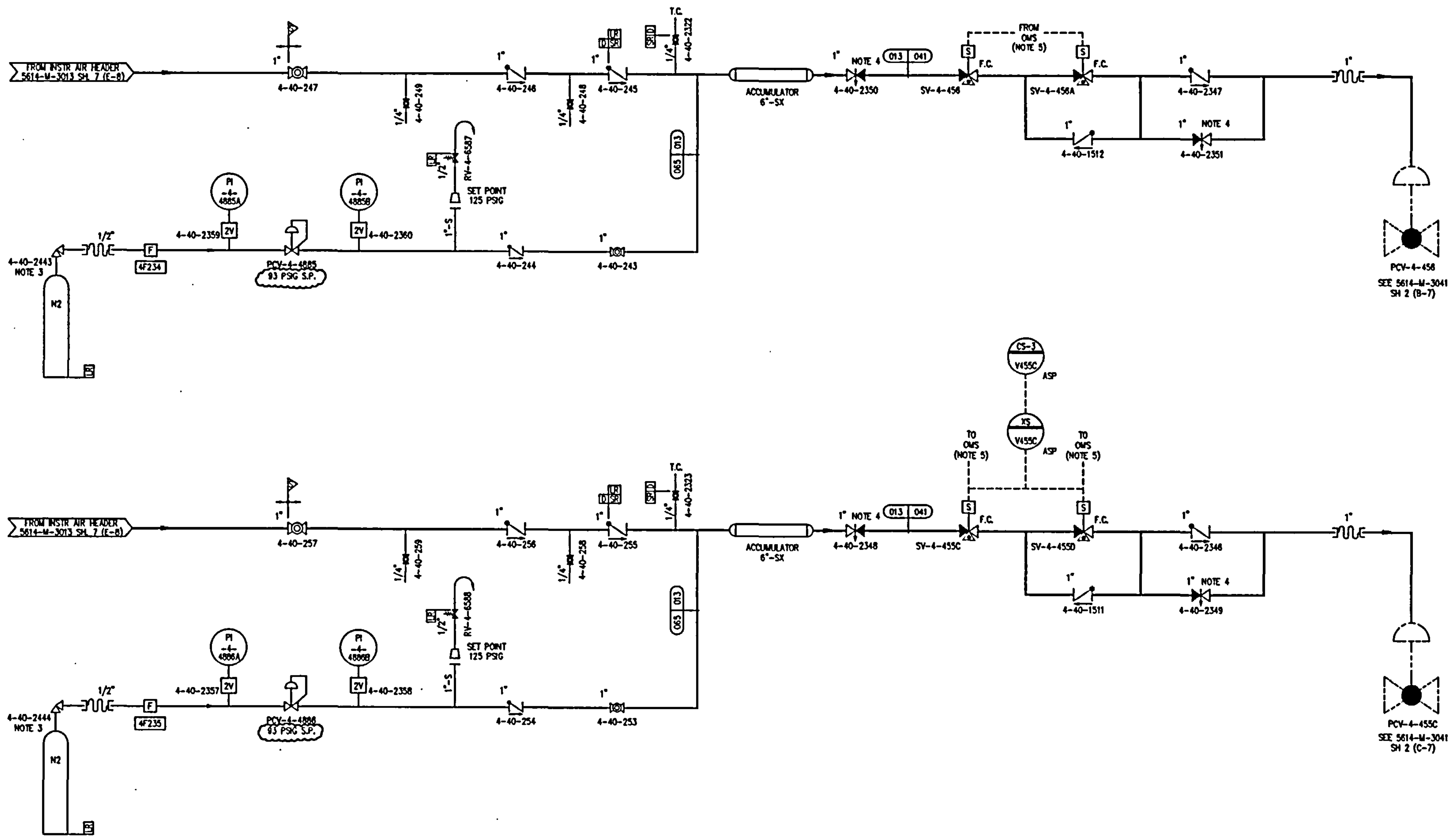
SHEET 3

SYS 041

REV 24

UTM00126.DWG

5614-M-3041 DWG NO
4 SHT



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3041 SH. 1.
2. DELETED.
3. THESE VALVES ARE FURNISHED WITH THEIR ASSOCIATED NITROGEN BOTTLES.
4. SUBJECT VALVES ARE LOCKED THROTTLED.
5. FOR CONTROL LOGIC SEE 5610-T-D-16A & 16B.

THIS DRAWING SUPERSEDES DRAWINGS.		
5610-M-410-91	SH.1	REV. 13
5610-M-366		REV. 4
5610-M-1288		REV. 4
5610-M-410-202	SH.1	REV. 4
5610-M-355		REV. 2
5610-M-410-91	SH.2	REV. 29
5610-M-367		REV. 2
5610-M-410-202	SH.2	REV. 5

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-M-339 SH.3 REV. 2
FPL POD 5610-T-E-4501 SH.1 REV. 90

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
6	3-18-00	ISSUED AS-BUILT PER CRN-M-9908 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD							
—	—	(PC/M 99-061).	—	—	—	—							
5	9-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-309 AND PCM 93-084.	SMM	MD	LIK	JRH							
4	3-6-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	KT	INITIALS ON	FILE		7	04-04-02	ISSUED AS-BUILT PER PC/M 01-050.	RH	JPN	-	JMM
3	2-7-93	ISSUED AS-BUILT FOR PC/M 92-090.	SP	INITIALS ON	FILE		0	2-15-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	GFH	HLG	AM/RAS	LRB
2	12-14-92	ISSUED AS-BUILT FOR PC/M 89-542 AND DCR-TPM-92-215.	GFH	INITIALS ON	FILE		—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-043.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & ID

REACTOR COOLANT SYSTEM

PORV CONTROL

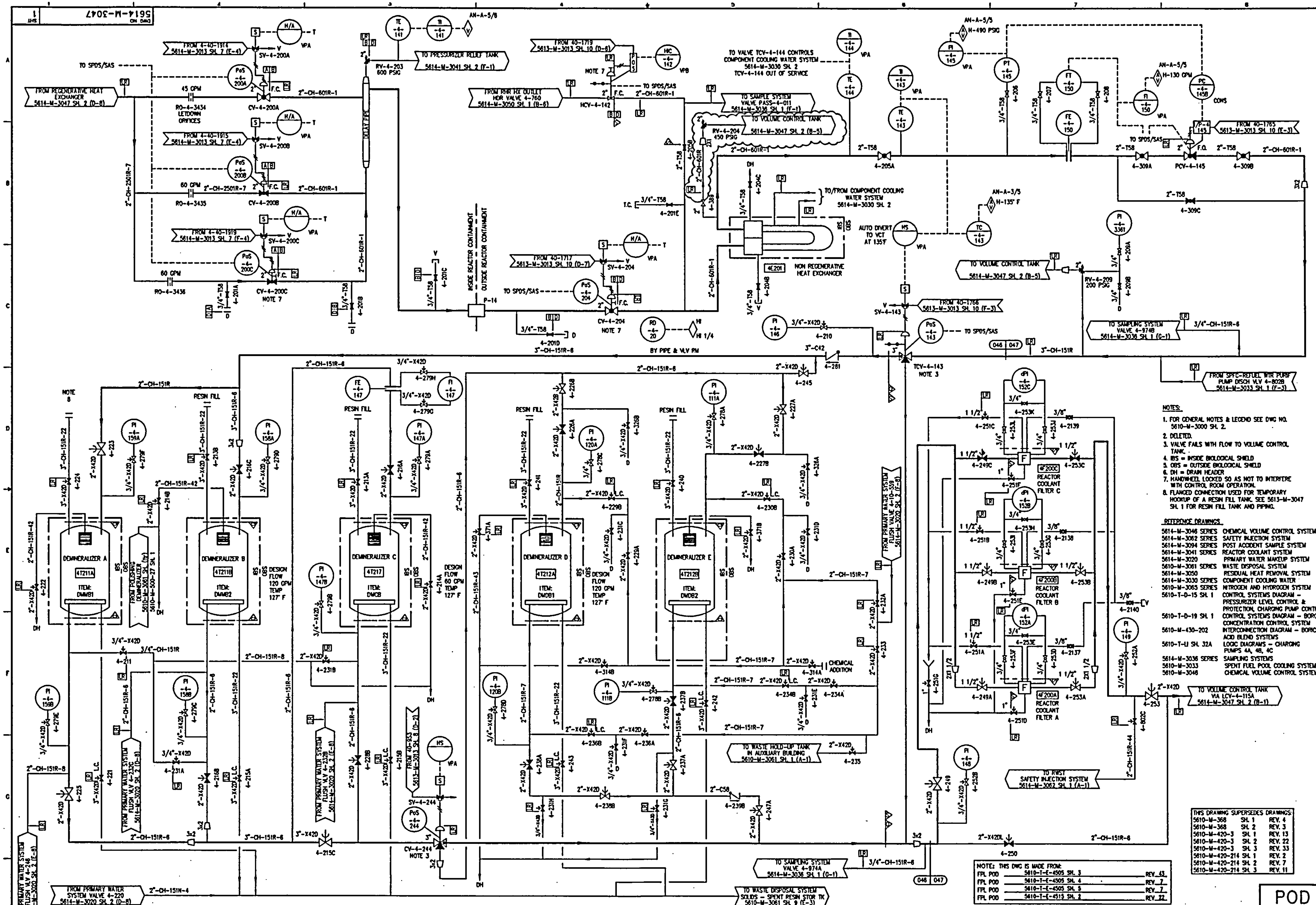
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3041

SYS 041

SHEET 4

REV 7



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. VALVE FAILS WITH FLOW TO VOLUME CONTROL TANK.
4. IBS = INSIDE BIOLOGICAL SHIELD
5. OBS = OUTSIDE BIOLOGICAL SHIELD
6. DH = DRAIN HEADER
7. HANDWHEEL LOCKED SO AS NOT TO INTERFERE WITH CONTROL ROOM OPERATION.
8. FLANGED CONNECTION USED FOR TEMPORARY HOOKUP OF A RESIN FILL TANK. SEE 5613-M-3047 SH. 1 FOR RESIN FILL TANK AND PIPING.

REFERENCE DRAWINGS

5614-M-3046 SERIES	CHEMICAL VOLUME CONTROL SYSTEM
5614-M-3062 SERIES	SAFETY INJECTION SYSTEM
5614-M-3094 SERIES	POST ACCIDENT SAMPLE SYSTEM
5614-M-3041 SERIES	REACTOR COOLANT SYSTEM
5614-M-3020	PRIMARY WATER MAKEUP SYSTEM
5610-M-3061 SERIES	WASTE DISPOSAL SYSTEM
5614-M-3050	RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3030 SERIES	COMPONENT COOLING WATER
5610-M-3065 SERIES	NITROGEN AND HYDROGEN SYSTEM
5610-T-D-15 SH. 1	CONTROL SYSTEMS DIAGRAM – PRESSURIZER LEVEL CONTROL & PROTECTION, CHARGING PUMP CONTROL
5610-T-D-19 SH. 1	CONTROL SYSTEMS DIAGRAM – BORON CONCENTRATION CONTROL SYSTEM
5610-M-430-202	INTERCONNECTION DIAGRAM – BORIC ACID BLEND SYSTEMS
5610-T-LI SH. 32A	LOGIC DIAGRAMS – CHARGING PUMPS 4A, 4B, 4C
5614-M-3036 SERIES	SAMPLING SYSTEMS
5610-M-3033	SPENT FUEL POOL COOLING SYSTEM
5610-M-3046	CHEMICAL VOLUME CONTROL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-368	SH. 1	REV. 4
5610-M-368	SH. 2	REV. 3
5610-M-420-3	SH. 1	REV. 13
5610-M-420-3	SH. 2	REV. 22
5610-M-420-3	SH. 3	REV. 33
5610-M-420-214	SH. 1	REV. 2
5610-M-420-214	SH. 2	REV. 7
5610-M-420-214	SH. 3	REV. 11

NOTE: THIS DWG IS MADE FROM:

FPL P00	5610-T-E-4505 SH. 3	REV. 43
FPL P00	5610-T-E-4505 SH. 4	REV. 7
FPL P00	5610-T-E-4505 SH. 5	REV. 7
FPL P00	5610-T-E-4515 SH. 2	REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
12	4-12-95	INCORPORATED CRN-I-3161 FOR PC/M 94-123	RV	RH	DSR	JCW	15	3-16-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
11	2-16-95	INCORPORATED CRN-I-3128 FOR PC/M 94-123	RV	RH	MRS	JCW	—	—	(PC/M 99-061).	—	—	—	—
10	3-17-94	ISSUED AS-BUILT FOR DCR-TPI-93-423.	RV	RH	JJN	JCW	14	2-2-00	ISSUED AS-BUILT PER PC/M 98-023.	RH	RV	SAG	JM
18	10-27-03	ISSUED AS-BUILT PER PC/M 03-105.	RV	SB	AAP	ASD	13	12-11-95	ISSUED AS-BUILT FOR PC/M 94-013 AND INCORPORATED CRN-M-8534.	RH	RV	TSC	BO
17	10-19-03	ISSUED AS-BUILT PER PC/M 03-105. (PARTIAL)	RV	SB	AAP	ASD	0	3-5-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MO	RAS/SW	LRB
16	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-045.	—	—	—	—

FPL

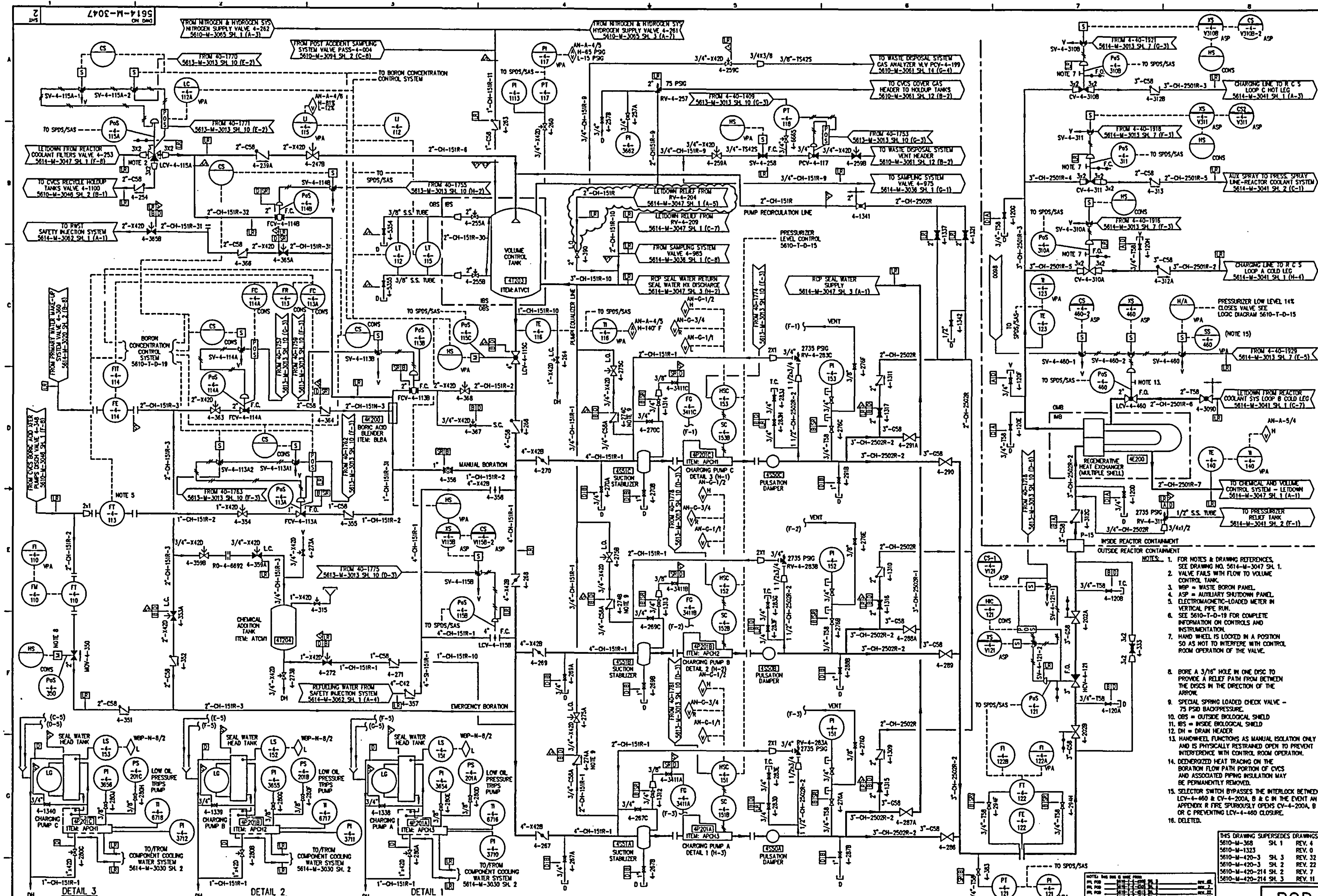
TURKEY POINT NUCLEAR UNIT 4

P & ID

CHEMICAL AND VOLUME CONTROL SYSTEM CHARGING AND LETDOWN

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3047 | SYS 047 | SHEET 1 | REV 18



