

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
- DUCTWORK SUPPORT ANCHOR
DWG NO'S.: 609136 AND 609137
HANGER NO'S.: FAH-FN-11A-13
 - DUCTWORK SUPPORT ANCHOR
DWG NO'S.: 609136 AND 609137
HANGER NO'S.: FAH-FN-6A-181 AND FAH-FN-6A-182
 - DUCTWORK SUPPORT ANCHOR
DWG NO'S.: 609136 AND 609137
HANGER NO'S.: BASED ON ENGINEERING EVALUATION NO EQUIVALENT ANCHOR REQUIRED
 - STOPPED AT FLEX CONNECTOR (ELASTOMER).
 - SMOKE DETECTORS AND SENSORS ARE IN SCOPE FOR (a)(3) FIRE PROTECTION.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:
- WORK THIS DRAWING WITH 28492, 28494 THRU 28496 & 28498 THRU 28500.
 - ALL HYAC. EQUIP. COMPONENTS & INSTRUMENTS HAVE SYSTEM PREFIX FAH (FUEL STORAGE BLDG. AIR HANDLING), UNLESS NOTED.
 - FOR SYMBOL LEGEND, SEE NOTE 3 ON DRAWING 28494.
 - ALL DUCTWORK, UNLESS NOTED.
 - FILTER HOUSING DIFFERENTIAL PRESS & REQUIRED FLOWS:

FILTER TAG NO.	CLEAN FLOW CFM	DIRTY FLOW CFM	ANSI DIRTY FLOW CFM	SURVEILLANCE TEST FLOW CFM	SURVEILLANCE TEST FLOW +10% CFM	SURVEILLANCE TEST FLOW -10% CFM
FAH-F-41	17700	16000	15200	16450	18095	14805
FAH-F-74	17700	16000	15200	16450	18095	14805

△ INDICATES REVISION LEVEL.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

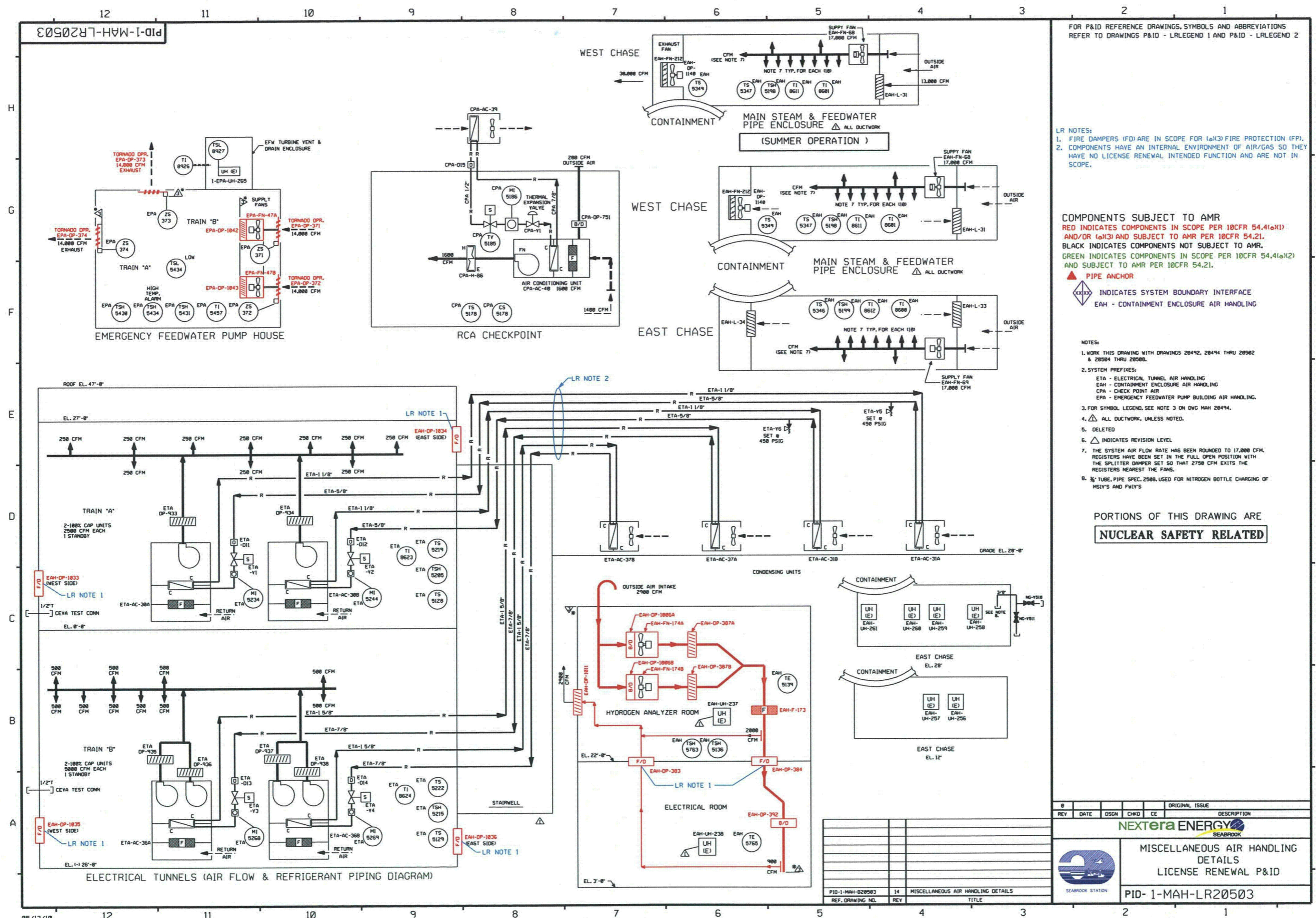
NEXTERA ENERGY
 SEABROOK

MISCELLANEOUS AIR HANDLING
 FUEL STORAGE BUILDING
 DETAIL
 LICENSE RENEWAL P&ID

PID-1-MAH-LR20497

PID-1-MAH-828497	9	MISC AIR HANDLING FUEL STORAGE BLDG DET
REF. DRAWING NO.	REV	TITLE

PID-1-MAH-LR20503



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. FIRE DAMPERS (FD) ARE IN SCOPE FOR 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 2. COMPONENTS HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS SO THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 □□□□ INDICATES SYSTEM BOUNDARY INTERFACE
 EAH - CONTAINMENT ENCLOSURE AIR HANDLING

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20492, 20494 THRU 20502 & 20504 THRU 20508.
 2. SYSTEM PREFIXES:
 ETA - ELECTRICAL TUNNEL AIR HANDLING
 EAH - CONTAINMENT ENCLOSURE AIR HANDLING
 CPA - CHECK POINT AIR
 EPA - EMERGENCY FEEDWATER PUMP BUILDING AIR HANDLING.
 3. FOR SYMBOL LEGEND, SEE NOTE 3 ON DWG MAH 20494.
 4. ▲ ALL DUCTWORK, UNLESS NOTED.
 5. DELETED
 6. △ INDICATES REVISION LEVEL
 7. THE SYSTEM AIR FLOW RATE HAS BEEN ROUNDED TO 17,000 CFM. REGISTERS HAVE BEEN SET IN THE FULL OPEN POSITION WITH THE SPLITTER DAMPER SET SO THAT 2750 CFM EXISTS THE REGISTERS NEAREST THE FANS.
 8. 3/8" TUBE, PIPE SPEC. 2508, USED FOR NITROGEN BOTTLE CHARGING OF MSIV'S AND FWIV'S