NOTES:
1. FOR NOTES & DRAWING REFERENCES, SEE DRAWING NO. 5614-M-3047 SH. 1.
2. VALVE FAILS WITH FLOW TO VOLUME CONTROL TANK.
3. WBP = WASTE BORON PANEL.
4. ASP = AUXILIARY SHUTDOWN PANEL.
5. ELECTROMAGNETIC-LOADED METER IN VERTICAL PIPE RUN.
6. SEE 5610-T-D-19 FOR COMPLETE INFORMATION ON CONTROLS AND INSTRUMENTATION.
7. HAND WHEEL IS LOCKED IN A POSITION SO AS NOT TO INTERFERE WITH CONTROL ROOM OPERATION OF THE VALVE.
8. BORE A 3/16" HOLE IN ONE DISC TO PROVIDE A RELIEF PATH FROM BETWEEN THE DISCS IN THE DIRECTION OF THE ARROW.
9. SPECIAL SPRING LOADED CHECK VALVE - 75 PSID BACKPRESSURE.
10. OBS = OUTSIDE BIOLOGICAL SHIELD
11. IBS = INSIDE BIOLOGICAL SHIELD
12. DH = DRAIN HEADER
13. HANDWHEEL FUNCTIONS AS MANUAL ISOLATION ONLY AND IS PHYSICALLY RESTRAINED OPEN TO PREVENT INTERFERENCE WITH CONTROL ROOM OPERATION.
14. DEENERGIZED HEAT TRACING ON THE BORATION FLOW PATH PORTION OF CVCS AND ASSOCIATED PIPING INSULATION MAY BE PERMANENTLY REMOVED.
15. SELECTOR SWITCH BYPASSES THE INTERLOCK BETWEEN LCV-4-460 & CV-4-200A, B & C IN THE EVENT AN APPENDIX R FIRE SPURIOUSLY OPENS CV-4-200A, B OR C PREVENTING LCV-4-460 CLOSURE.
16. DELETED.

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-368	SH. 1	REV. 4
5610-M-1323		REV. 0
5610-M-420-3	SH. 3	REV. 32
5610-M-420-3	SH. 2	REV. 22
5610-M-420-214	SH. 2	REV. 7
5610-M-420-214	SH. 3	REV. 11

POD

REV	DATE	REVISION	BY	CH	APP	APP
41	6-19-03	ISSUED AS-BUILT PER CRN-4-4122 (PC/M 02-066).	RH	RV	FAP	JTL
40	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	AGM	JTL
39	03-30-02	ISSUED AS-BUILT PER PC/M 02-020.	RV	JK	CW	JLD
38	7-30-01	ISSUED AS-BUILT PER PC/M 01-025.	RV	RH	BP	BAP
37	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD
36	10-12-00	ISSUED AS-BUILT PER CRN-M-10141 (PC/M 00-016).	RH	JK	BSG	JMM

REV	DATE	REVISION	BY	CH	APP	APP
35	6-23-00	ISSUED AS-BUILT PER CRN-M-10074 (PC/M 99-061).	RV	JK	AAP	JM
34	5-10-00	ISSUED AS-BUILT PER CRN-M-10010 (PC/M 99-061).	RH	RV	JK	ASD
43	10-27-03	ISSUED AS-BUILT PER PC/M 03-105.	RV	SB	AAP	ASD
42	10-19-03	ISSUED AS-BUILT PER PC/M 03-105. (PARTIAL)	RV	SB	AAP	ASD
0	3-5-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD	RAS	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-045.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

CHEMICAL AND VOLUME CONTROL SYSTEM
CHARGING AND LETDOWN

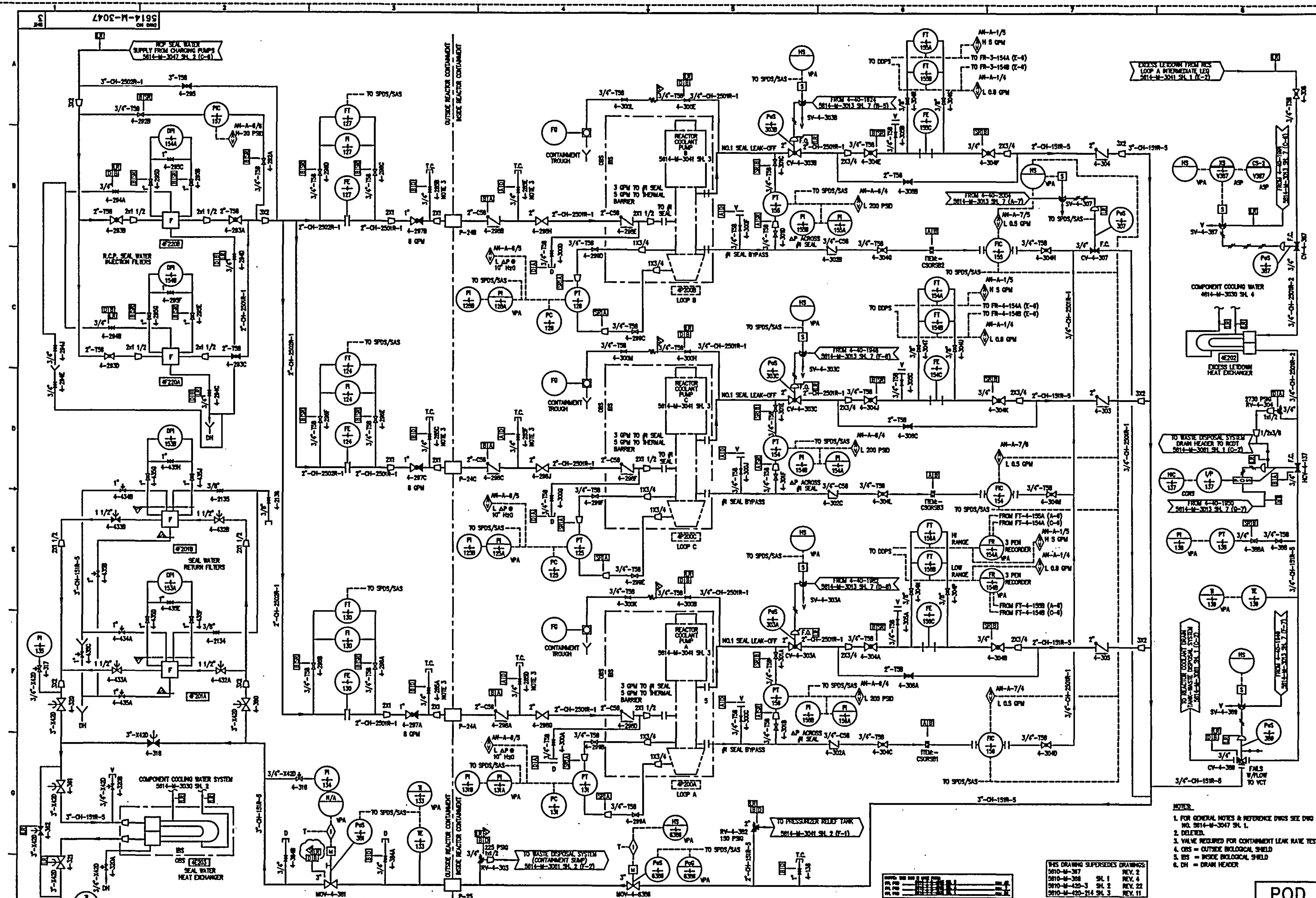
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3047

SHEET 2

SYS 047

REV 43



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3047 SH. 1.
2. DELETED.
3. VALVE REQUIRED FOR CONTAINMENT LEAK RATE TEST.
4. OBS = OUTSIDE BIOLOGICAL SHIELD
5. IBS = INSIDE BIOLOGICAL SHIELD
6. DH = DRAIN HEADER

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-367		REV. 2
5610-M-368	SH. 1	REV. 4
5610-M-420-3	SH. 2	REV. 22
5610-M-420-214	SH. 3	REV. 11

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
17	10-2-07	ISSUED AS-BUILT PER PC/M 07-012 AND INCORPORATED CRN-M-0166.	RH	RV	JZ	AJC	21	1-31-01	ISSUED AS-BUILT PER CRN-M-10212 (PC/M 00-010).	RH	RV	RSV	ASD
16	9-21-07	ISSUED AS-BUILT PER PC/M 07-012 (PARTIAL) AND INCORP. CRN-M-0111.	RH	RV	CMZ	RSV	20	8-15-00	ISSUED AS-BUILT PER CRN M-10086 (PC/M 99-081).	RH	RV	AAP	JM
15	2-19-07	ISSUED AS-BUILT PER CRN-I-3496(PC/M 96-090).	RV	RH	BP	BAP	19	04-10-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081).	JPG	KCM	—	JRH
14	1-29-07	ISSUED AS-BUILT FOR PC/M 96-082.	RV	RH	BP	TS	18	5-26-98	ISSUED AS-BUILT PER CRN-I-3716(PC/M 98-013).	RV	RH	BP	TS
13	10-19-94	ISSUED AS-BUILT FOR PC/M 93-048.	RH	RV	RAS	JCW	0	3-6-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	SM	MD		LRB
12	12-17-93	ISSUED AS-BUILT FOR DCR-TPM-93-453.	SMM	MD	LIK	BD	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-045.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

CHEMICAL AND VOLUME CONTROL SYSTEM
SEAL WATER INJECTION TO RCP

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3047

SHEET 3

SYS 047

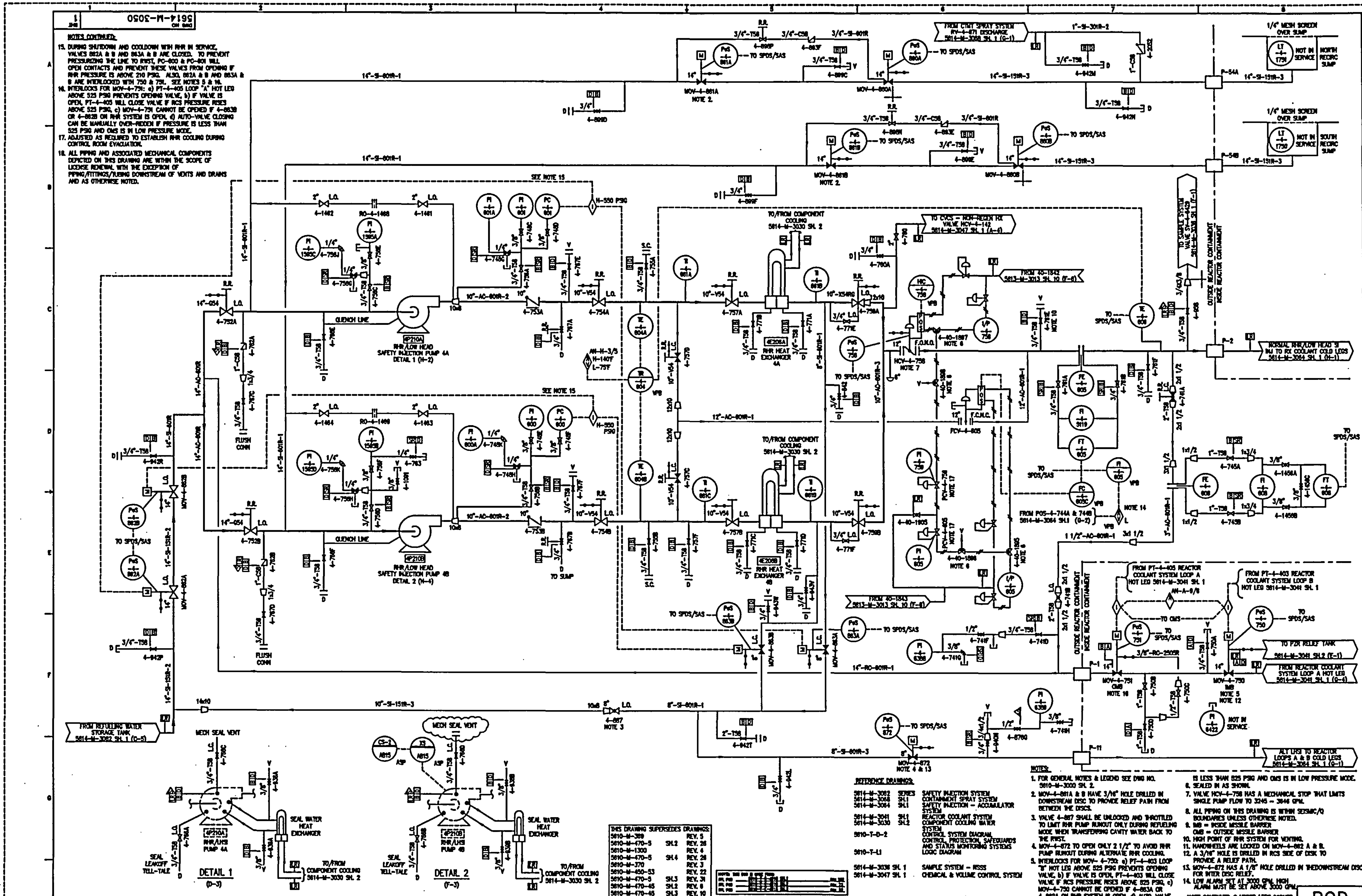
REV 21

UTM00139.DWG

5614-M-3050 (DWG NO) | 1 (SHT)

NOTES CONTINUED:

15. DURING SHUTDOWN AND COOLDOWN WITH RHR IN SERVICE, VALVES 862A & B AND 863A & B ARE CLOSED. TO PREVENT PRESSURIZING THE LINE TO RWST, PC-600 & PC-601 WILL OPEN CONTACTS AND PREVENT THESE VALVES FROM OPENING IF RHR PRESSURE IS ABOVE 210 PSIG. ALSO, 862A & B AND 863A & B ARE INTERLOCKED WITH 750 & 751. SEE NOTES 5 & 16.
16. INTERLOCKS FOR MOV-4-751: a) PT-4-405 LOOP "A" HOT LEG ABOVE 525 PSIG PREVENTS OPENING VALVE, b) IF VALVE IS OPEN, PT-4-405 WILL CLOSE VALVE IF RCS PRESSURE RISES ABOVE 525 PSIG, c) MOV-4-751 CANNOT BE OPENED IF 4-863B OR 4-862B ON RHR SYSTEM IS OPEN, d) AUTO-VALVE CLOSING CAN BE MANUALLY OVER-RIDDEN IF PRESSURE IS LESS THAN 525 PSIG AND OMS IS IN LOW PRESSURE MODE.
17. ADJUSTED AS REQUIRED TO ESTABLISH RHR COOLING DURING CONTROL ROOM EVACUATION.
18. ALL PIPING AND ASSOCIATED MECHANICAL COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL WITH THE EXCEPTION OF PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS AND AS OTHERWISE NOTED.



REFERENCE DRAWINGS:

5614-M-3062 SERIES		SAFETY INJECTION SYSTEM
5614-M-3068	SH.1	CONTAINMENT SPRAY SYSTEM
5614-M-3064	SH.1	SAFETY INJECTION – ACCUMULATOR SYSTEM
5614-M-3041	SH.1	REACTOR COOLANT SYSTEM
5614-M-3030	SH.2	COMPONENT COOLING WATER SYSTEM
5610-T-D-2		CONTROL SYSTEM DIAGRAM, CONTROL, PROTECTION, SAFEGUARDS AND STATUS MONITORING SYSTEMS
5610-T-L1		LOGIC DIAGRAM
5614-M-3036	SH. 1	SAMPLE SYSTEM – RSSS
5614-M-3047	SH. 1	CHEMICAL & VOLUME CONTROL SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-389		REV. 5
5610-M-470-5	SH.2	REV. 26
5610-M-1300		REV. 4
5610-M-470-5	SH.4	REV. 28
5610-M-370		REV. 3
5610-M-450-53		REV. 22
5610-M-470-5	SH.3	REV. 31
5610-M-470-45	SH.2	REV. 6
5610-M-470-45	SH.3	REV. 10
5610-M-470-45	SH.4	REV. 4

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. MOV-4-861A & B HAVE 3/16" HOLE DRILLED IN DOWNSTREAM DISC TO PROVIDE RELIEF PATH FROM BETWEEN THE DISCS.
3. VALVE 4-887 SHALL BE UNLOCKED AND THROTTLED TO LIMIT RHR PUMP RUNOUT ONLY DURING REFUELING MODE WHEN TRANSFERRING CAVITY WATER BACK TO THE RWST.
4. MOV-4-872 TO OPEN ONLY 2 1/2" TO AVOID RHR PUMP RUNOUT DURING ALTERNATE RHR COOLING.
5. INTERLOCKS FOR MOV- 4-750: a) PT-4-403 LOOP "B" HOT LEG ABOVE 525 PSIG PREVENTS OPENING VALVE, b) IF VALVE IS OPEN, PT-4-403 WILL CLOSE VALVE IF RCS PRESSURE RISES ABOVE 525 PSIG, c) MOV-4-750 CANNOT BE OPENED IF 4-863A OR 4-862A ON RHR SYSTEM IS OPEN, d) AUTO-VALVE CLOSING CAN BE MANUALLY OVER-RIDDEN IF PRESSURE IS LESS THAN 525 PSIG AND OMS IS IN LOW PRESSURE MODE.
6. SEALED IN AS SHOWN.
7. VALVE HCV-4-758 HAS A MECHANICAL STOP THAT LIMITS SINGLE PUMP FLOW TO 3245 – 3646 GPM.
8. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
9. IMB = INSIDE MISSILE BARRIER
   OMB = OUTSIDE MISSILE BARRIER
10. HIGH POINT OF RHR SYSTEM FOR VENTING.
11. HANDWHEELS ARE LOCKED ON MOV-4-862 A & B.
12. A 3/16" HOLE IS DRILLED IN RCS SIDE OF DISK TO PROVIDE A RELIEF PATH.
13. MOV-4-872 HAS A 1/8" HOLE DRILLED IN THEDOWNSTREAM DISC FOR INTER DISC RELIEF.
14. LOW ALARM SET AT 3000 GPM, HIGH ALARM MUST BE SET ABOVE 3000 GPM.

NOTE CONTINUED @ UPPER LEFT CORNER.

POD

REV	DATE	REVISION	BY	CH	APP	APP
17	10-1-96	INCORPORATED CRN-4-3438 FOR PC/M 96-056.	RV	BP	–	TS
16	6-18-96	INCORP. CRN-4-3358 FOR PC/M 96-023.	RV	RH	BAP	JCW
25	10-30-00	ISSUED AS-BUILT PER CRN-M-10151 (PC/M 00-016).	RH	RV	AAP	ASD
24	10-18-00	ISSUED AS-BUILT PER PC/M 00-016 AND INCORP. CRN-M-10183.	RH	BSG	JK	JMM
23	10-10-00	ISSUED AS-BUILT PER CRN-M-10176 (PC/M 00-016).	RH	RV	CMZ	JMM
22	8-15-00	ISSUED AS-BUILT PER CRN M-10084 (PC/M 99-061).	RH	RV	AAP	JM
21	5-12-00	ISSUED AS-BUILT PER CRN-M-10073 (PC/M 99-061) & INCORP. DCRR 00-M-0004	RH	RV	IS	JM
20	04-06-00	ISSUED AS-BUILT PER CRN-M-9983 (PC/M 99-061).	JPG	JZ	——	JRH
19	9-8-99	ISSUED AS-BUILT PER CRN-M-9744 (PC/M 99-018).	RH	RV	CMZ	JM
18	11-7-97	ISSUED AS-BUILT PER CRN-M-9238 (PC/M 97-042).	RH	RH	JEH	JJC
0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPN-91-044.	TAM	MD		LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

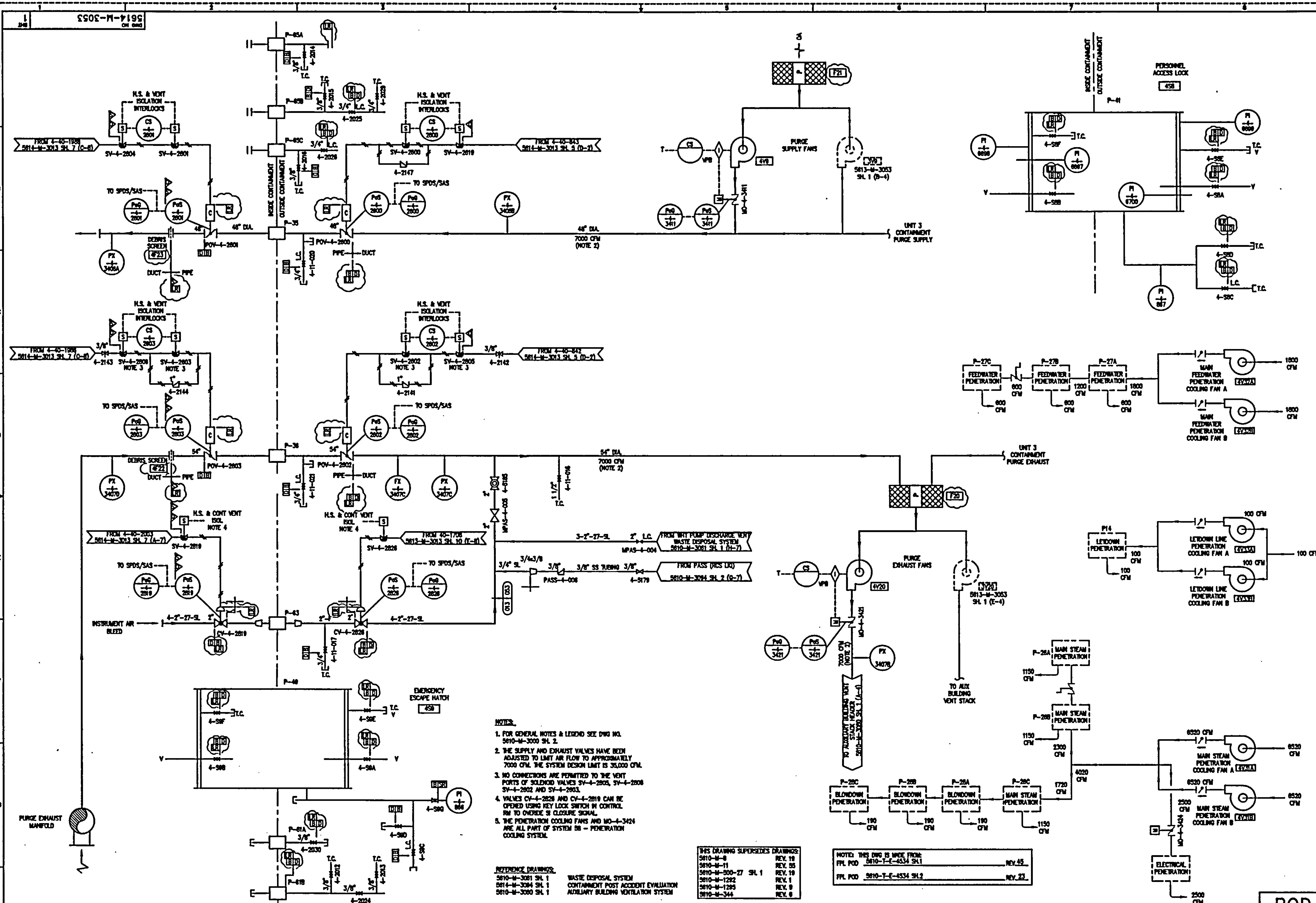
P & I D

RESIDUAL HEAT REMOVAL SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3050 | SYS 050 | REV 25 | SHEET 1

UTM00141.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. THE SUPPLY AND EXHAUST VALVES HAVE BEEN ADJUSTED TO LIMIT AIR FLOW TO APPROXIMATELY 7000 CFM. THE SYSTEM DESIGN LIMIT IS 35,000 CFM.
3. NO CONNECTIONS ARE PERMITTED TO THE VENT PORTS OF SOLENOID VALVES SV-4-2605, SV-4-2608 SV-4-2602 AND SV-4-2603.
4. VALVES CV-4-2826 AND CV-4-2819 CAN BE OPENED USING KEY LOCK SWITCH IN CONTROL RM TO OVERIDE SI CLOSURE SIGNAL.
5. THE PENETRATION COOLING FANS AND MO-4-3424 ARE ALL PART OF SYSTEM 58 – PENETRATION COOLING SYSTEM.

REFERENCE DRAWINGS:

5610-M-3081 SH. 1	WASTE DISPOSAL SYSTEM
5614-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION
5610-M-3080 SH. 1	AUXILIARY BUILDING VENTILATION SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-8	REV. 19
5610-M-11	REV. 55
5610-M-500-27 SH. 1	REV. 19
5610-M-1292	REV. 1
5610-M-1295	REV. 9
5610-M-344	REV. 6

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4534 SH.1 REV. 45
FPL POD 5610-T-E-4534 SH.2 REV. 23

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	09-20-03	ISSUED AS-BUILT FOR DCR-TPM-03-308.	SMM	MD	LK	MFM	12	9-20-96	ISSUED AS-BUILT FOR PC/M 95-038.	RV	JK	MA	JZ
16	3-20-00	ISSUED AS-BUILT PER CRN-M-9840 (PC/M 99-046) AND CRN-M-9983	JPG	RH	JK	ASD	11	2-16-95	INCORPORATED CRN-M-8180 FOR PC/M 94-123.	RH	RV	WMC	JJC
—	—	(PC/M 99-061).	—	—	—	—	10	11-2-94	ISSUED AS-BUILT FOR PC/M 89-561 & INCORPORATED CRN-M-8036.	RH	RV	JJC	JZ
15	11-24-98	ISSUED AS-BUILT PER CRN-M-9461 (PC/M 98-036).	RH	RV	JMM	JDL	9	11-15-93	ISSUED AS-BUILT FOR PC/M 88-158.	RH	RV	DJB	BD
14	8-13-98	ISSUED AS-BUILT PER CRN-M-9423 (PC/M 98-027).	RH	RV	CMZ	JJC	0	7-24-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	MAB	MD		LRB
13	10-1-97	ISSUED AS-BUILT PER PC/M 95-124 (PARTIAL)	RV	RH	TBH	TS	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-248.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

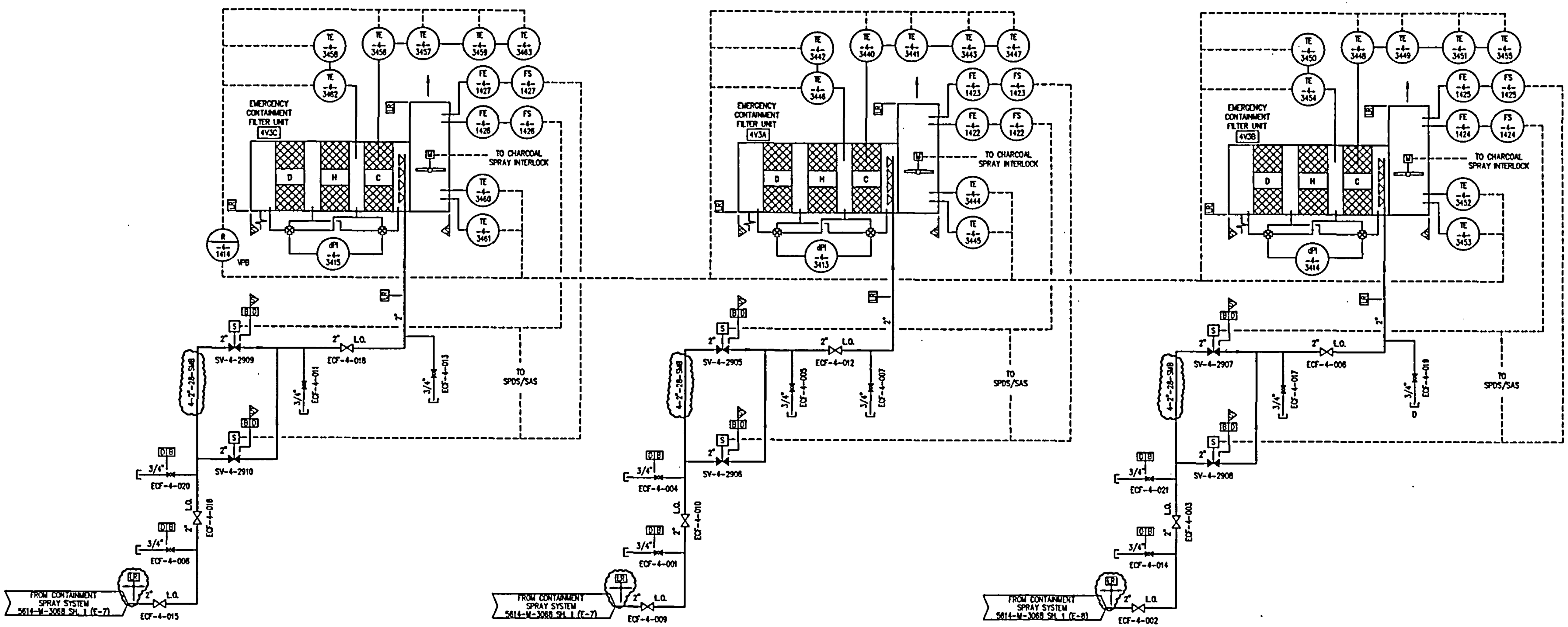
P & ID

CONTAINMENT PURGE SYSTEM AND PENETRATION COOLING SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3053 | SYS 053 | REV 16 | SHEET 1

UTM00143.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. ALL ITEMS SHOWN ON THIS DRAWING ARE NUCLEAR SAFETY RELATED.
3. ALL PIPING AND ASSOCIATED MECHANICAL COMPONENTS ARE WITHIN THE SCOPE OF LICENSE RENEWAL EXCEPT FOR PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS.