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

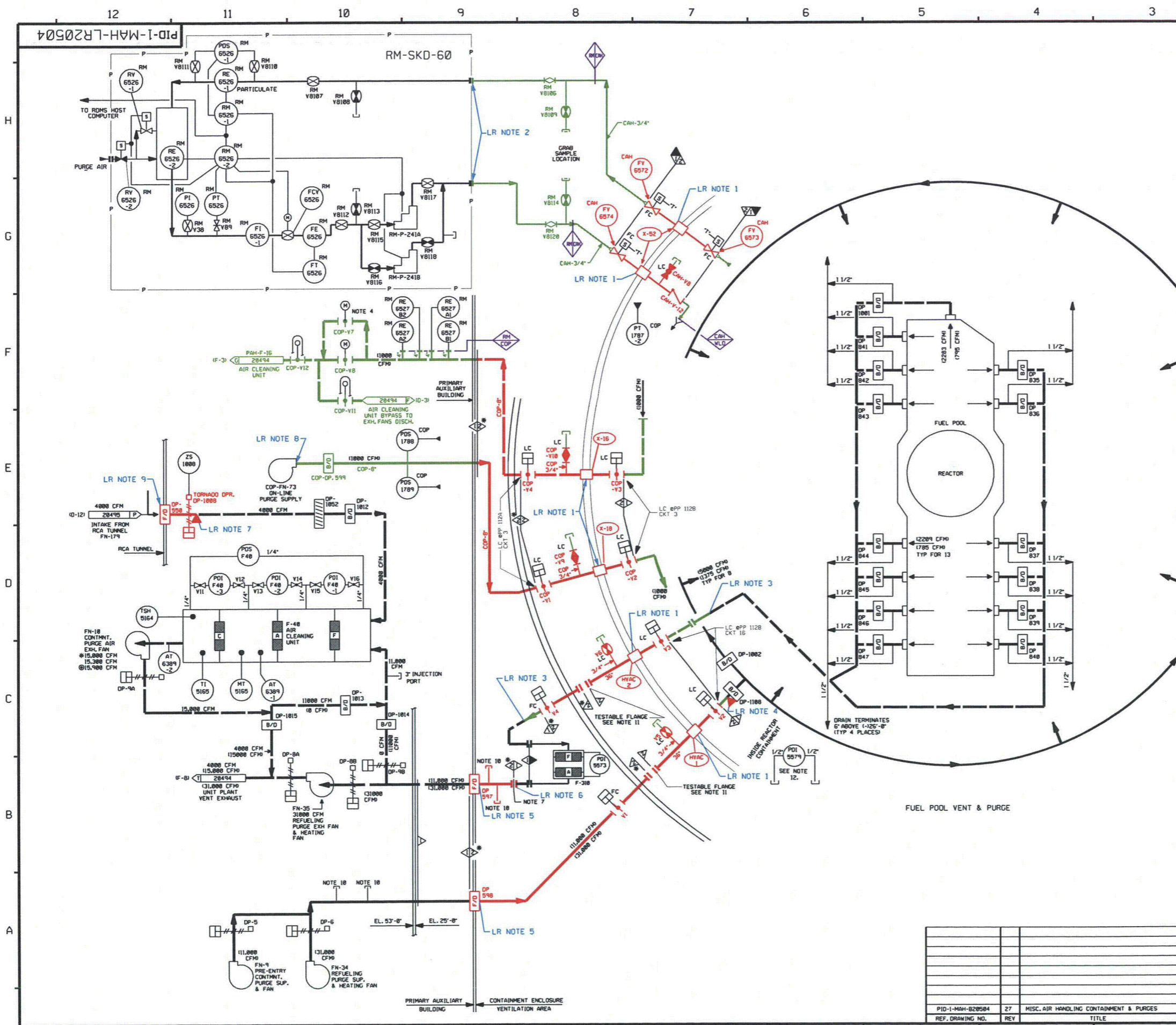
REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

NEXTERA ENERGY
SEABROOK

MISCELLANEOUS AIR HANDLING
DETAILS
LICENSE RENEWAL P&ID

PID-1-MAH-LR20503

05/13/10



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 CAH - CONTAINMENT AIR HANDLING
 RM - RADIATION MONITORING
 WLD - WASTE PROCESSING LIQUID DRAINS
 CAP - CONTAINMENT AIR PURGE
 COP - CONTAINMENT ON-LINE PURGE

NOTES:
 1. WORK THIS DRAWING WITH 20492, 20494 THRU 20503 & 20505 & 20506.
 2. ALL PIPING, HVAC, EQUIP. COMPONENTS & INSTRUMENTS HAVE SYSTEM PREFIX CAP (CONTAINMENT AIR PURGE) UNLESS NOTED. COP - (CONTAINMENT ON-LINE PURGE)
 3. FOR SYMBOL LEGEND, SEE NOTE 3 ON DWG. 20494.
 4. VALVE COP-Y7 IS USED FOR THROTTLING.
 5. FILTER HOUSING DIFFERENTIAL PRESSURES & REQUIRED FLOWS:

FILTER TAG NO.	CLEAN FLOW CFM	DIRTY FLOW CFM	ANSI DIRTY FLOW CFM	SURVEILLANCE TEST FLOW CFM	SURVEILLANCE TEST FLOW +10% CFM	SURVEILLANCE TEST FLOW -10% CFM
CAP-F-40	15400	15300	15000	15450	16995	13905

6. VENT & DRAIN CODE BREAKS ARE AT THE DOWNSTREAM SIDE OF THE OUTER ISOLATION VALVE PER 1-NHY-80011 UNLESS OTHERWISE NOTED.
 7. BLIND IS INSTALLED TO ISOLATE THE FILTER, DURING MODES 1-4 (NORMAL OPERATION), DURING MODES 5 & 6 (OUTAGES), THE BLIND WILL BE REMOVED TO ALIGN THE FILTER FOR OPERATION.
 8. △ INDICATES REVISION LEVEL
 9. DELETED
 10. INSTRUMENT REMOVED AND LINE CAPPED.
 11. TESTABLE FLANGES ARE INSTALLED DURING MODES 1-4 (NORMAL OPERATION), DURING MODES 5 & 6 (OUTAGES), THE BLIND FLANGES WILL BE REMOVED AND TRANSITION PIECES INSTALLED.
 12. PDI FOR USE DURING REFUELING OUTAGES, ATTACH TEMP. TUBING TO HIGH SIDE AND ROUTE TO OUTSIDE AMBIENT.

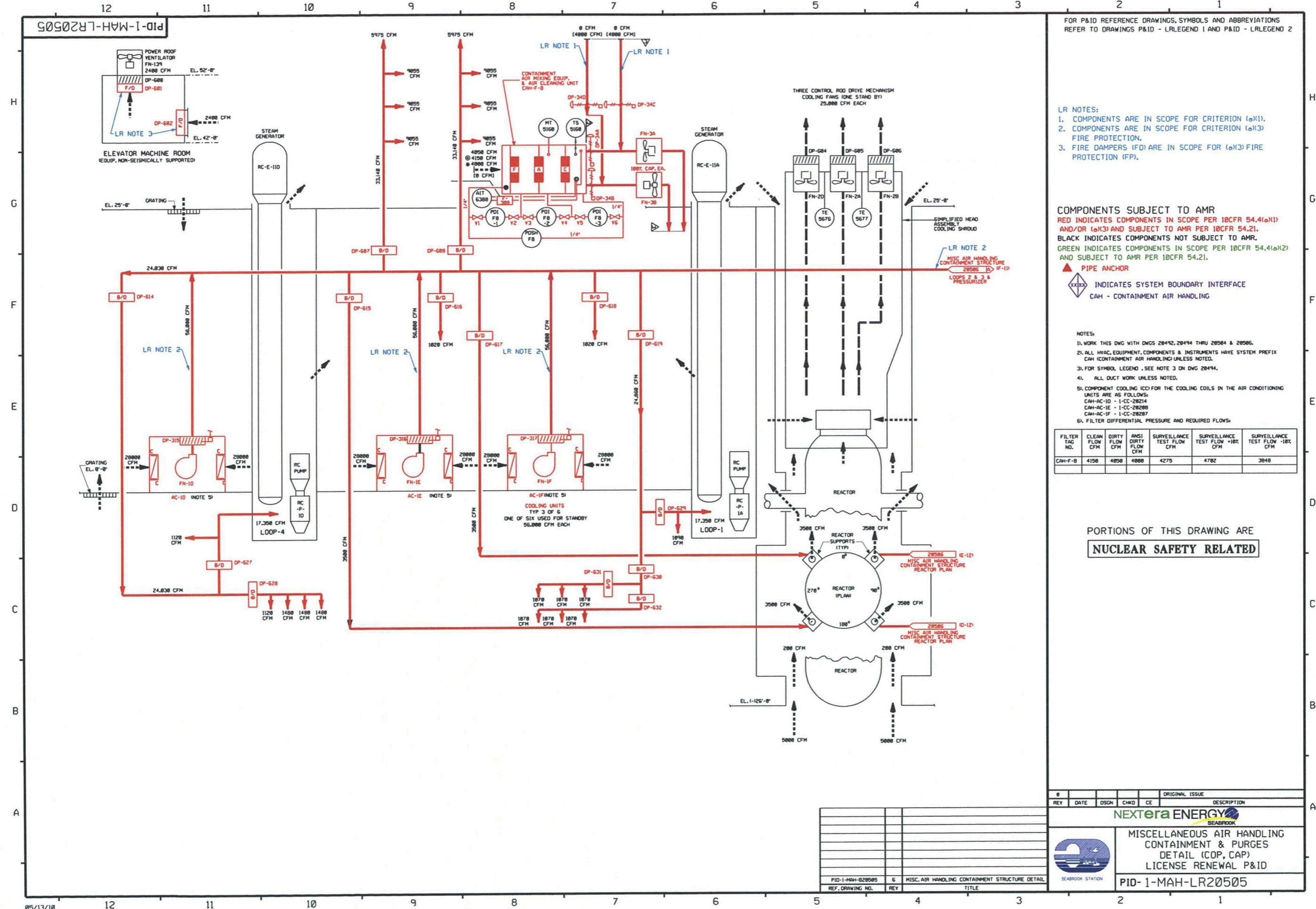
PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

LR NOTES:
 1. CONTAINMENT PENETRATIONS (X-16, 18, 52, HYAC-1 & 2) ARE EVALUTATED UNDER CIVIL/STRUCTURAL LRSP-CNT.
 2. THE NSAS PIPING STOPS AT THE SKID FOR ANCHOR POINT. THE PIPING AND COMPONENTS INSIDE THE PANEL HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS AND HAVE NO LR INTENDED FUNCTION SO THEY ARE NOT IN SCOPE.
 3. NON SAFETY AFFECTING SAFTY STOPPED AT FLEX CONNECTION SEE DWG 604133.
 4. SUPPORT ANCHOR FN-3422 SEE DWG 604133.
 5. FLEX CONNECTION AT WALL SO NO NON SAFETY AFFECTING SAFETY PIPING DOWNSTREAM SEE DWG 604110.
 6. BLIND FLANGE IS INSTALLED DURING POWER OPERATIONS.
 7. TORNADO DAMPER IS RIGIDLY SUPPORTED SUCH THAT THE STRUCTURAL FAILURE OF THE DOWNSTREAM DUCT WILL NOT AFFECT THE DAMPER SEE DWG 604120.
 8. THE LICENSE RENEWAL (a)(2) PIPING STOPS AT THE FLEX CONNECTION AT PURGE SUPPLY FAN COP-FN-73.
 9. FIRE DAMPERS (FD) ARE IN SCOPE FOR (a)(3) FIRE PROTECTION (FP).

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
0					ORIGINAL ISSUE
NEXTERA ENERGY SEABROOK					
MISCELLANEOUS AIR HANDLING CONTAINMENT & PURGES DETAIL (COP, CAP) LICENSE RENEWAL P&ID					
PID-1-MAH-LR20504					

REF. DRAWING NO.	REV	TITLE
PID-1-MAH-20504	27	MISC. AIR HANDLING CONTAINMENT & PURGES

PID-1-MAH-LR20505



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
1. COMPONENTS ARE IN SCOPE FOR CRITERION (a)(1).
 2. COMPONENTS ARE IN SCOPE FOR CRITERION (a)(3) FIRE PROTECTION.
 3. FIRE DAMPERS (FD) ARE IN SCOPE FOR (a)(3) FIRE PROTECTION (FP).

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 CAH - CONTAINMENT AIR HANDLING

- NOTES:
1. WORK THIS DWG WITH DWGS 20492, 20494 THRU 20504 & 20506.
 2. ALL HYAC, EQUIPMENT, COMPONENTS & INSTRUMENTS HAVE SYSTEM PREFIX CAH (CONTAINMENT AIR HANDLING) UNLESS NOTED.
 3. FOR SYMBOL LEGEND, SEE NOTE 3 ON DWG 20494.
 4. ALL DUCT WORK UNLESS NOTED.
 5. COMPONENT COOLING (CC) FOR THE COOLING COILS IN THE AIR CONDITIONING UNITS ARE AS FOLLOWS:
 CAH-AC-10 - 1-CC-20214
 CAH-AC-1E - 1-CC-20200
 CAH-AC-1F - 1-CC-20207
 6. FILTER DIFFERENTIAL PRESSURE AND REQUIRED FLOWS:

FILTER TAG NO.	CLEAN FLOW CFM	DIRTY FLOW CFM	ANSI DIRTY FLOW CFM	SURVEILLANCE TEST FLOW CFM	SURVEILLANCE TEST FLOW +10% CFM	SURVEILLANCE TEST FLOW -10% CFM
CAH-F-8	4150	4050	4000	4275	4782	3848

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
0					ORIGINAL ISSUE

NEXTERA ENERGY
 SEABROOK

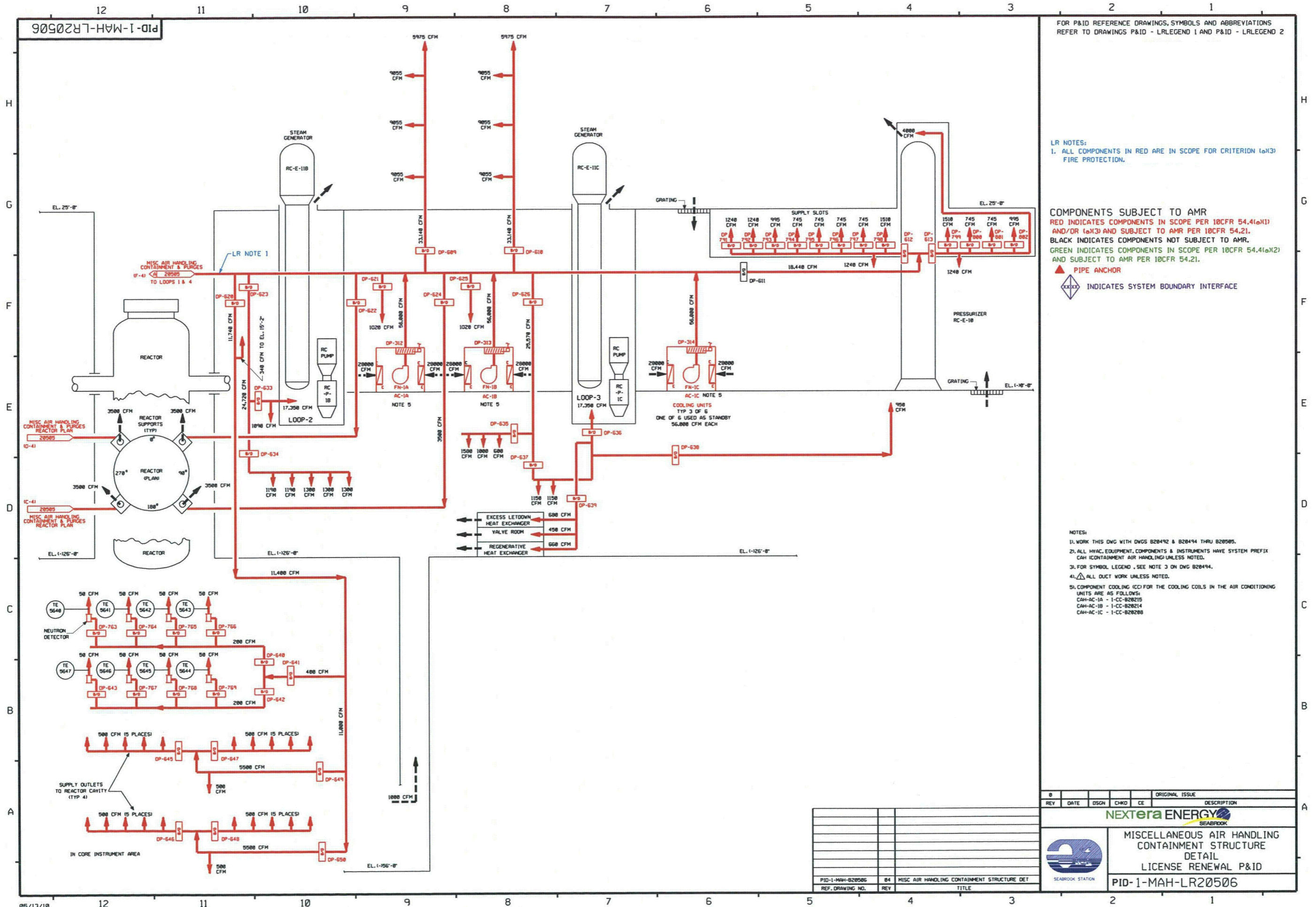
MISCELLANEOUS AIR HANDLING CONTAINMENT & PURGES DETAIL (COP, CAP) LICENSE RENEWAL P&ID

PID-1-MAH-LR20505

REF. DRAWING NO.	REV	TITLE
PID-1-MAH-029505	6	MISC. AIR HANDLING CONTAINMENT STRUCTURE DETAIL

PID-1-MAH-LR20506

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2



LR NOTES:
1. ALL COMPONENTS IN RED ARE IN SCOPE FOR CRITERION (a)(3) FIRE PROTECTION.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
◇ INDICATES SYSTEM BOUNDARY INTERFACE