REFERENCE DRAWINGS:

5614-M-3057 SH. 1 — CONTAINMENT NORMAL AND EMERGENCY COOLER SYSTEMS

5614-M-3068 SH. 1 — CONTAINMENT SPRAY SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-11 REV. 55
5610-M-1296 REV. 1

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4510 SH. 2 REV. 75
FPL POD 5610-T-E-4534 SH. 2 REV. 22

POD

REV	DATE	REVISION	BY	CH	APP	APP
6	7-15-03	ISSUED AS-BUILT PER CRN-M-10627 (PC/M 02-065).	RH	RV	RSV	ASO
5	04-05-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPC	STH	—	JRH
4	7-19-96	INCORPORATED CRN-M-8789 FOR PC/M 96-045.	RH	RV	DJB	BO

REV	DATE	REVISION	BY	CH	APP	APP
3	09-20-93	ISSUED AS-BUILT FOR PCM-93-084.	SMM	MD	UK	MFM
2	3-5-92	ISSUED AS-BUILT FOR DCR-TPM-93-075.	DQ	LC	UK	JRH
1	12-21-92	ISSUED AS-BUILT FOR PC/M 89-542.	TAM	INITIALS ON FILE		
0	7-24-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	CFH	MD	RAS/JCR	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-248.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

CONTAINMENT EMERGENCY FILTER SYSTEM

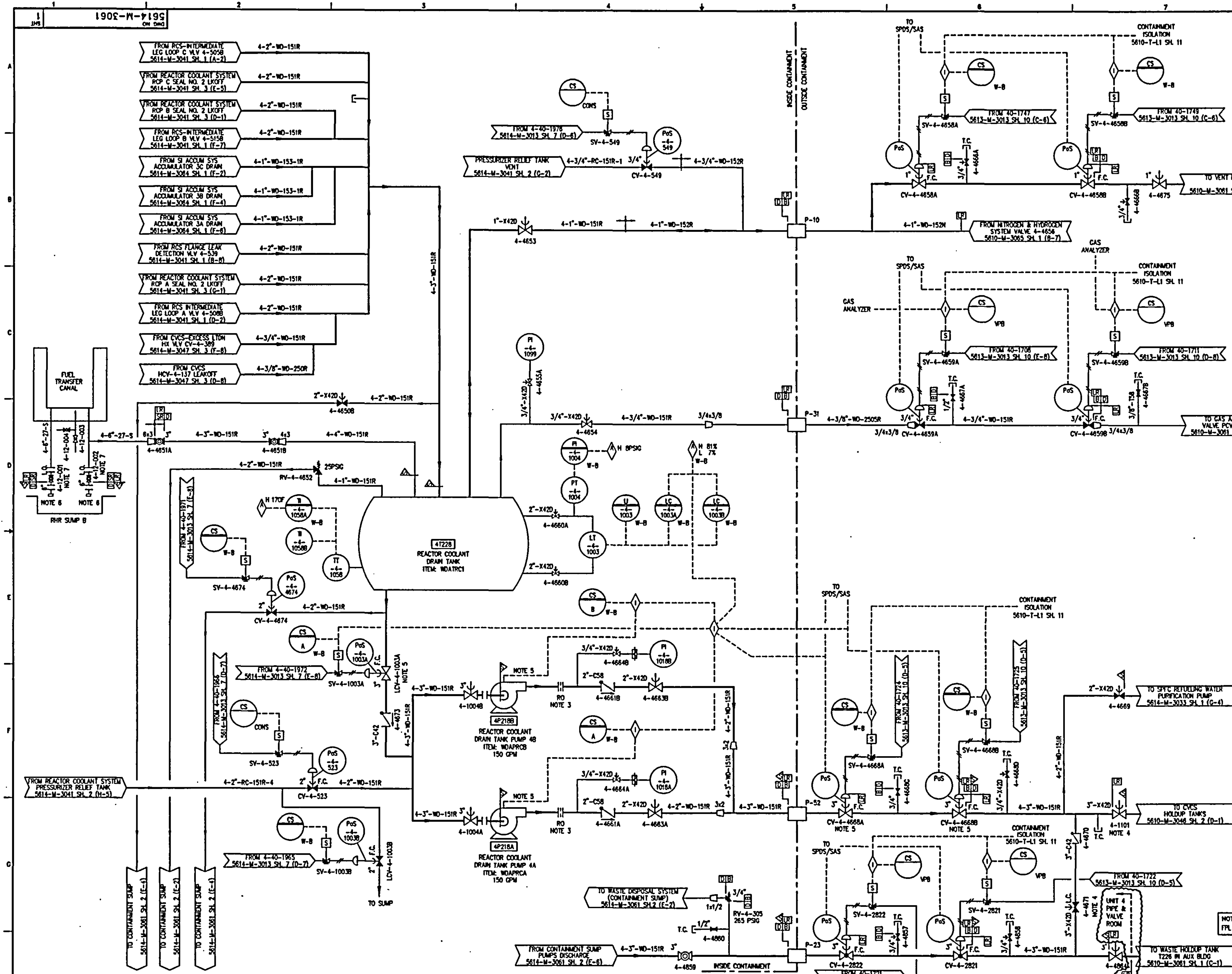
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER: 5614-M-3056

SHEET 1

SYS 056

REV 6



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
3. ORIFICE PLATE AND FLANGE SUPPLIED WITH PUMP AND STAMPED WITH CORRESPONDING NUMBER.
4. VALVE SHOULD BE LOCKED CLOSED AND BEAR A TAG STATING THAT VALVE 4-4671 SHOULD NOT BE OPENED UNTIL VALVE 4-1101 IS CLOSED.
5. PUMPS 4P218A & B WILL NOT START WHEN VALVES LCV-4-1003A, CV-4-4668A & B ARE IN CLOSED POSITION.
6. MALE "KAM-LOCK" CONNECTIONS ARE PROVIDED AT THE FUEL TRANSFER CANAL DRAINS.
7. VALVES 4-12-001 AND 4-12-002 MAY BE LOCKED OPEN OR REMOVED DURING NORMAL PLANT OPERATION. VALVES 4-12-001 AND 4-12-002 SHALL BE INSTALLED AND CLOSED FOR REFUELING OPERATIONS.

REFERENCE DRAWINGS:

5614-M-3061 SH. 2	WASTE DISPOSAL SYSTEM – LIQUID CONTAINMENT DRAINS
5610-M-3061 SH. 1	WASTE DISPOSAL SYSTEM – LIQUID
5610-M-3061 SH. 12	WASTE DISPOSAL SYSTEM – GAS – WASTE GAS COMPRESSORS
5610-M-3061 SH. 14	WASTE DISPOSAL SYSTEM – GAS – GAS ANALYZERS
5614-M-3033 SH. 1	SPENT FUEL POOL COOLING SYSTEM
5614-M-3041 SH. 1,2	REACTOR COOLANT SYSTEM
5614-M-3041 SH. 3	REACTOR COOLANT SYSTEM – REACTOR COOLANT PUMPS
5614-M-3047 SH. 3	CHEMICAL & VOLUME CONTROL SYSTEM – SEAL WATER INJECTION TO RCP
5614-M-3064 SH. 1	SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT
5610-M-3046 SH. 2	CHEMICAL & VOLUME CONTROL SYSTEM – BORON RECYCLE SYSTEM
5610-M-3065 SH. 1	NITROGEN & HYDROGEN SYSTEMS
5610-T-L1 SH. 11	SAFEGUARDS ACTUATION AND STEAM LINE ISOLATION

NOTE: REV 1 OF THIS DWG MADE FROM:
FPL POD 5610-T-E-4518 SH. 2 REV. 37

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-500-27 SH.2	REV. 24
5610-M-500-442 SH.2	REV. 6
5610-M-373	REV. 2
5610-M-12	REV. 25

POD

REV	DATE	REVISION	BY	CH	APP	APP
11	9-3-96	ISSUED AS-BUILT FOR PC/M 93-143 AND INCORP CRN-4-3168.	RV	RH	JJN	TS
10	11-6-95	ISSUED AS-BUILT FOR PC/M 94-092.	RV	RH	TDN	BD
9	6-20-95	INCORPORATED CRN-M-8287 & CRN-4-3190 FOR PC/M 95-065.	RH	RV	MP/MMC	JJC
16	6-17-02	ISSUED AS-BUILT PER CRN-M-10465 (PC/M 00-016).	RH	RV	ACM	JTL
15	3-26-02	ISSUED AS-BUILT FOR PC/M 01-054.	JK	RV	JZ	JTL
14	10-7-00	ISSUED AS-BUILT PER PC/M 98-039.	RH	RV	PRB	JJC

REV	DATE	REVISION	BY	CH	APP	APP
13	3-18-00	ISSUED AS-BUILT PER CRN-M-9848 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD
—	—	(PC/M 99-061).	—	—	—	—
12	10-7-97	ISSUED AS-BUILT PER PC/M 97-012.	RH	RV	JZ	JMM
0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-500-27 SH. 2.	GFH	MD	PRB/RAS	HAR
—	—	DWG SUPERSEDES 5610-M-500-27 SH. 2, 5610-M-500-442 SH. 2, 5610-M-373,	—	—	—	—
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

FPL

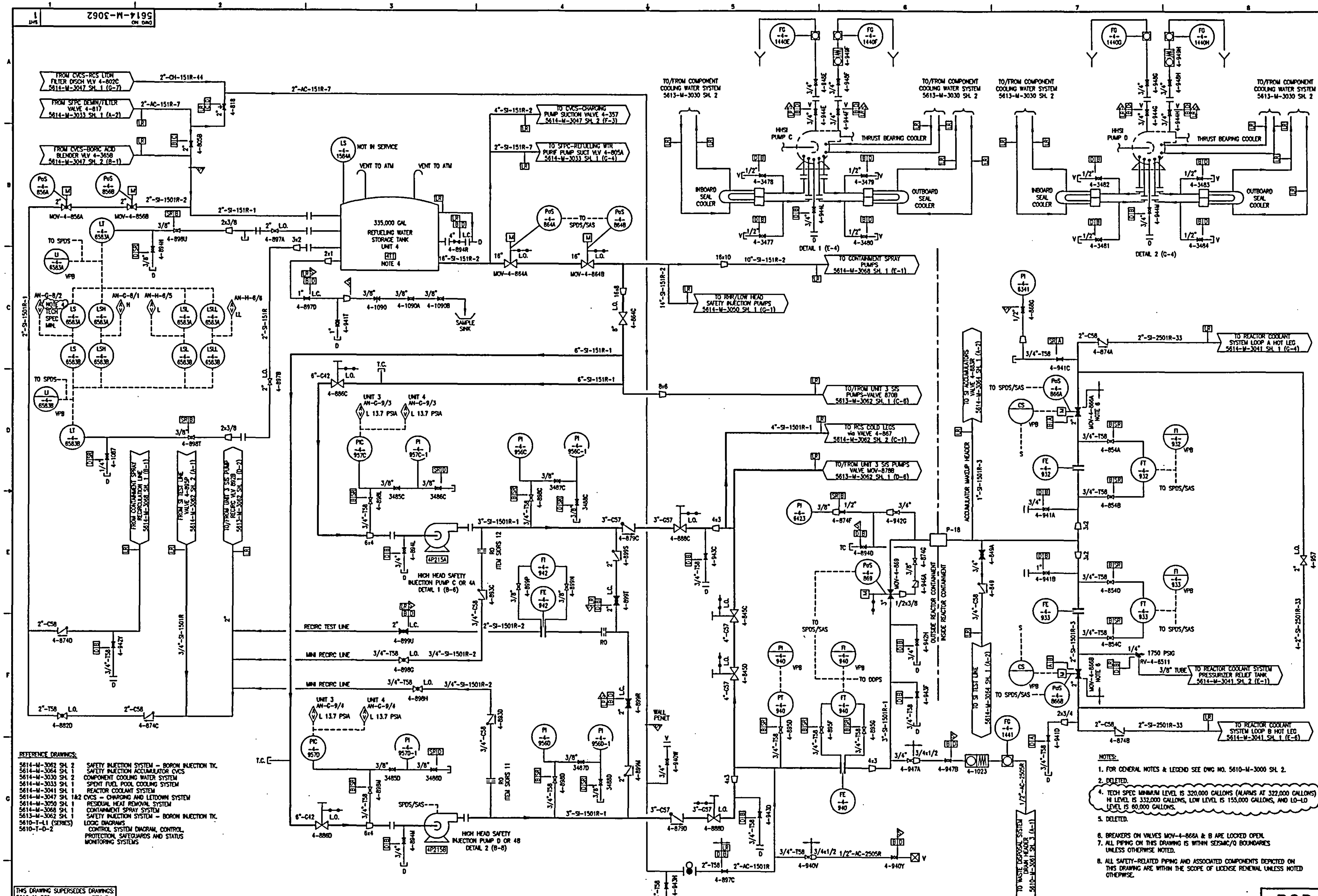
TURKEY POINT NUCLEAR UNIT 4

P & I D

WASTE DISPOSAL SYSTEM
LIQUID
RCDT AND PUMPS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER: 5614-M-3061
SYS: 061
SHEET: 1
REV: 16



REFERENCE DRAWINGS:

5614-M-3062 SH. 2 SAFETY INJECTION SYSTEM – BORON INJECTION TK.
5614-M-3064 SH. 1 SAFETY INJECTION ACCUMULATOR CVCS
5614-M-3030 SH. 2 COMPONENT COOLING WATER SYSTEM
5614-M-3033 SH. 1 SPENT FUEL POOL COOLING SYSTEM
5614-M-3041 SH. 1 REACTOR COOLANT SYSTEM
5614-M-3047 SH. 1&2 CVCS – CHARGING AND LETDOWN SYSTEM
5614-M-3050 SH. 1 RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3068 SH. 1 CONTAINMENT SPRAY SYSTEM
5613-M-3062 SH. 1 SAFETY INJECTION SYSTEM – BORON INJECTION TK.
5610-T-L1 (SERIES) LOGIC DIAGRAMS
5610-T-D-2 CONTROL SYSTEM DIAGRAM, CONTROL, PROTECTION, SAFEGUARDS AND STATUS MONITORING SYSTEMS

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. DELETED.
4. TECH SPEC MINIMUM LEVEL IS 320,000 GALLONS (ALARMS AT 322,000 GALLONS) HI LEVEL IS 332,000 GALLONS, LOW LEVEL IS 155,000 GALLONS, AND LO-LO LEVEL IS 60,000 GALLONS.
5. DELETED.
6. BREAKERS ON VALVES MOV-4-866A & B ARE LOCKED OPEN.
7. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
8. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

POD

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-369		REV. 5
5610-M-370		REV. 3
5610-M-380		REV. 5
5610-M-470-5	SH. 1	REV. 21
5610-M-470-5	SH. 2	REV. 26
5610-M-470-5	SH. 4	REV. 26
5610-M-470-45	SH. 1	REV. 5
5610-M-470-45	SH. 2	REV. 6
5610-M-470-45	SH. 4	REV. 4
5610-M-1300		REV. 4
5610-M-1387		REV. 2

REV	DATE	REVISION	BY	CH	APP	APP
23	10-17-00	ISSUED AS-BUILT PER PC/M 00-023 AND INCORP. CRN-M-10166.	RH	BP	BSG	JMM
22	10-11-00	ISSUED AS-BUILT PER PC/M 99-048.	RV	RH	TEB	BAP
21	10-2-00	ISSUED AS-BUILT PER PC/M 99-048(PARTIAL).	RV	RH	TEB	BAP
20	9-18-00	ISSUED AS-BUILT PER CRN M-10138 (PC/M 00-016).	RH	RV	JK	JM
19	6-23-00	ISSUED AS-BUILT PER CRN-M-10077(PC/M 99-061).	RV	JK	AAP	JM
18	04-10-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	JD	—	JRH

REV	DATE	REVISION	BY	CH	APP	APP
17	11-9-99	ISSUED AS-BUILT PER CRN-M-9791 (PC/M 99-033).	RH	RV	CMZ	JTL
16	4-15-99	ISSUED AS-BUILT PER PC/M 97-022.	RH	RV	JK	JM
15	11-14-97	ISSUED AS-BUILT PER CRN-M-9134(PC/M 97-036)	RH	RV	RSV	JJC
14	6-12-97	ISSUED AS-BUILT PER CRN-I-3559(PC/M 97-011).	RV	RH	BP	TS
25	9-18-03	ISSUED AS-BUILT PER CRN-I-04136 (PC/M 03-050).	RV	RH	FK	TS
24	9-18-02	ISSUED AS-BUILT PER CRN-M-10601 (PC/M 02-065).	RH	RV	AAP	JTL