NOTES:
1. WORK THIS DWG WITH DWGS B20492 & B20494 THRU B20505.
2. ALL HVAC EQUIPMENT, COMPONENTS & INSTRUMENTS HAVE SYSTEM PREFIX CAH (CONTAINMENT AIR HANDLING) UNLESS NOTED.
3. FOR SYMBOL LEGEND, SEE NOTE 3 ON DWG B20494.
4. ALL DUCT WORK UNLESS NOTED.
5. COMPONENT COOLING (CC) FOR THE COOLING COILS IN THE AIR CONDITIONING UNITS ARE AS FOLLOWS:
CAH-AC-1A - 1-CC-B20215
CAH-AC-1B - 1-CC-B20214
CAH-AC-1C - 1-CC-B20208

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

NEXTERA ENERGY
SEABROOK

MISCELLANEOUS AIR HANDLING
CONTAINMENT STRUCTURE
DETAIL
LICENSE RENEWAL P&ID

PID-1-MAH-LR20506

REF. DRAWING NO.	REV	TITLE
PID-1-MAH-B20506	B4	MISC AIR HANDLING CONTAINMENT STRUCTURE DET

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

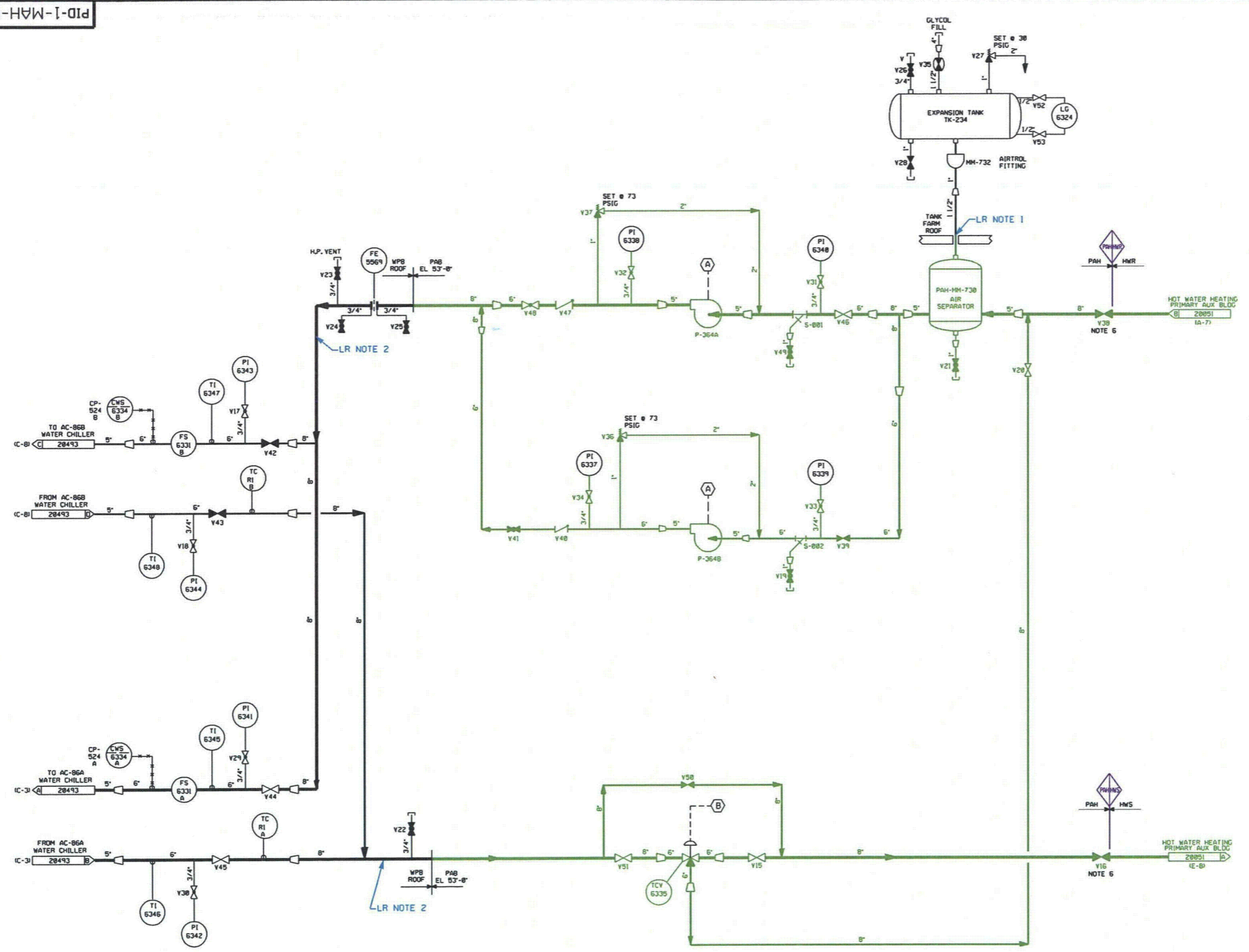
- LR NOTES:
- COMPONENTS LOCATED ON THE TANK FARM ROOF ARE NOT IN SCOPE SINCE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION.
 - COMPONENTS LOCATED ON THE WASTE PROCESS BUILDING ROOF ARE NOT IN SCOPE SINCE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION.
 - SEABROOK SYSTEMS "HWS" AND "HWR" ARE EVALUATED AS LR SYSTEM "HW".

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

- ▲ PIPE ANCHOR
- ◇ INDICATES SYSTEM BOUNDARY INTERFACE
HWR - HOT WATER RETURN SYSTEM
HWS - HOT WATER SUPPLY SYSTEM
PAH - PRIMARY AUXILIARY BUILDING AIR HANDLING SYSTEM

- NOTES:
- ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX PAH UNLESS NOTED.
 - WORK THIS DRAWING WITH DRAWINGS 20492, 20493 AND 20494 THRU 20506 & 20508.
 - NORMALLY ONE PUMP AND ONE CHILLER OPERATE AT A TIME. THE OTHER PUMP AND CHILLER SERVE AS STANDBY EQUIPMENT.
 - ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS HWS, UNLESS NOTED OTHERWISE.
 - CHILLED WATER CONSISTS OF WATER WITH 40% GLYCOL (BY WEIGHT) ADDED FOR FREEZE PROTECTION.
 - VALVES NORMALLY CLOSED, USED FOR SUMMER OPERATION ONLY.
 - △ - INDICATES REVISION LEVEL.

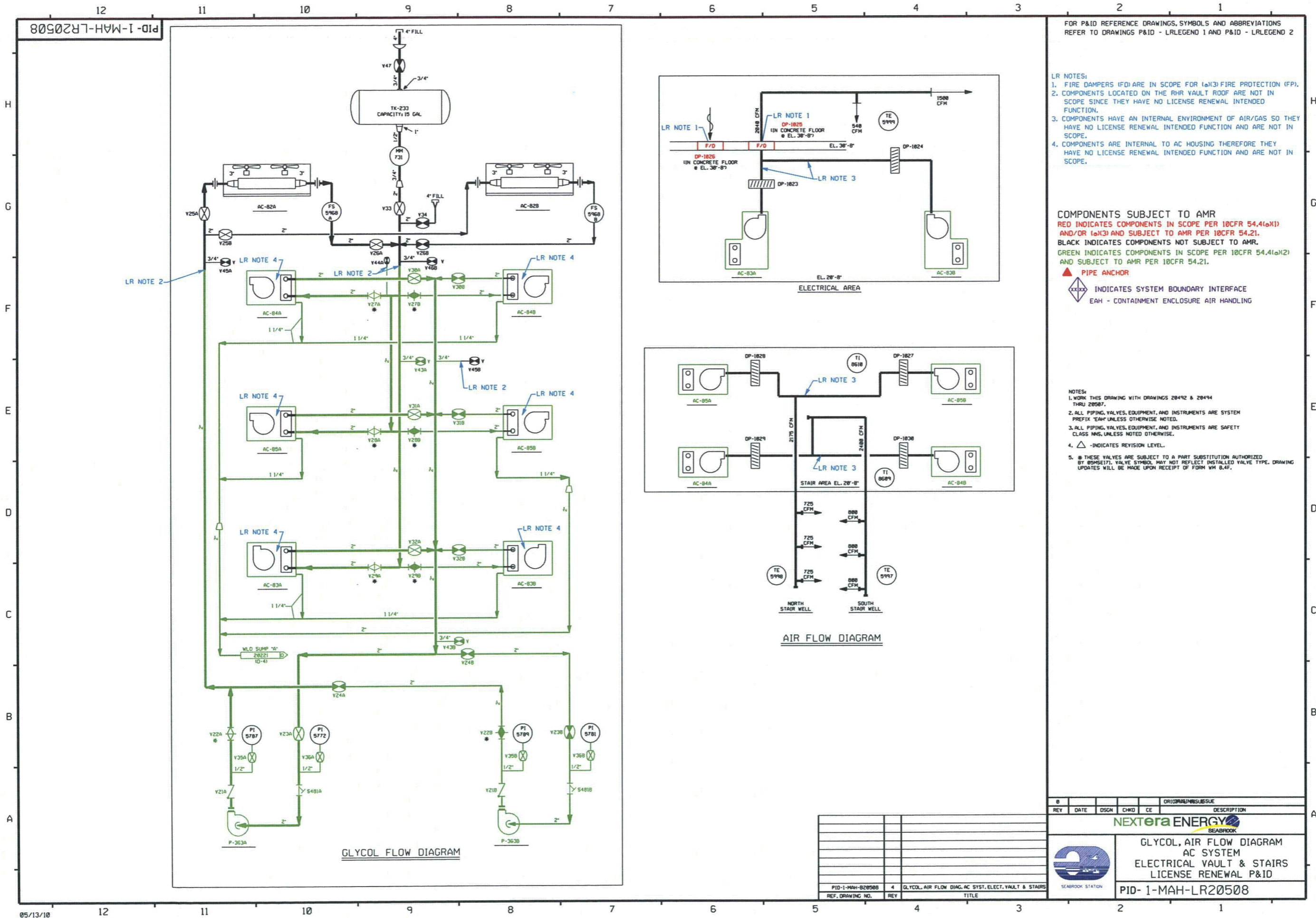
- B. INSTRUMENT REFERENCES:
- (A) FROM CP-507
(B) FROM TIC-5335 ON DWG 20494



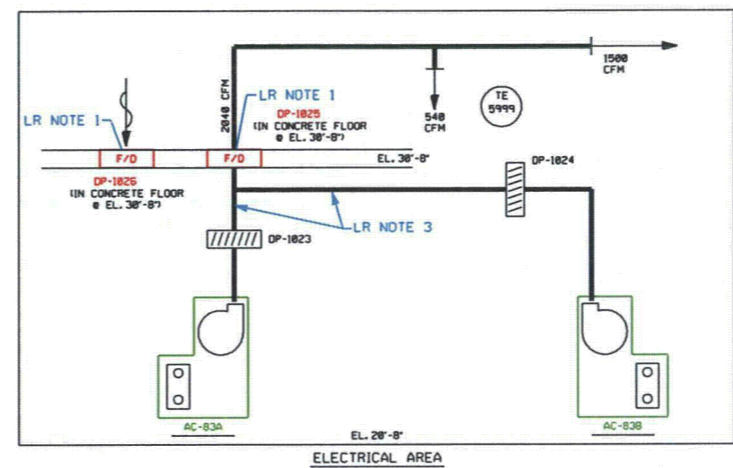
REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION
MISCELLANEOUS AIR HANDLING PAB CHILLED WATER SYSTEM LICENSE RENEWAL P&ID						
PID-1-MAH-LR20507						

REV	DATE	TITLE
5		MISC AIR HANDLING PAB CHILLED WATER SYS
PID-1-MAH-220507		
REF. DRAWING NO.	REV	TITLE

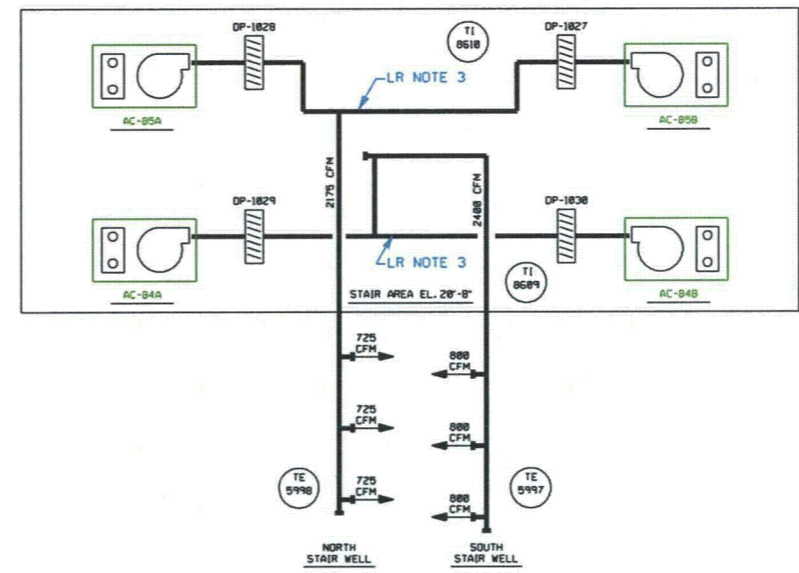




GLYCOL FLOW DIAGRAM



ELECTRICAL AREA



AIR FLOW DIAGRAM

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
1. FIRE DAMPERS (F/D) ARE IN SCOPE FOR (a)(3) FIRE PROTECTION (FP).
 2. COMPONENTS LOCATED ON THE RHR VAULT ROOF ARE NOT IN SCOPE SINCE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION.
 3. COMPONENTS HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS SO THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.
 4. COMPONENTS ARE INTERNAL TO AC HOUSING THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

- ▲ PIPE ANCHOR
- ◇ INDICATES SYSTEM BOUNDARY INTERFACE
- EAH - CONTAINMENT ENCLOSURE AIR HANDLING

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20492 & 20494 THRU 20507.
 2. ALL PIPING, VALVES, EQUIPMENT, AND INSTRUMENTS ARE SYSTEM PREFIX 'EAH' UNLESS OTHERWISE NOTED.
 3. ALL PIPING, VALVES, EQUIPMENT, AND INSTRUMENTS ARE SAFETY CLASS MNS, UNLESS NOTED OTHERWISE.
 4. △ - INDICATES REVISION LEVEL.
 5. * THESE VALVES ARE SUBJECT TO A PART SUBSTITUTION AUTHORIZED BY 89MSE171. VALVE SYMBOL MAY NOT REFLECT INSTALLED VALVE TYPE. DRAWING UPDATES WILL BE MADE UPON RECEIPT OF FORM WH 84F.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

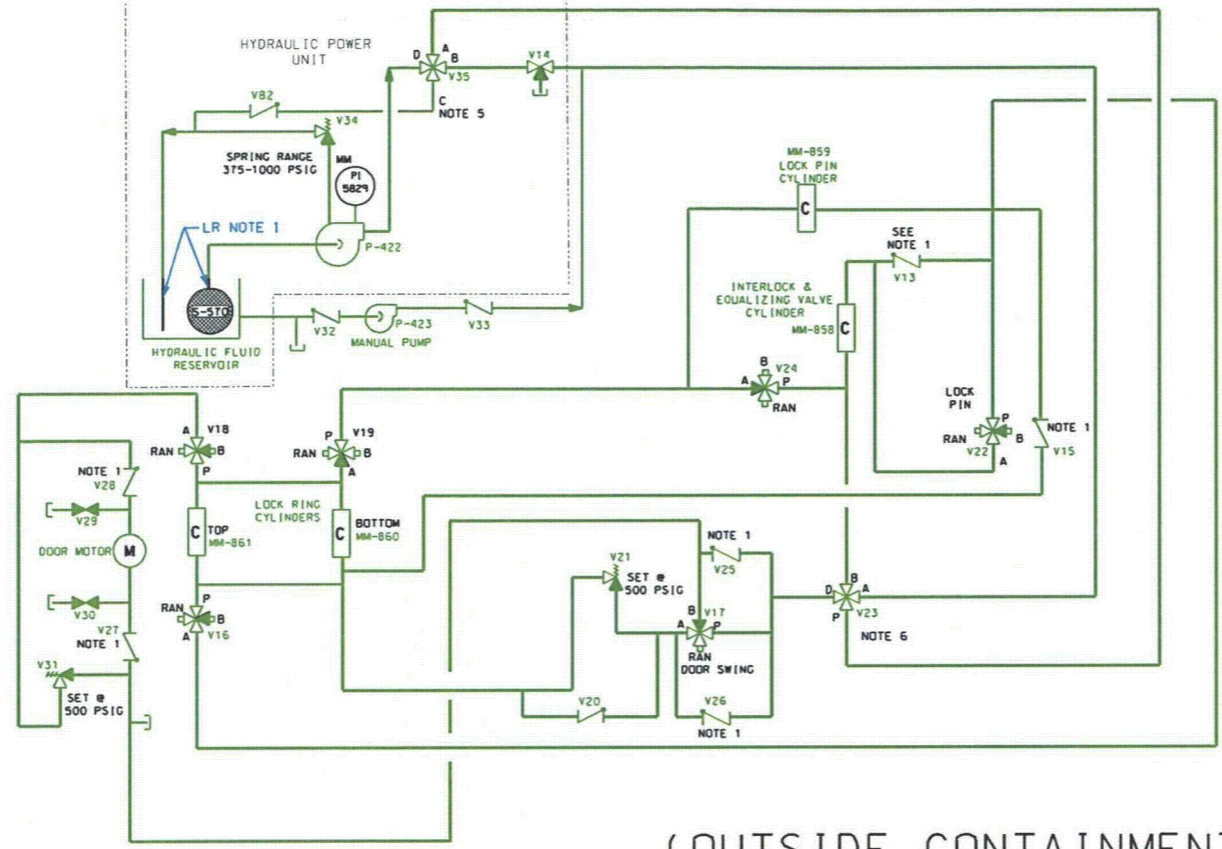
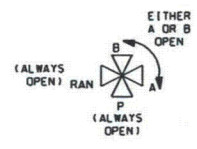
NEXTERA ENERGY
 BEABROOK