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

SAFETY INJECTION SYSTEM

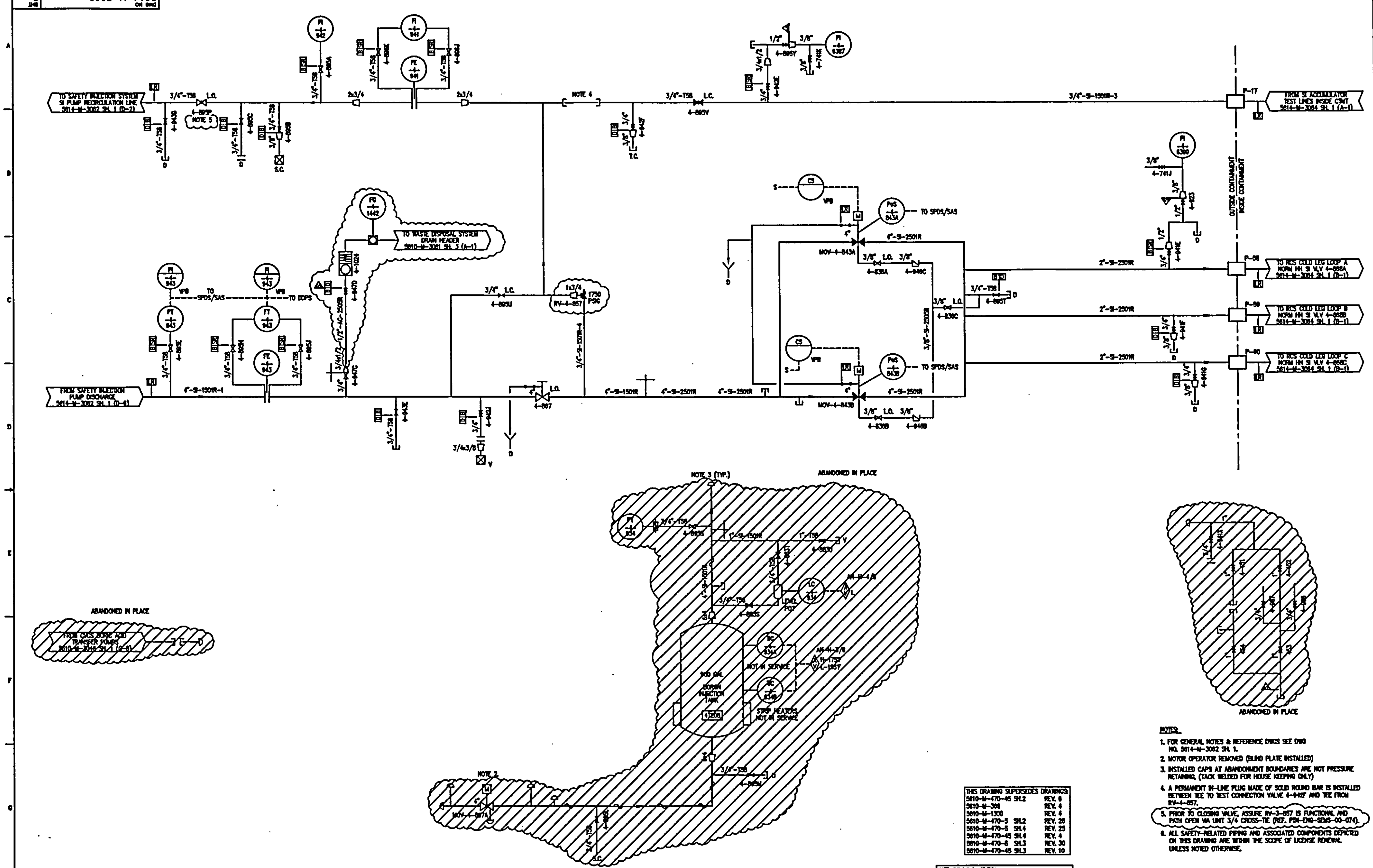
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3062

SHEET 1

SYS 062

REV 25



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3062 SH. 1.
2. MOTOR OPERATOR REMOVED (BLIND PLATE INSTALLED)
3. INSTALLED CAPS AT ABANDONMENT BOUNDARIES ARE NOT PRESSURE RETAINING, (TACK WELDED FOR HOUSE KEEPING ONLY)
4. A PERMANENT IN-LINE PLUG MADE OF SOLID ROUND BAR IS INSTALLED BETWEEN TEE TO TEST CONNECTION VALVE 4-942F AND TEE FROM RV-4-857.
5. PRIOR TO CLOSING VALVE, ASSURE RV-3-857 IS FUNCTIONAL AND PATH OPEN VIA UNIT 3/4 CROSS-TIE (REF. PTN-ENG-SEMS-00-074).
6. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

THIS DRAWING SUPERSEDES DRAWINGS:		
5610-M-470-45	SH.2	REV. 6
5610-M-309		REV. 4
5610-M-1300		REV. 4
5610-M-470-5	SH.2	REV. 26
5610-M-470-5	SH.4	REV. 25
5610-M-470-45	SH.4	REV. 4
5610-M-470-6	SH.3	REV. 30
5610-M-470-45	SH.3	REV. 10

POD

REV	DATE	REVISION	BY	CH	APP	APP
18	10-17-00	ISSUED AS-BUILT PER PC/M 00-023 AND INCORP. CRN-M-10166.	RH	BP	BSG	JMM
17	10-12-00	ISSUED AS-BUILT PER PC/M 00-023 (PARTIAL).	RH	RV	BSG	JMM
16	9-28-00	ISSUED AS-BUILT PER PC/M 00-023 (PARTIAL).	RH	BP	BSG	JMM
15	6-23-00	ISSUED AS-BUILT PER CRN-M-10077 (PC/M 99-081).	RV	JK	AAP	JM
14	04-04-00	ISSUED AS-BUILT PER CRN-M-9983 (PC/M 99-081).	JPG	JD	—	JRH
13	8-30-99	ISSUED AS-BUILT PER PC/M 99-022	RH	RV	RSV	JM
12	3-29-99	ISSUED AS-BUILT FOR PC/M 99-007.	RH	RV	JMM	JJC
11	7-31-96	ISSUED AS-BUILT FOR PC/M 95-140.	RH	RV	JMK	JJC
10	3-25-96	ISSUED AS-BUILT FOR PC/M 95-172 AND INCORPORATED CRN-M-6702.	RH	RV	JJC	BD
9	2-23-96	ISSUED AS-BUILT FOR PC/M 95-153.	RH	RV	TSC	JZ
0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	TAM	MD	[illegible]	LRB
—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

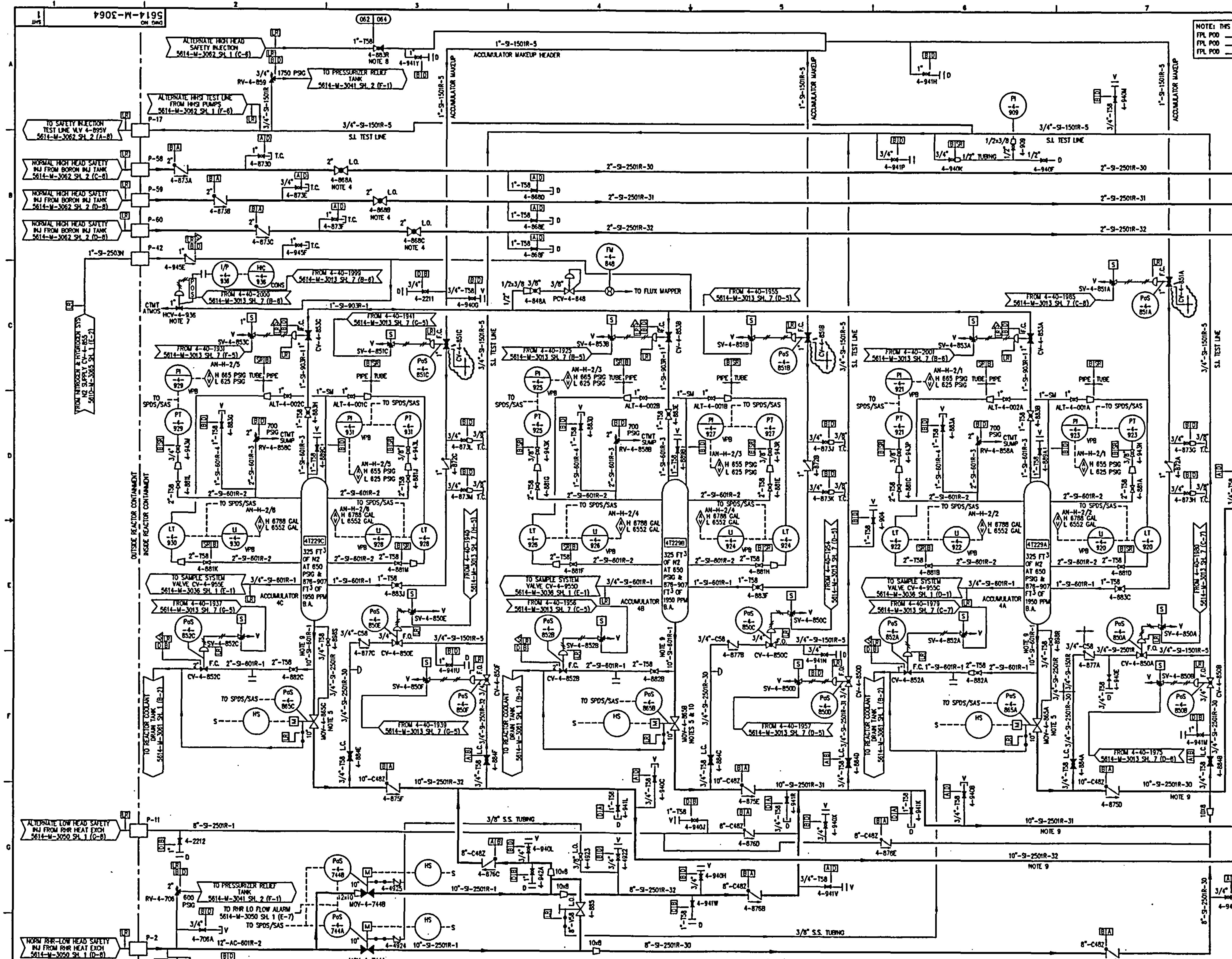
P & I D

SAFETY INJECTION SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER	SYS
5614-M-3062	062
SHEET 2	REV 18

UTM00173.DWG



NOTE: THIS DWG IS MADE FROM:

FPL POO	5610-T-E-4501 SH. 1	REV. 99
FPL POO	5610-T-E-4510 SH. 2	REV. 72
FPL POO	5610-T-E-4515 SH. 2	REV. 22

THIS DRAWING SUPERSEDES DRAWINGS.

5610-M-358		REV. 3
5610-M-370		REV. 3
5610-M-470-45	SH. 4	REV. 4
5610-M-470-45	SH. 3	REV. 10
5610-M-470-5	SH. 3	REV. 31
5610-M-470-5	SH. 4	REV. 26
5610-M-369		REV. 5
5610-M-450-53		REV. 22
5610-M-1300		REV. 4

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.
3. ALL COMPONENTS ON THIS DRAWING ARE WITHIN THE SEISMIC/Q-BOUNDARY.
4. REQUIRED FOR CONTAINMENT LEAK RATE TEST.
5. BREAKERS ON VALVES MOV-4-865A,B, & C ARE LOCKED OPEN. EXCEPT WHEN GOING TO COLD SHUTDOWN.
6. IMB = INSIDE MISSILE BARRIER.
7. N_2 SUPPLY VENT VALVE HCV-4-936 OPENS AT 900 PSIG UNDER SEAT.
8. VALVE 4-883R IS LOCKED TO ASSURE ADEQUATE MAKEUP TO ACCUMULATORS AND TO RESTRICT FLOW DURING HIGH HEAD SAFETY INJECTION FUNCTIONS.
9. SCHEDULE 140 PIPE.
10. INTERDISC RELIEF VALVE NOT REQUIRED PER PCM 89-228 ATTACH. 5.
11. A 3/16" HOLE IS BORED IN DISC TO PROVIDE A RELIEF PATH FROM BETWEEN DISCS IN DIRECTION OF ARROW.
12. THIS VALVE IS CONSIDERED TO BE LOCKED CLOSED BY VIRTUE OF ITS DESIGN WHICH REQUIRES A SPECIAL TOOL TO OPERATE THE REACH ROD.

REFERENCE DRAWINGS:

5614-M-3036 SH. 1	SAMPLE SYSTEM
5614-M-3041 SH. 1	REACTOR COOLANT SYSTEM LOOPS
5614-M-3041 SH. 2	REACTOR COOLANT SYSTEM PRESSURIZER
5614-M-3050 SH. 1	RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3062 SH. 1	SAFETY INJECTION SYSTEM
5614-M-3065 SH. 1	NITROGEN & HYDROGEN SYSTEM
5614-M-3061 SH. 1	WASTE DISPOSAL SYSTEM

POD

REV	DATE	REVISION	BY	CH	APP	APP
29	10-24-03	ISSUED AS-BUILT PER PC/M 03-043 & INCORP. CRN'S M-10830 & M-10816.	RH	JK	-	RSV
28	10-30-00	ISSUED AS-BUILT PER CRN-M-10125 (PC/M 00-016).	RH	RV	AAP	ASD
27	10-17-00	ISSUED AS-BUILT PER PC/M 00-023.	RH	BP	BSG	JMM
26	5-10-00	ISSUED AS-BUILT PER CRN-M-10065 (PC/M 99-061).	RH	RV	JK	ASD
25	3-18-00	ISSUED AS-BUILT PER CRN-M-9923 (PC/M 99-046) AND CRN-M-9993 (PC/M 99-061).	JPG	RH	JK	ASD

REV	DATE	REVISION	BY	CH	APP	APP
24	5-12-99	ISSUED AS-BUILT PER CRN-M-9686 (PC/M 99-010).	RH	RV	DF	JTL
23	4-13-99	ISSUED AS-BUILT PER CRN-M-9623 (PC/M 99-004).	RH	RV	RSV	JM
22	5-26-98	ISSUED AS-BUILT PER CRN-E-15824(PC/M 98-013).	RV	RH	BP	TS
0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.	GFH	MD	RAS/SW	LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

SAFETY INJECTION ACCUMULATOR SYSTEM INSIDE CONTAINMENT

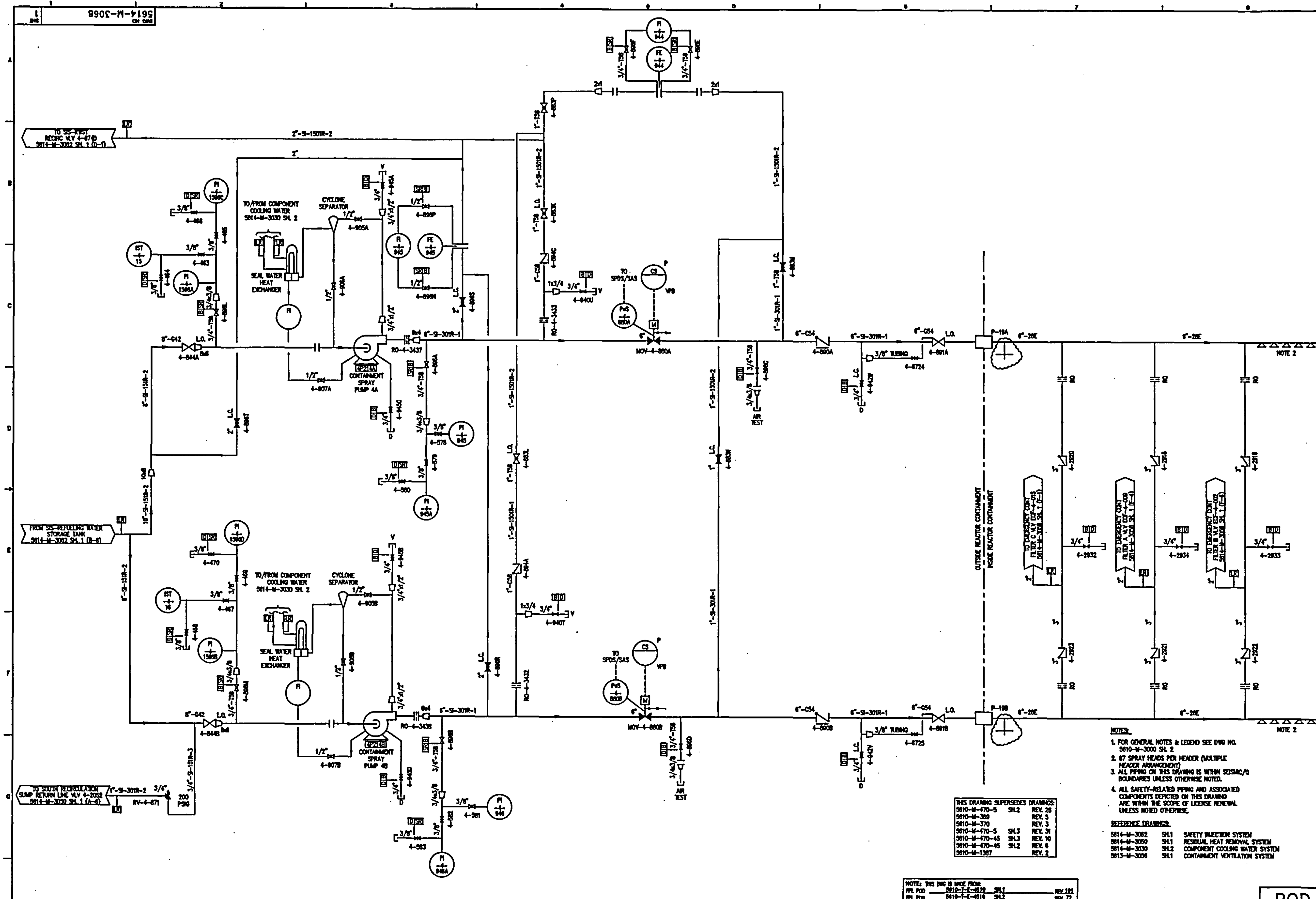
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER: 5614-M-3064