GLYCOL, AIR FLOW DIAGRAM
 AC SYSTEM
 ELECTRICAL VAULT & STAIRS
 LICENSE RENEWAL P&ID

PID-1-MAH-LR20508

PID-1-MM-LR20945

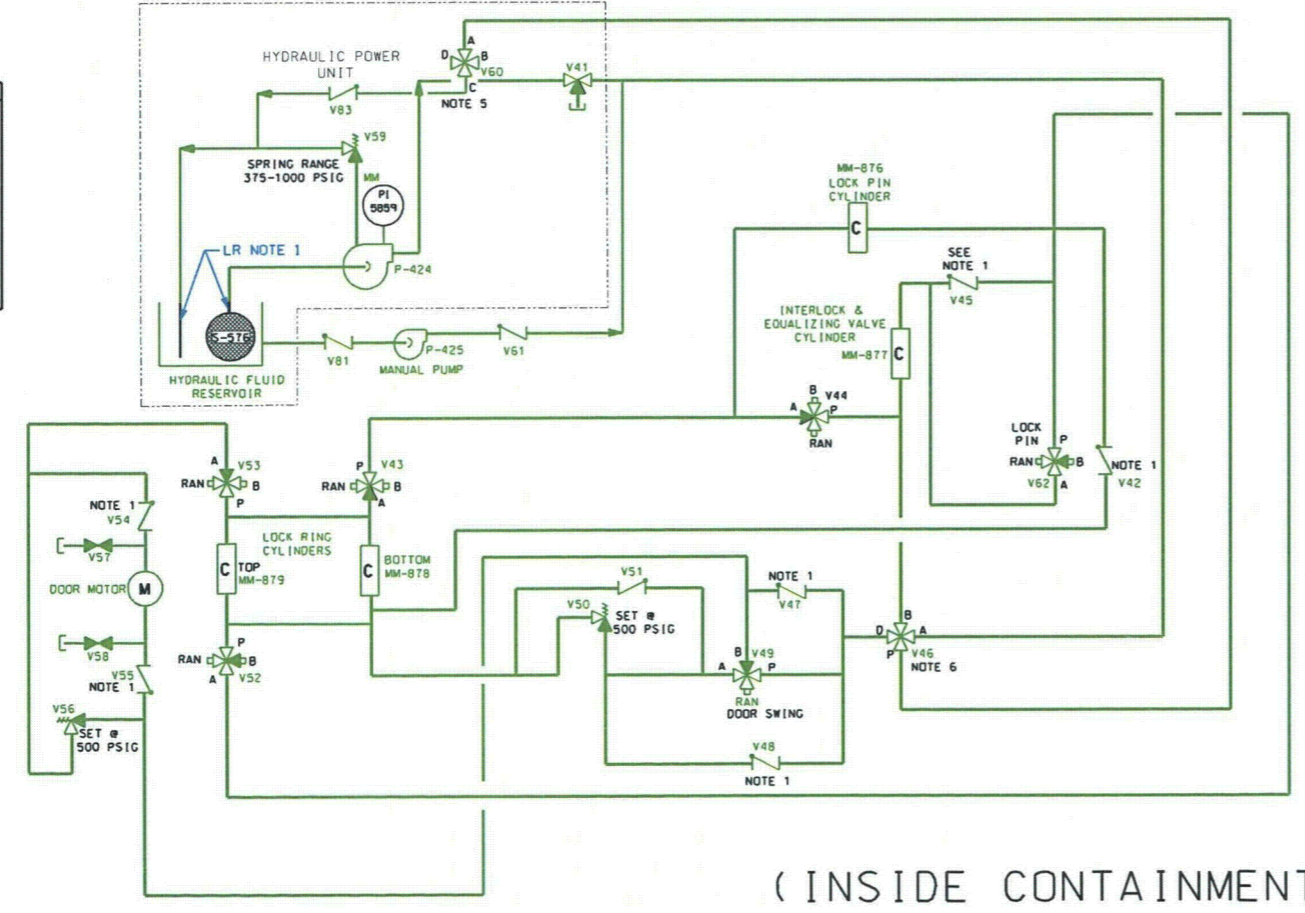
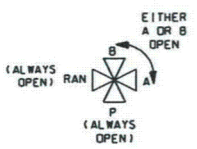
VALVE MATRIX	
VENDOR VALVE #	NAESCO VALVE #
A	V23
B	V17
C	V18
D	V16
E	V19
F	V22
G	V24



HYDRAULIC SYSTEM FOR PERSONNEL HATCH AIR LOCK 1-MM-MM-30

(OUTSIDE CONTAINMENT)

VALVE MATRIX	
VENDOR VALVE #	NAESCO VALVE #
A	V46
B	V49
C	V53
D	V52
E	V43
F	V62
G	V44



HYDRAULIC SYSTEM FOR PERSONNEL HATCH AIR LOCK 1-MM-MM-30

(INSIDE CONTAINMENT)

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
1. COMPONENTS LOCATED INSIDE HYDRAULIC FLUID RESERVOIR HAVE NO LICENSE RENEWAL INTENDED FUNCTION FOR CRITERION (a)(2) AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
◇ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:
- WORK THIS DRAWING WITH DRAWING 20946.
 - FLOW CONTROL CHECK VALVE ALLOWS FULL FLOW IN ONE DIRECTION AND RESTRICTED FLOW IN THE OTHER (CHECK) DIRECTION.
 - ALL LINE SIZES ARE 3/8", UNLESS NOTED OTHERWISE.
 - ALL LINES EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX 1-MM UNLESS NOTED OTHERWISE.
 - 4-WAY FLOW CONTROL VALVE ALLOWS HYDRAULIC FLUID TO GO FROM PORTS "D" TO "B" AND FROM PORTS "A" TO "C" IN THE CLOSE/DE-ENERGIZED STATE AND FROM PORTS "D" TO "A" AND FROM PORTS "B" TO "C" IN THE OPEN/ENERGIZED STATE.
 - MANUAL 4-WAY FLOW CONTROL VALVE ALLOWS HYDRAULIC FLUID TO GO FROM PORTS "A" TO "D" AND FROM PORTS "B" TO "P" IN THE CLOSE STATE AND FROM PORTS "A" TO "B" AND FROM PORTS "D" TO "P" IN THE OPEN STATE.
 - △ INDICATES REVISION LEVEL.

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

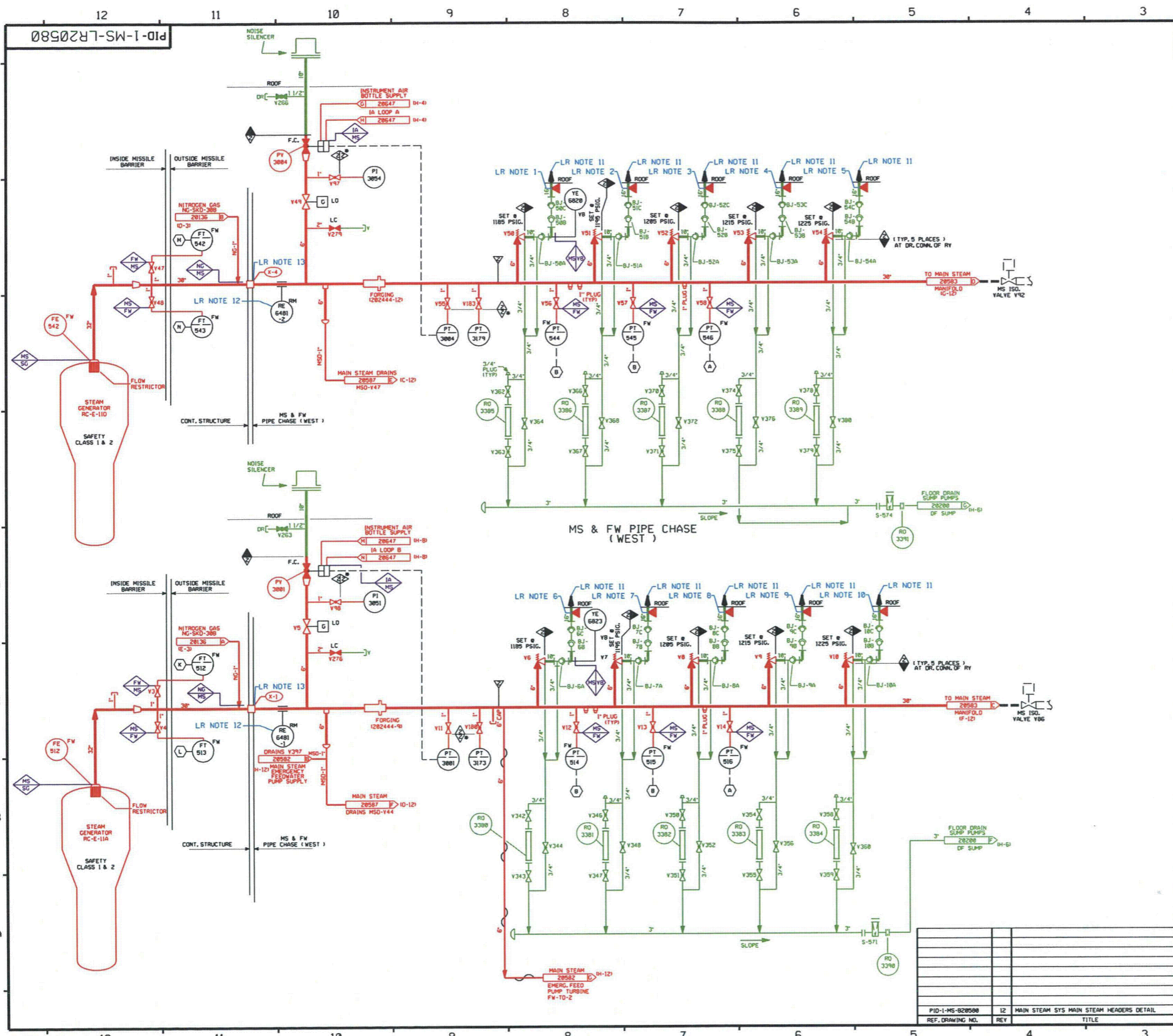
NEXTERA ENERGY
SEABROOK

CONTAINMENT
PERSONNEL HATCH
HYDRAULIC P&ID
LICENSE RENEWAL P&ID

PID-1-MM-LR20945

REF. DRAWING NO.	REV	TITLE
PID-1-MM-B20945	8	CONTAINMENT PERSONNEL HATCH HYDRAULIC P&ID





FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20579 & 20581 THRU 20587.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX MS, UNLESS NOTED OTHERWISE.
 3. VENTS, DRAINS AND TEST CONNECTION CODE BREAKS ARE AT THE DOWN STREAM END OF THE OUTER ISOLATION VALVE PER I-NH7-085111, UNLESS NOTED OTHERWISE.
 4. INSTRUMENT REFERENCES:
 - (A) STEAM PRESSURE PROTECTION SYSTEM
 - (B) STEAM PRESSURE MISMATCH SYSTEM
 - (K) TO 1-FW-LT-500, LT-501 & LT-4318 ON DWG. 1-FW-20686
 - (L) TO 1-FW-LT-519 ON DWG. 1-FW-20686
 - (M) TO 1-FW-LT-434B, LT-504 & LT-547 ON DWG. 1-FW-20686
 - (N) TO 1-FW-LT-549 ON DWG. 1-FW-20686
 5. Δ INDICATES REVISION LEVEL.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

- ▲ PIPE ANCHOR**
◇ INDICATES SYSTEM BOUNDARY INTERFACE
- MS - MAIN STEAM
 - NG - NITROGEN GAS
 - IA - INSTRUMENT AIR
 - FW - FEEDWATER
 - SG - STEAM GENERATOR
 - VB - VIBRATION MONITORING

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

- LR NOTES:
1. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4003-15
HANGER NO: 4003-A-101.
 2. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4003-14
HANGER NO: 4003-A-104.
 3. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4003-13
HANGER NO: 4003-A-107.
 4. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4003-12
HANGER NO: 4003-A-110.
 5. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4003-11
HANGER NO: 4003-A-113.
 6. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4000-14
HANGER NO: 4000-A-101.
 7. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4000-15
HANGER NO: 4000-A-104.
 8. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4000-16
HANGER NO: 4000-A-107.
 9. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4000-17
HANGER NO: 4000-A-110.
 10. PIPE SUPPORT ANCHOR
ISO NO: 1-MS-4000-18
HANGER NO: 4000-A-113.
 11. PIPING ON TOP OF ROOF IS NOT IN SCOPE FOR LICENSE RENEWAL.
 12. RE-6481-1 & RE-6481-2 ARE EVALUATED IN THE RM SYSTEM.
 13. COMPONENTS DESIGNATED AS X-1 & 4 ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER CIVIL-STRUCTURAL LRSP-CNT.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
					ORIGINAL ISSUE