SHEET 1

SYS: 064

REV: 29



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2
2. 87 SPRAY HEADS PER HEADER (MULTIPLE HEADER ARRANGEMENT)
3. ALL PIPING ON THIS DRAWING IS WITHIN SEISMIC/Q BOUNDARIES UNLESS OTHERWISE NOTED.
4. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS:

5614-M-3062	SH.1	SAFETY INJECTION SYSTEM
5614-M-3050	SH.1	RESIDUAL HEAT REMOVAL SYSTEM
5614-M-3030	SH.2	COMPONENT COOLING WATER SYSTEM
5613-M-3056	SH.1	CONTAINMENT VENTILATION SYSTEM

THIS DRAWING SUPERSEDES DRAWINGS:

5610-M-470-5	SH.2	REV. 28
5610-M-369		REV. 5
5610-M-370		REV. 3
5610-M-470-5	SH.3	REV. 31
5610-M-470-45	SH.3	REV. 10
5610-M-470-45	SH.2	REV. 6
5610-M-1367		REV. 2

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4510 SH.1 REV 101
FPL POD 5610-T-E-4510 SH.2 REV 72

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
12	3-21-02	ISSUED AS-BUILT PER CRN-M-10483 (PC/M 00-016).	RH	RV	AAP	ASD	6	09-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-308.	SMM	MD	UK	MFM
11	04-04-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-081).	JPG	JD	—	JRH	5	04-01-93	ISSUED AS-BUILT FOR PC/M 92-011 AND PC/M 93-046.	RKS	AB	UK	JAP
10	9-1-95	INCORPORATED CRN-M-6360 FOR PC/M 95-099.	RH	RV	PDK	JZ	4	03-08-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	DQ	INITIALS ON FILE		
9	10-27-94	ISSUED AS-BUILT FOR PC/M 94-058.	RH	RV	AJC	BD	13	5-13-02	ISSUED AS-BUILT PER CRN-M-10530 (PC/M 00-016).	RH	RV	RSV	JTL
8	3-8-94	INCORPORATED CRN-M-5956 FOR PC/M 93-221.	RH	RV	DJB	JZ	0	4-2-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE ~~AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-044.~~	SM	MD		LRB
7	2-25-94	ISSUED AS-BUILT FOR DCR-TPM-93-512.	SMM	MD	WMC	JZ	—	—		—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

CONTAINMENT SPRAY SYSTEM

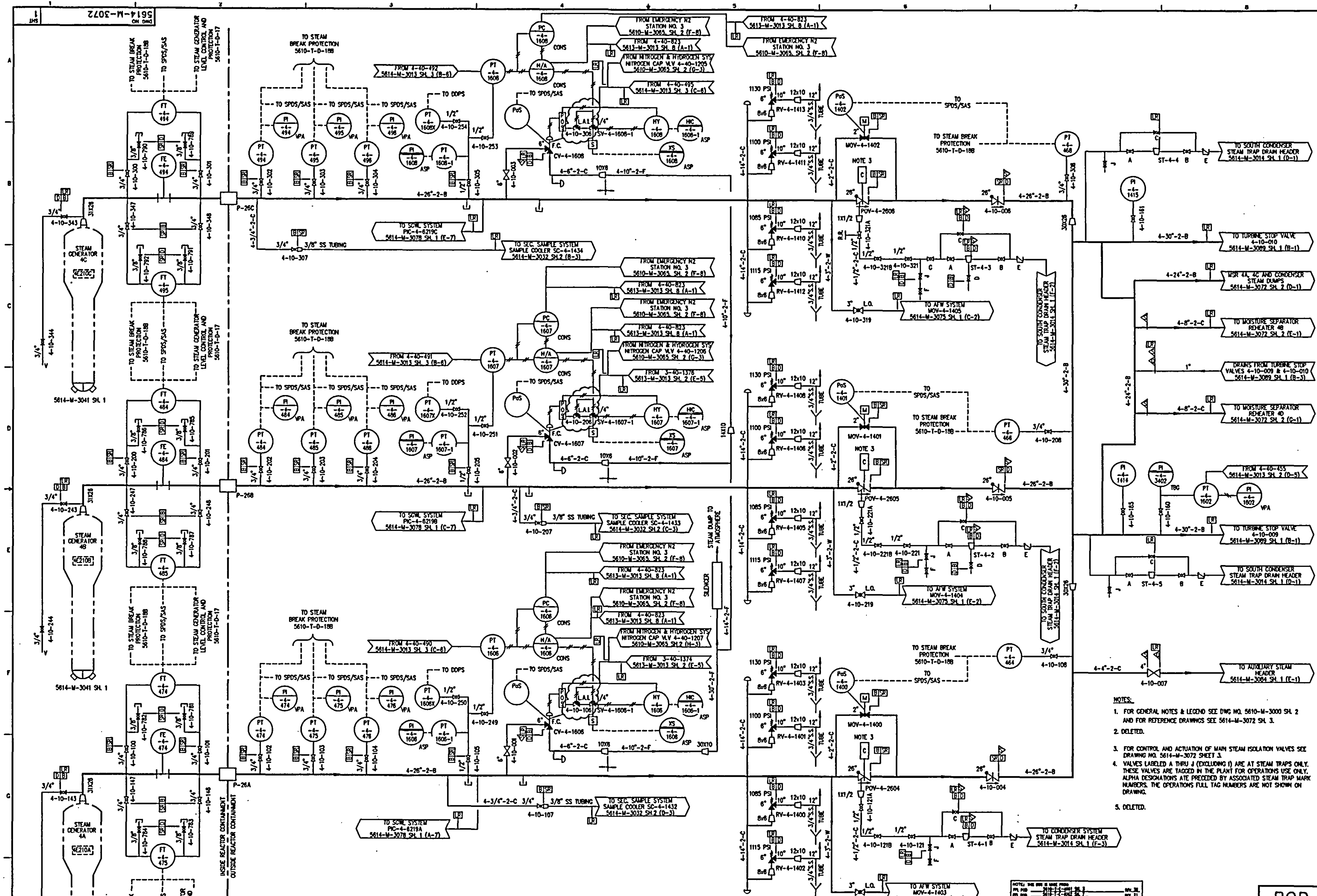
STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3068

SYS 068

SHEET 1

REV 13



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2 AND FOR REFERENCE DRAWINGS SEE 5614-M-3072 SH. 3.
2. DELETED.
3. FOR CONTROL AND ACTUATION OF MAIN STEAM ISOLATION VALVES SEE DRAWING NO. 5614-M-3072 SHEET 3.
4. VALVES LABELED A THRU J (EXCLUDING I) ARE AT STEAM TRAPS ONLY. THESE VALVES ARE TAGGED IN THE PLANT FOR OPERATIONS USE ONLY. ALPHA DESIGNATIONS ATE PRECEDED BY ASSOCIATED STEAM TRAP MARK NUMBERS. THE OPERATIONS FULL TAG NUMBERS ARE NOT SHOWN ON DRAWING.
5. DELETED.

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
21	3-28-96	ISSUED AS-BUILT FOR PC/M 94-130 AND INCORPORATED CRN-M-8699.	RH	RV	JK	BO	27	8-15-00	ISSUED AS-BUILT PER CRN M-10088 (PC/M 99-061).	RH	RV	AAP	JM
20	2-15-96	INCORPORATED CRN-M-8562 FOR PC/M 95-169.	RH	RV	TSC	BO	26	04-25-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	KM	—	JRH
19	3-28-95	ISSUED AS-BUILT FOR PC/M 93-121 REV.1	RH	RV	DJB	JJC	25	2-23-00	ISSUED AS-BUILT PER PC/M 99-045.	RH	RV	BP	TS
18	2-16-95	INCORPORATED CRN-M-8163 FOR PC/M 94-123.	RH	RV	WMC	JJC	24	8-5-97	ISSUED AS-BUILT PER CRN-M-9030 (PC/M 97-019)	RH	RV	CMZ	JEH
17	3-8-94	INCORPORATED CRN-M-5954 FOR PC/M 93-221.	RH	RV	DJB	JZ	23	3-31-96	ISSUED AS-BUILT FOR PC/M 95-097.	RH	WMC	JK	SHC
28	6-19-01	ISSUED AS-BUILT PER PC/M 00-041.	RH	RV	JR	RR	22	3-29-96	ISSUED AS-BUILT FOR PC/M 95-144.	RH	RV	TDN	BO

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

MAIN STEAM SYSTEM

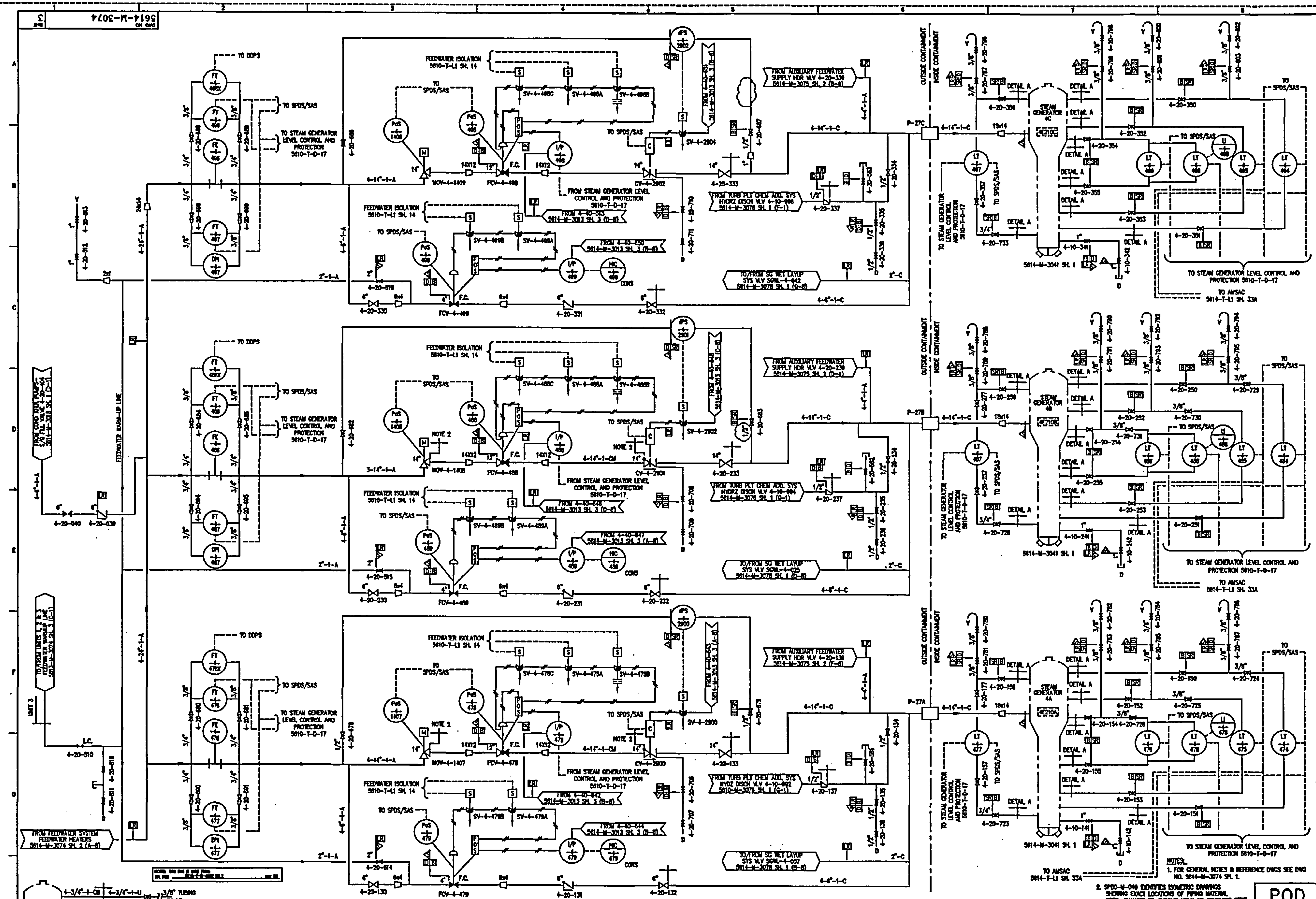
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

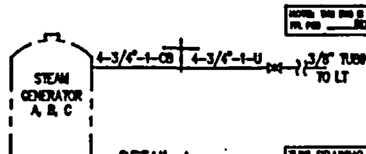
DRAWING NUMBER 5614-M-3072

SHEET 1

SYS 072

REV 28





DETAIL A
FOR PIPE SPECIFICATION CHANGE TO A LEVEL TRANSMITTER

NOTES:
1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3074 SH. 1.
2. SPEC-M-049 IDENTIFIES ISOMETRIC DRAWINGS SHOWING EXACT LOCATIONS OF PIPING MATERIAL SPEC. CHANGES TO CHROME MOLY OR STAINLESS STEEL.

POD

THIS DRAWING SUPERSEDES DRAWINGS:	
5610-M-382	REV. 2
5610-M-340	REV. 10
5610-M-341	REV. 11

REV	DATE	REVISION	BY	CH	APP	APP
14	4-6-95	ISSUED AS-BUILT PER CRN-M-6310 (PC/M 95-003).	RH	RV	DEF	JJC
13	2-24-94	ISSUED AS-BUILT FOR DCR-TPM-93-011.	RH	RV	WMC	BD
12	1-13-94	ISSUED AS-BUILT FOR DCR-TPM-93-415.	RH	RV	PDK	JZ
20	1-31-01	ISSUED AS-BUILT PER CRN-M-10215 (PC/M 00-016).	RH	RV	RSV	ASD
19	3-18-00	ISSUED AS-BUILT PER CRN M-9926 (PC/M 99-046).	RH	RV	BSG	ASD

REV	DATE	REVISION	BY	CH	APP	APP
18	3-6-00	ISSUED AS-BUILT PER CRN's M-9985 (PC/M 99-081) & M-9993 (PC/M 99-081).	JPG	RH	BSG	JMM
17	9-8-99	ISSUED AS-BUILT PER CRN-M-9761 (PC/M 99-018).	RH	RV	CMZ	JM
16	8-13-98	ISSUED AS-BUILT PER CRN-M-9406 (PC/M 98-027).	RH	RV	CMZ	JJC
15	5-21-98	ISSUED AS-BUILT PER CRN-M-9371 (PC/M 98-013).	RH	RV	AAP	JJC
0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	REB	MD	RS	LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

FEEDWATER SYSTEM

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

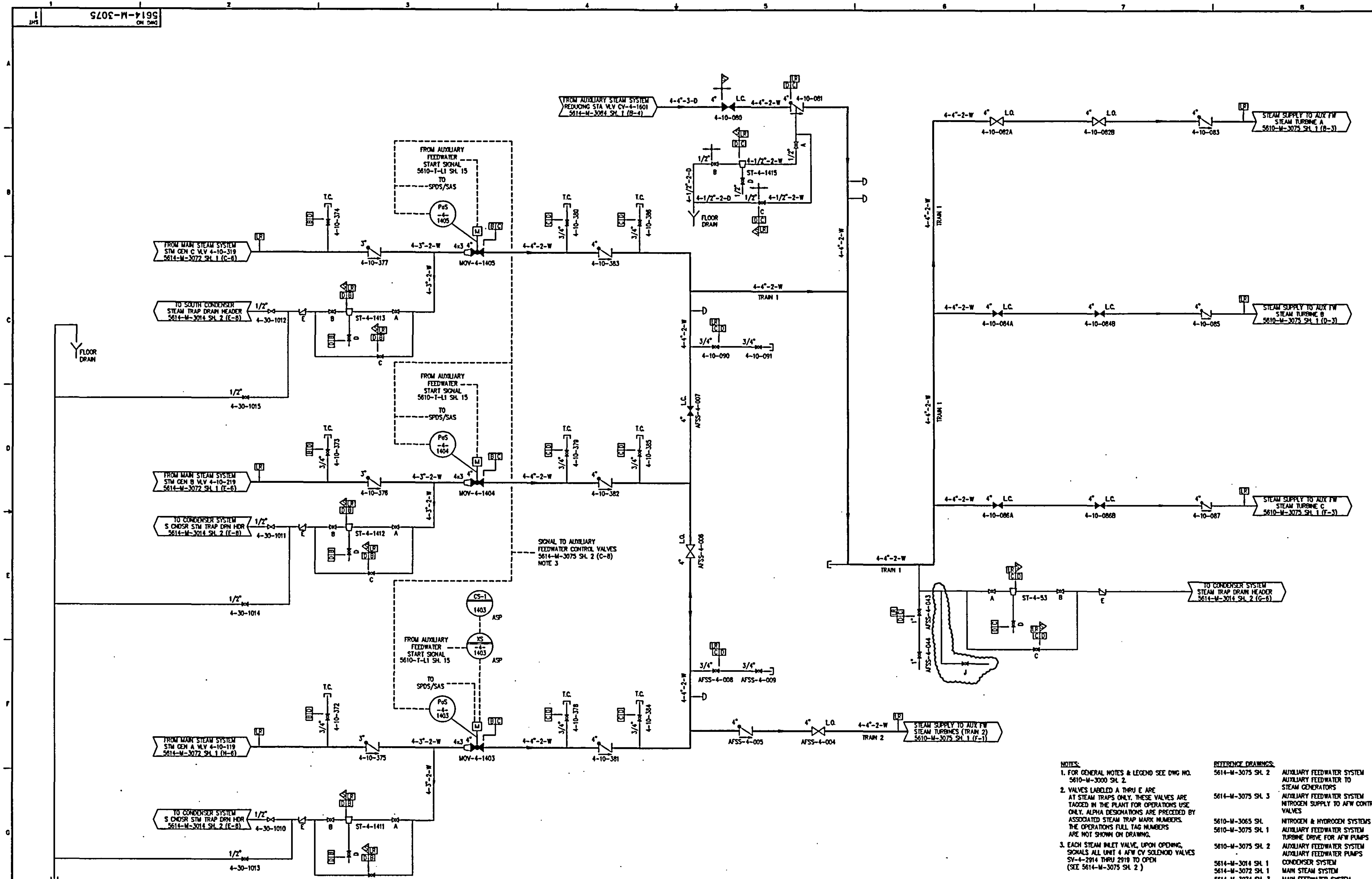
DRAWING NUMBER 5614-M-3074

SHEET 3

SYS 074

REV 20

UTM00202.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2
2. VALVES LABELED A THRU E ARE AT STEAM TRAPS ONLY. THESE VALVES ARE TAGGED IN THE PLANT FOR OPERATIONS USE ONLY. ALPHA DESIGNATIONS ARE PRECEDED BY ASSOCIATED STEAM TRAP MARK NUMBERS. THE OPERATIONS FULL TAG NUMBERS ARE NOT SHOWN ON DRAWING.
3. EACH STEAM INLET VALVE, UPON OPENING, SIGNALS ALL UNIT 4 AFW CV SOLENOID VALVES SV-4-2914 THRU 2919 TO OPEN (SEE 5614-M-3075 SH. 2)

REFERENCE DRAWINGS:

5614-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM AUXILIARY FEEDWATER TO STEAM GENERATORS
5614-M-3075 SH. 3	AUXILIARY FEEDWATER SYSTEM NITROGEN SUPPLY TO AFW CONTROL VALVES
5610-M-3065 SH.	NITROGEN & HYDROGEN SYSTEMS
5610-M-3075 SH. 1	AUXILIARY FEEDWATER SYSTEM TURBINE DRIVE FOR AFW PUMPS
5610-M-3075 SH. 2	AUXILIARY FEEDWATER SYSTEM AUXILIARY FEEDWATER PUMPS
5614-M-3014 SH. 1	CONDENSER SYSTEM
5614-M-3072 SH. 1	MAIN STEAM SYSTEM
5614-M-3074 SH. 3	MAIN FEEDWATER SYSTEM
5614-M-3064 SH. 1	AUXILIARY STEAM SYSTEM
5610-T-L1 SH. 15	LOGIC DIAGRAM, AUXILIARY FEEDWATER PUMP START

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-1 SH. 2 REV. 5
5610-M-1302 REV. 5

NOTE: THIS DWG IS MADE FROM:
FPL POO 5610-T-E-4061 SH. 4 REV. 30

POD

REV	DATE	REVISION	BY	CH	APP	APP
9	11-24-98	ISSUED AS-BUILT PER CRN-M-9439 (PC/M 98-036).	RH	RV	JMM	JDL
8	7-8-97	ISSUED AS-BUILT PER PC/M 96-029 AND INCORPORATED CRN-M-8922.	RH	BSG	JZ	JMM
7	2-25-94	ISSUED AS-BUILT FOR DCR-TPM-93-548.	INITIALS ON FILE			
6	12-16-93	ISSUED AS-BUILT FOR PC/M 93-054.	RH	RV	DJB	BD
5	09-20-93	ISSUED AS-BUILT FOR DCR-TPM-93-309.	SMM	MD	UK	MFM
4	04-01-93	ISSUED AS-BUILT FOR PC/M 92-067 AND PC/M 93-046.	SP	AB	UK	JAP

REV	DATE	REVISION	BY	CH	APP	APP
3	12-14-92	ISSUED AS-BUILT FOR PC/M 89-542.	TAM	INITIALS ON FILE		
12	02-06-03	ISSUED AS-BUILT PER CRN-M-10634 (PC/M 02-065).	RH	RV	CMZ	JTL
11	05-09-01	ISSUED AS-BUILT PER CRN-M-10292 (PC/M 00-016).	RH	RV	AAP	JM
10	03-29-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061).	JPG	RCR	—	JRH
0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	MAB	MD	AM/RS	LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

AUXILIARY FEEDWATER SYSTEM
STEAM TO AUXILIARY FEEDWATER
PUMP TURBINES

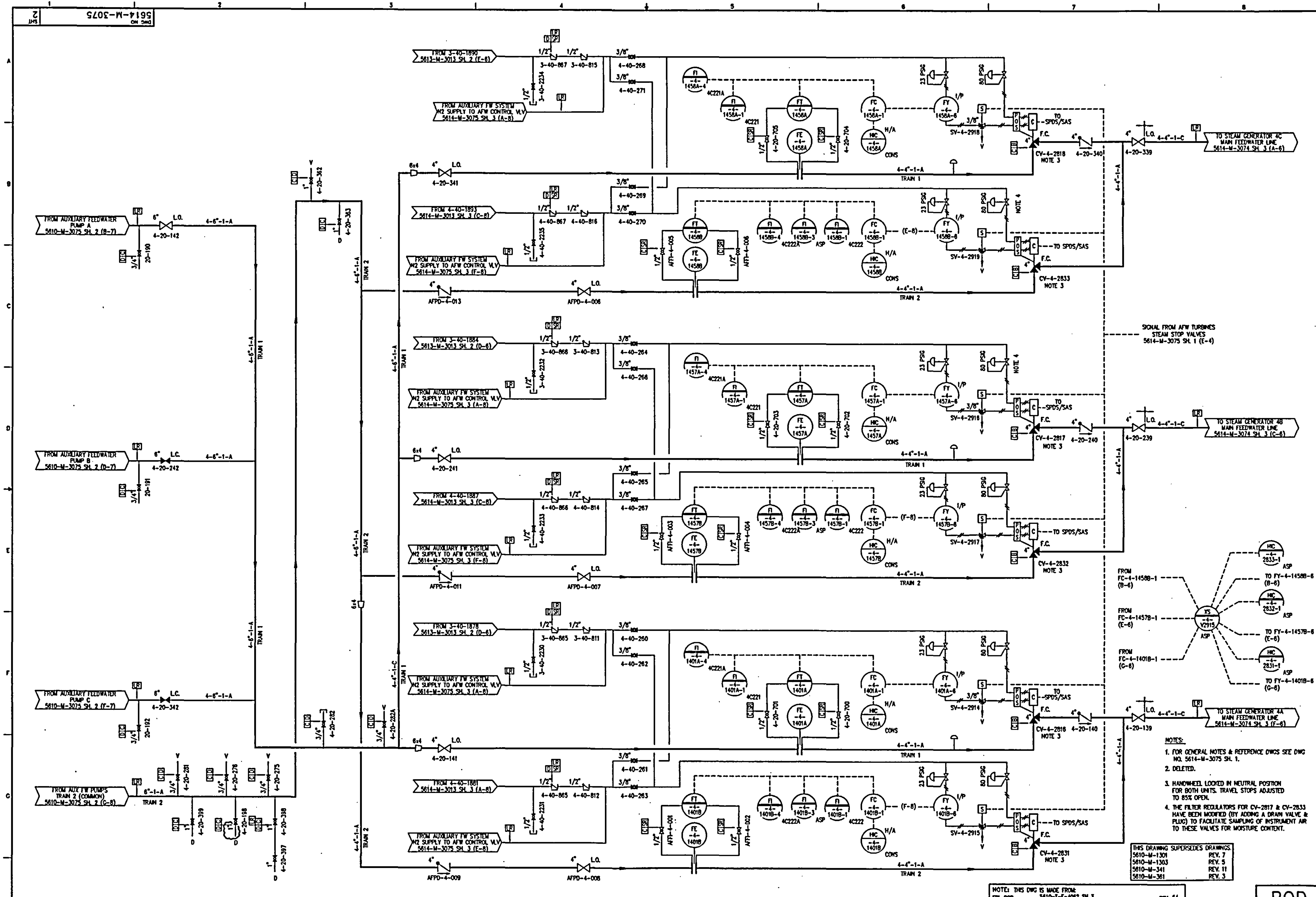
STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3075

SHEET 1

SYS 075

REV 12



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3075 SH. 1.
2. DELETED.
3. HANDWHEEL LOCKED IN NEUTRAL POSITION FOR BOTH UNITS. TRAVEL STOPS ADJUSTED TO 85% OPEN.
4. THE FILTER REGULATORS FOR CV-2817 & CV-2833 HAVE BEEN MODIFIED (BY ADDING A DRAIN VALVE & PLUG) TO FACILITATE SAMPLING OF INSTRUMENT AIR TO THESE VALVES FOR MOISTURE CONTENT.

THIS DRAWING SUPERSEDES DRAWINGS.	
5610-M-1301	REV. 7
5610-M-1303	REV. 5
5610-M-341	REV. 11
5610-M-361	REV. 3

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-T-E-4062 SH 3 REV. 64

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
8	5-19-98	ISSUED AS-BUILT PER PC/M 98-005.	RH	RV	JZ	JJC	11	3-6-00	ISSUED AS-BUILT PER CRN-M-9993 (PC/M 99-061) AND CRN-M-9997	JPG	RH	BSG	BSG
7	04-12-95	INCORPORATED CRN-4-3159 FOR PC/M 95-031.	RV	RH	DSR	JCW	—	—	(PC/M 99-061).	—	—	—	—
6	04-01-93	ISSUED AS-BUILT FOR PC/M 93-002.	SP	GM	LIK	MFM	10	3-27-99	ISSUED AS-BUILT PER PC/M 98-005.	RH	JK	RSV	JLD
5	03-06-93	ISSUED AS-BUILT FOR DCR-TPM-93-075.	KT	INITIALS ON FILE			9	5-26-98	ISSUED AS-BUILT PER CRN-4-3712(PC/M 98-013).	RV	RH	BP	TS
4	2-7-93	ISSUED AS-BUILT FOR PC/M 92-090.	SP	INITIALS ON FILE			0	5-14-91	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE	RNB	MD	AH/RS	LRB
12	05-09-01	ISSUED AS-BUILT PER CRN-M-10117 (PC/M 00-016).	RH	RV	AAP	JM	—	—	AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-91-137.	—	—	—	—

FPL

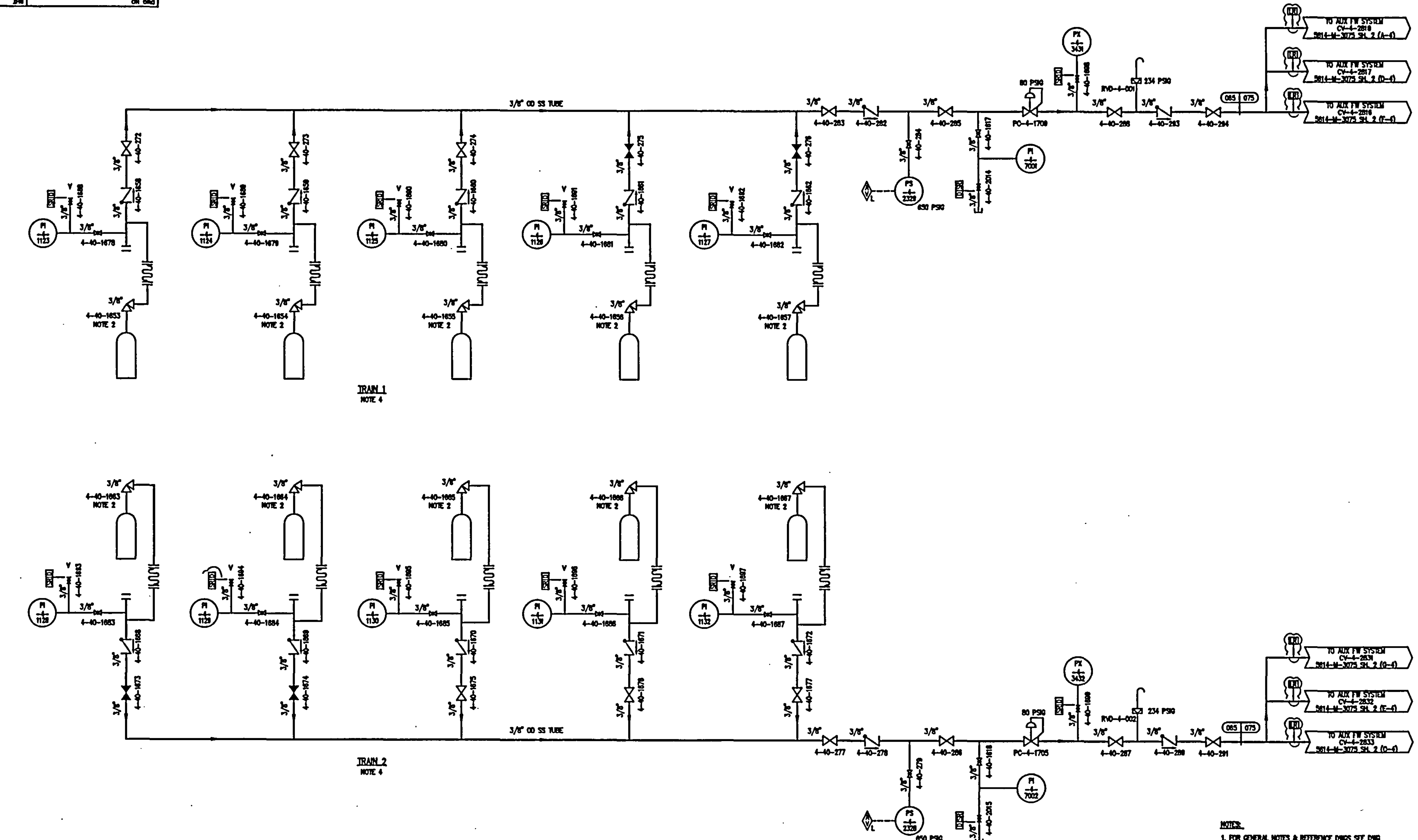
TURKEY POINT NUCLEAR UNIT 4

P & I D

AUXILIARY FEEDWATER SYSTEM
AUXILIARY FEEDWATER TO
STEAM GENERATORS

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3075
SYS 075
SHEET 2
REV 12



NOTES:

1. FOR GENERAL NOTES & REFERENCE DWGS SEE DWG NO. 5614-M-3075 SH. 1.
2. FURNISHED WITH ASSOCIATED EQUIPMENT.
3. ALL PORTIONS OF THIS SYSTEM WITHIN THE SEISMIC FLAG ARE NUCLEAR SAFETY RELATED.
4. N2 HEADER ISOLATION VALVES (272,273,274,275 & 276 FOR TRAIN 1 AND 1673,1674,1675,1676 & 1677 FOR TRAIN 2) ARE SHOWN IN A TYPICAL VALVE LINEUP. ANY THREE OF THE FIVE VALVES PER TRAIN SHALL BE OPEN WITH THE REMAINING TWO VALVES CLOSED.
5. ALL SAFETY-RELATED PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL UNLESS NOTED OTHERWISE.

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-M-330 SH. 2 REV. 4

POD

REV	DATE	REVISION	BY	CH	APP	APP
2	03-29-00	ISSUED AS-BUILT PER CRN-M-8983 (PC/M 99-081).	JPG	RCR	—	JRH
1	12-14-92	ISSUED AS-BUILT FOR PC/M 89-542.	TAM	MD	LRB	HAR
0	03-20-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-030.	SM	MD	KW/AM	LRB

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

AUXILIARY FEEDWATER SYSTEM
NITROGEN SUPPLY TO
AFW CONTROL VALVES

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

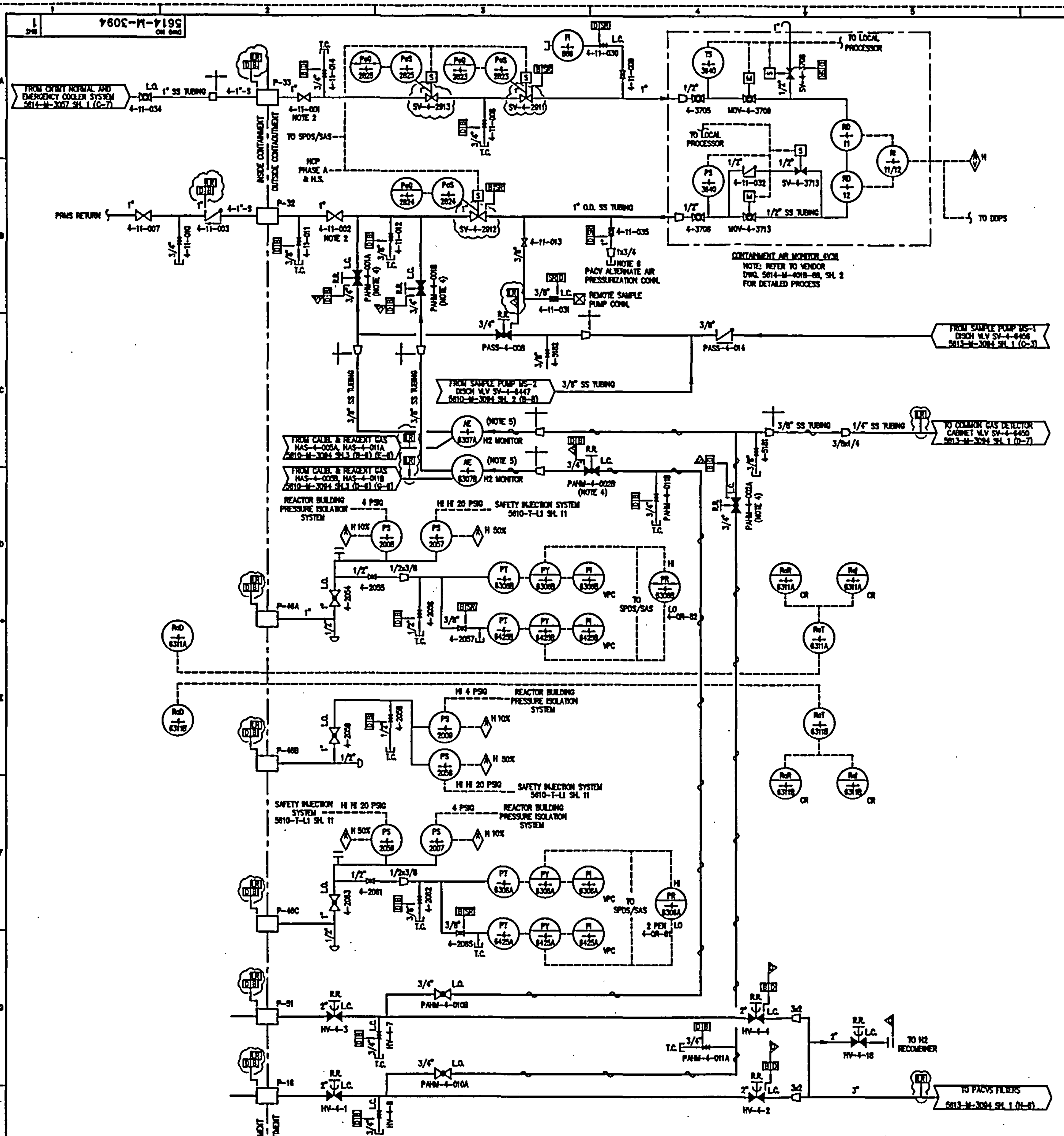
DRAWING NUMBER 5614-M-3075

SHEET 3

SYS 075

REV 2

UTM00211.DWG



NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.
2. FOR INSTALLATION OUTSIDE OF CONTAINMENT SEE INSTRUMENT INSTALLATION DETAIL M-323-H-4.
3. LINE UP SHOWS UNIT 4 IN NORMAL (>200F) CONFIGURATION.
4. VALVES PAHM-4-001A,B & 002A,B HANDLES ARE REMOVED (LOCKED IN STORAGE AREA) AND A COVER IS INSTALLED FOR NORMAL POSITION.
5. FOR H_2 ANALYZER DETAILS SEE POD 5610-M-3094 SH. 3 AND DWG. 5610-J-350-5.
6. QUICK DISCONNECT WITH DUST PLUG NORMALLY INSTALLED.
7. ALL PIPING AND ASSOCIATED COMPONENTS DEPICTED ON THIS DRAWING ARE WITHIN THE SCOPE OF LICENSE RENEWAL WITH THE EXCEPTION OF PIPING/FITTINGS/TUBING DOWNSTREAM OF VENTS AND DRAINS UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS:

5614-M-3057 SH. 1	CONTAINMENT NORMAL & EMERGENCY COOLER SYSTEM
5613-M-3094 SH. 1	CONTAINMENT POST ACCIDENT EVALUATION SYSTEM
5610-M-3080 SH. 1	AUXILIARY BUILDING VENTILATION

NOTE: REV. 1 OF THIS DWG IS MADE FROM: FPL POD 5610-TE-4534 SH. 1 REV. 48

THIS DRAWING SUPERSEDES DRAWINGS:
5610-M-11 REV. 58
5610-M-344 REV. 6

NOTE: THIS DWG IS MADE FROM: FPL P&ID 5610-M-11 REV. 58

POD

REV	DATE	REVISION	BY	CH	APP	APP	REV	DATE	REVISION	BY	CH	APP	APP
15	6-18-98	INCORPORATED CRN-C-10290 FOR PC/M 98-023.	RH	RV	PDK	BD	18	5-22-97	ISSUED AS-BUILT PER PC/M 96-087.	RH	RV	JH	JJC
14	5-2-98	INCORPORATED CRN-E-15428 FOR PC/M 98-004.	RV	RH	JJN	JCW	17	11-20-96	ISSUED AS-BUILT PER CRN-M-8854. (PC/M 96-084)	RH	RV	JK	JJC
21	3-18-00	ISSUED AS-BUILT PER CRN-M-9918 (PC/M 99-046) AND CRN-M-9993	JPG	RH	JK	ASD	16	10-28-96	ISSUED AS-BUILT FOR PC/M 96-022.	RH	RV	JM	JJC
—	—	(PC/M 99-061).	—	—	—	—	0	11-26-91	THIS DWG REDRAWN ON CAD FROM 5610-M-11.	GFH	MD	[illegible]	HAR
20	1-16-98	ISSUED AS-BUILT PER CRN-M-9216 (PC/M 97-042).	RH	RV	CMZ	JJC	—	—	DWG SUPERSEDES 5610-M-11, 5610-M-344, AND ISSUED	—	—	—	—
19	8-5-97	ISSUED AS-BUILT PER CRN-M-9060 (PC/M 97-019)	RH	RV	AAP	JEH	—	—	INTO THE FPL DWG SYSTEM PER DCR-TPM-91-532.	—	—	—	—

FPL

TURKEY POINT NUCLEAR UNIT 4

P&ID

CONTAINMENT POST ACCIDENT EVALUATION SYSTEM

STONE & WEBSTER ENGINEERING CORP.
FT. LAUDERDALE, FLORIDA

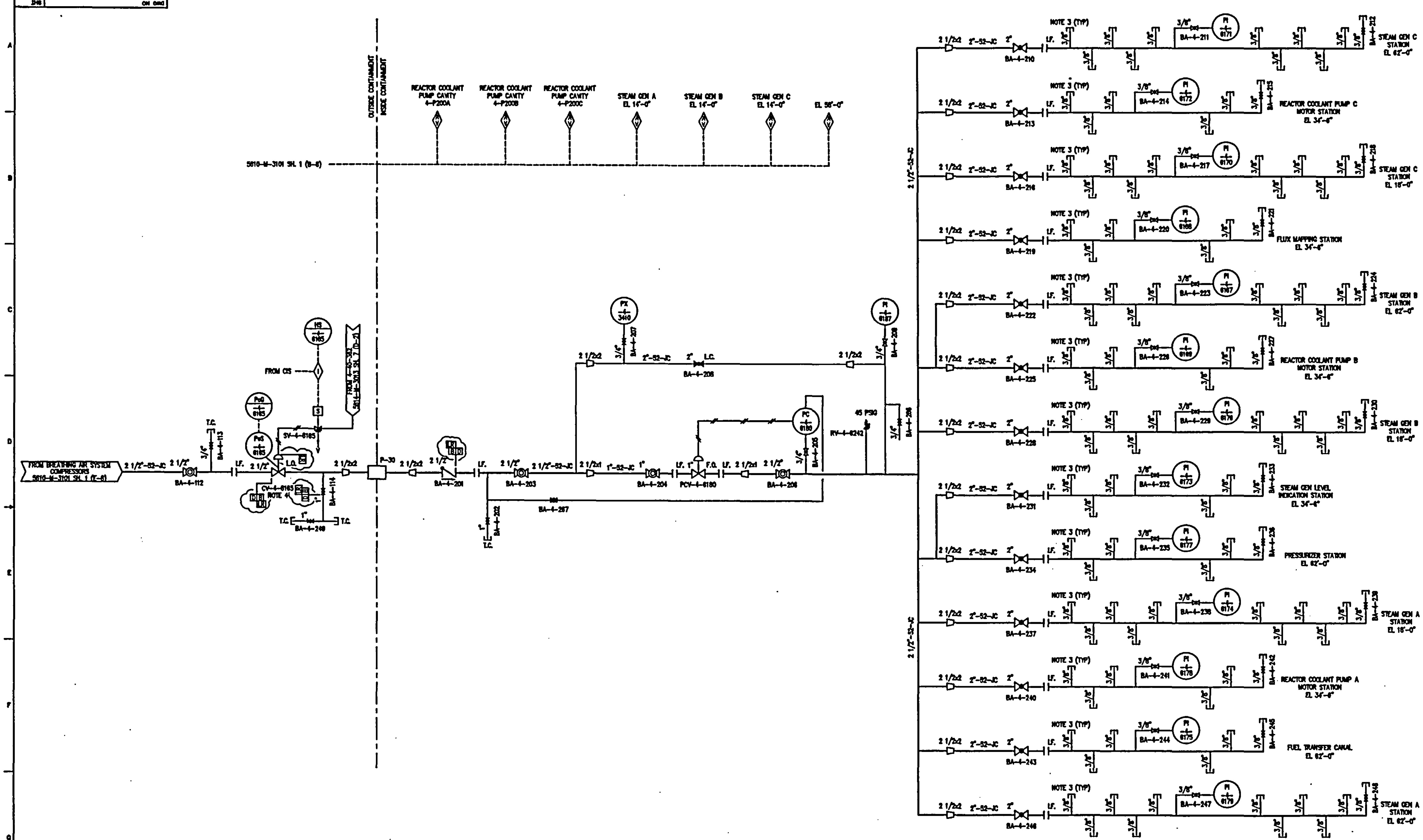
DRAWING NUMBER 5614-M-3094

SHEET 1

SYS 094

REV 21

UTM00281.DWG



4. HAND LOCKED OPEN ONLY WHEN PLANT IS SHUTDOWN AND COOLED DOWN AND AIR IS USED INSIDE CONTAINMENT. VALVE WILL FAIL AS-IS UPON LOSS OF INSTRUMENT AIR. NUPRO CHECK VALVE MODEL NO. B-4C-1 ADDED TO VALVE ACTUATOR PNEUMATIC CIRCUIT PER PC/M NOS. 84-12/13.

5. VALVE POSITIONS DEPICTED ON THIS DRAWING ARE FOR NORMAL OPERATION OF THE BREATHING AIR SYSTEM AND DO NOT REPRESENT VALVE POSITIONS MAINTAINED DURING NORMAL PLANT OPERATION.

NOTES:

1. FOR GENERAL NOTES & LEGEND SEE DWG NO. 5610-M-3000 SH. 2.

2. DELETED.

3. TYPICAL CONNECTION SHALL CONSIST OF A 3/8" QUICK DISCONNECT COUPLING. THE COUPLING SHALL HAVE A ONE-WAY SHUT-OFF, SWIVELLING, NON-INTERCHANGEABLE CONNECTION, AND RELEASE DEVICE TO SEPARATE HALVES. PROVIDE DUST CUPS FOR COUPLER AND NIPPLE. HOSE WILL BE 3/8" I.D.

REFERENCE DRAWINGS:

5610-M-3101 SH. 1 — BREATHING AIR SYSTEM - COMPRESSOR

NOTE: THIS DWG IS MADE FROM:
FPL POD 5610-M-1319 SH. 1 REV. 18

POD

REV	DATE	REVISION	BY	CH	APP	APP
5	04-10-00	ISSUED AS-BUILT PER CRN-M-0903 (PC/M 98-081).	JPG	VRS	—	JRH
4	3-30-96	ISSUED AS-BUILT FOR PC/M 95-116.	RH	RY	WMC	BD
3	11-6-95	ISSUED AS-BUILT FOR PC/M 94-082.	RV	RH	TON	BD
2	10-4-94	ISSUED AS-BUILT FOR PC/M 93-195.	RH	RY	TCX	BD
1	2-7-93	ISSUED AS-BUILT FOR PC/M 92-080.	SP	INITIALS ON FILE		
0	9-3-92	THIS DWG CREATED PER THE P & ID RECONSTITUTION PROJECT SCOPE AND ISSUED INTO THE FPL DWG SYSTEM PER DCR-TPM-92-137.	GFH	INITIALS ON FILE		

FPL

TURKEY POINT NUCLEAR UNIT 4

P & I D

BREATHING AIR SYSTEM DISTRIBUTION

STONE & WEBSTER ENGINEERING CORP. FT. LAUDERDALE, FLORIDA

DRAWING NUMBER 5614-M-3101 | SYS 101 | SHEET 1 | REV 5

UTM00265.dwg