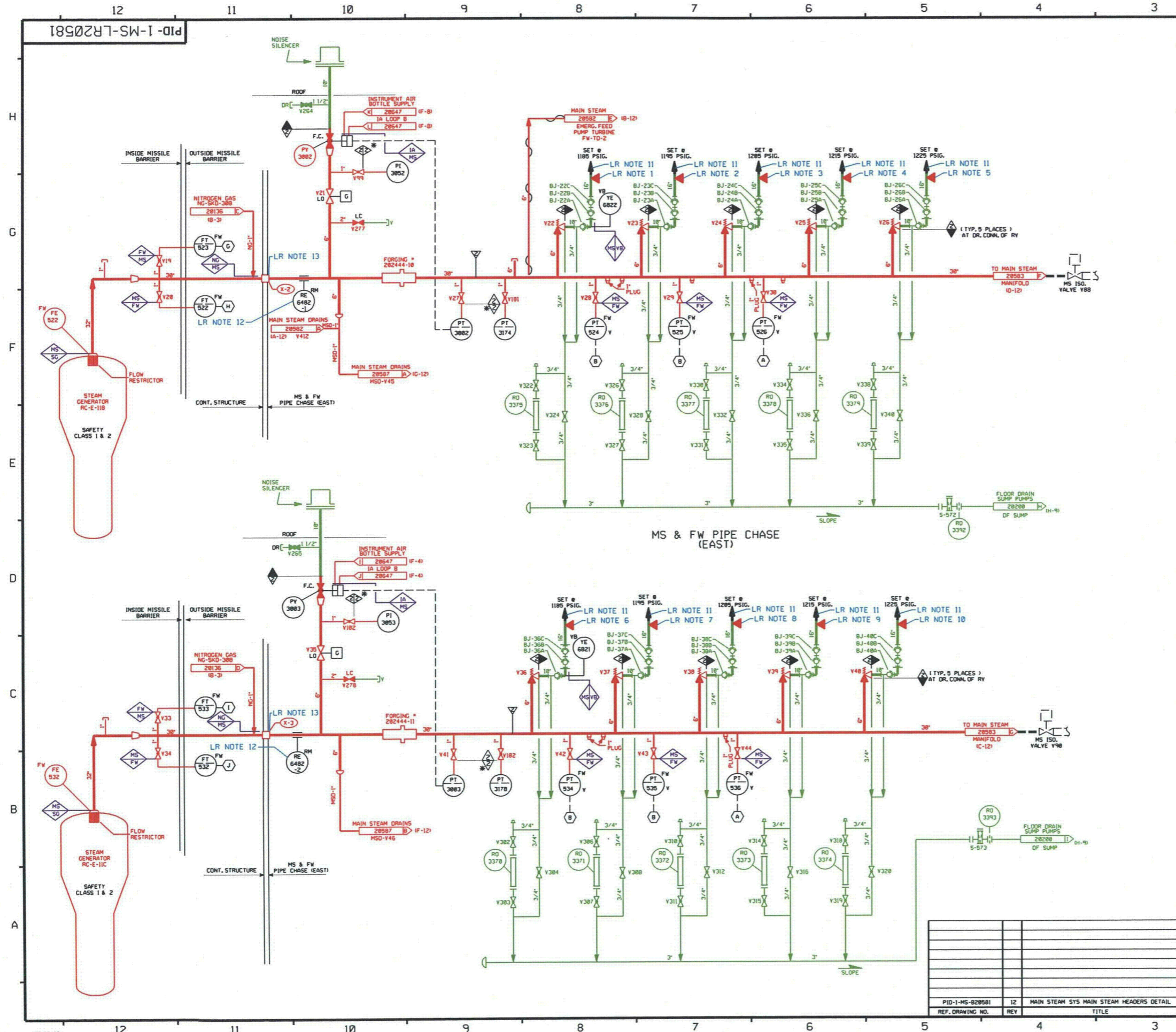
Nextera ENERGY
SEABROOK

**MAIN STEAM SYSTEM
MAIN STEAM HEADERS
DETAIL
LICENSE RENEWAL P&ID**

PID-1-MS-LR20580

PID-1-MS-020580	12	MAIN STEAM SYS MAIN STEAM HEADERS DETAIL
REF. DRAWING NO.	REV	TITLE

PID-1-MS-LR20581



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20579, 20586, 20582 THRU 20587.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX MS, UNLESS NOTED OTHERWISE.
 3. VENTS, DRAINS AND TEST CONNECTION CODE BREAKS ARE AT THE DOWN STREAM END OF THE OUTER ISOLATION VALVE PER I-NH-805111 UNLESS NOTED OTHERWISE.
 4. INSTRUMENT REFERENCES:
 - (A) STEAM PRESSURE PROTECTION SYSTEM
 - (B) STEAM PRESSURE MISMATCH SYSTEM
 - (C) TO I-FW-LT-522, LT-502 & LT-4320 ON DWG. I-FW-20686
 - (H) TO I-FW-LT-529 ON DWG. I-FW-20686
 - (I) TO I-FW-LT-4330, LT-530 & LT-503 ON DWG. I-FW-20686
 - (J) TO I-FW-LT-534, LT-4330 ON DWG. I-FW-20686
 5. Δ INDICATES REVISION LEVEL.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 \diamond INDICATES SYSTEM BOUNDARY INTERFACE

MS - MAIN STEAM
 NG - NITROGEN GAS
 IA - INSTRUMENT AIR
 FW - FEEDWATER
 SG - STEAM GENERATOR
 VB - VIBRATION MONITORING

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

- LR NOTES:
1. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4001-12
 HANGER NO: 4001-A-101.
 2. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4001-13
 HANGER NO: 4001-A-104.
 3. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4001-14
 HANGER NO: 4001-A-107.
 4. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4001-15
 HANGER NO: 4001-A-110.
 5. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4001-16
 HANGER NO: 4001-A-113.
 6. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4002-16
 HANGER NO: 4002-A-101.
 7. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4002-15
 HANGER NO: 4002-A-104.
 8. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4002-14
 HANGER NO: 4002-A-107.
 9. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4002-13
 HANGER NO: 4002-A-110.
 10. PIPE SUPPORT ANCHOR
 ISO NO: 1-MS-4002-12
 HANGER NO: 4002-A-113.
 11. PIPING ON TOP OF ROOF IS NOT IN SCOPE FOR LICENSE RENEWAL.
 12. RE-6482-1 & RE-6482-2 ARE EVALUATED IN THE RM SYSTEM.
 13. COMPONENTS DESIGNATED AS X-2 & 3 ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER CIVIL-STRUCTURAL LRSP-CNT.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

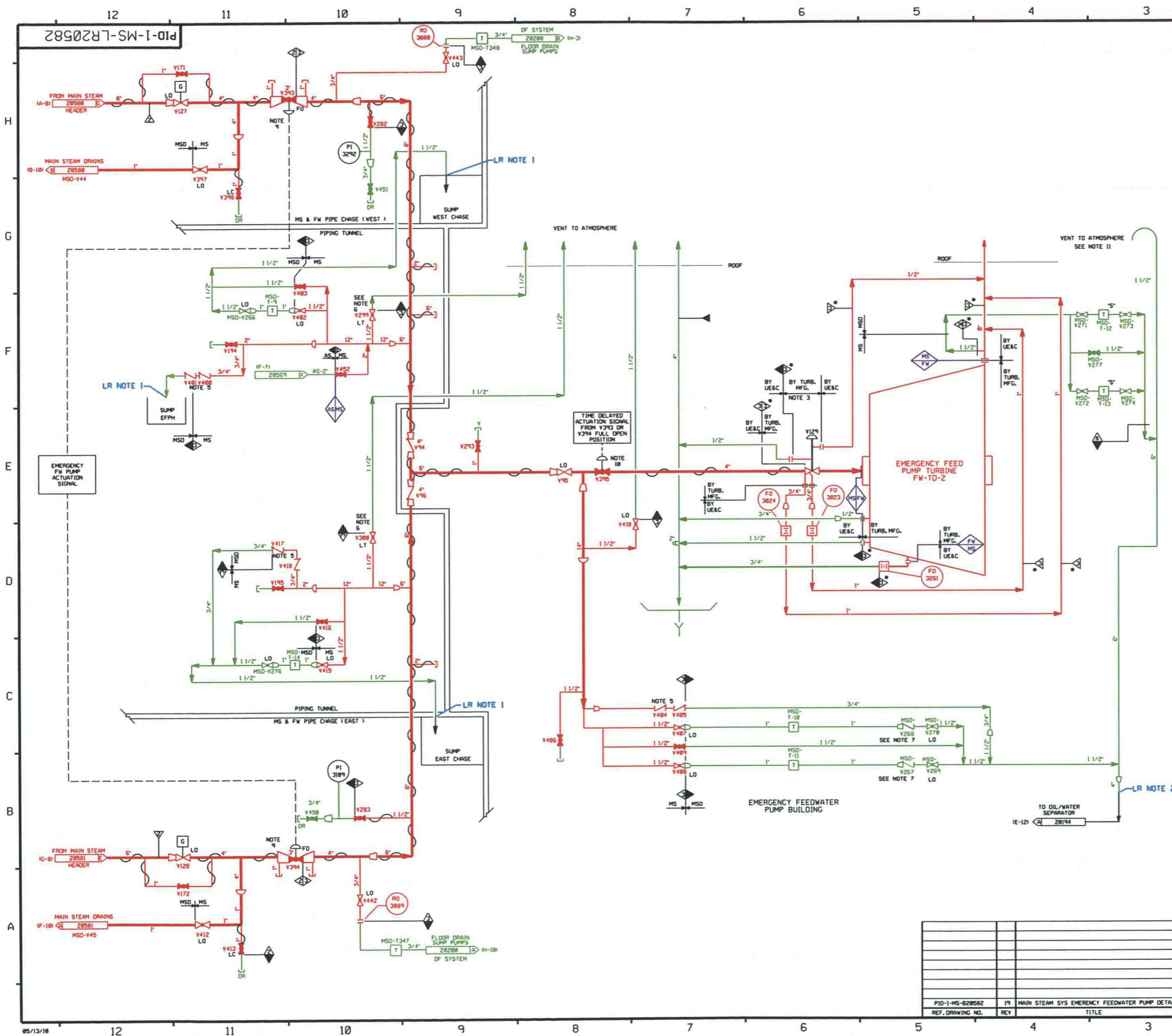
NEXTERA ENERGY
 SEABROOK

MAIN STEAM SYSTEM
 MAIN STEAM HEADERS
 DETAIL
 LICENSE RENEWAL P&ID

PID- 1-MS-LR20581

PID-1-MS-820581	12	MAIN STEAM SYS MAIN STEAM HEADERS DETAIL
REF. DRAWING NO.	REV	TITLE





FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. PIPING INSIDE THE SUMP IS NOT IN SCOPE FOR LICENSE RENEWAL.
 2. PIPING IS EMBEDDED AND IS NOT IN SCOPE FOR LICENSE RENEWAL.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 MS - MAIN STEAM SYSTEM
 AS - AUXILIARY STEAM SYSTEM
 FW - FEEDWATER SYSTEM

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20579, 20580, 20581 & 20583 THROUGH 20587.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX 'MS', UNLESS NOTED OTHERWISE.
 3. VENTS, DRAINS AND TEST CONNECTION CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER I-NHT-005111, UNLESS NOTED OTHERWISE.
 4. DELETED
 5. CHECK VALVES V417, V418, V481, V488, V484, & V495 ARE TO BE INSTALLED OPPOSITE FROM DIRECTION OF FLOW IN VERTICAL RUN OF PIPE SUCH THAT THEY WIND OPEN AND ALLOW DRAINAGE WHEN SYSTEM IS DEPRESSURIZED, THUS ENSURING CONDENSATE DRAINAGE & PREVENTING WATER HAMMER.
 6. VALVES V299 & V300 ARE THROTTLED 1/4 OPEN FROM FULL CLOSED POSITION.
 7. THE INTERNALS FROM VALVES V267 & V268 HAVE BEEN REMOVED.
 8. ▲ INDICATES ANSI SAFETY CLASS 3, NOT ASME CODE CLASS 3, MANUFACTURE'S STANDARDS
 9. FOR INSTRUMENT AIR DETAILS SEE PID IA-820647.
 10. FOR INSTRUMENT AIR DETAILS SEE PID IA-820644.
 11. EFP TURBINE VENT & DRAIN LINES ARE CONTAINED IN A HEATED ENCLOSURE PER M400 83-595.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

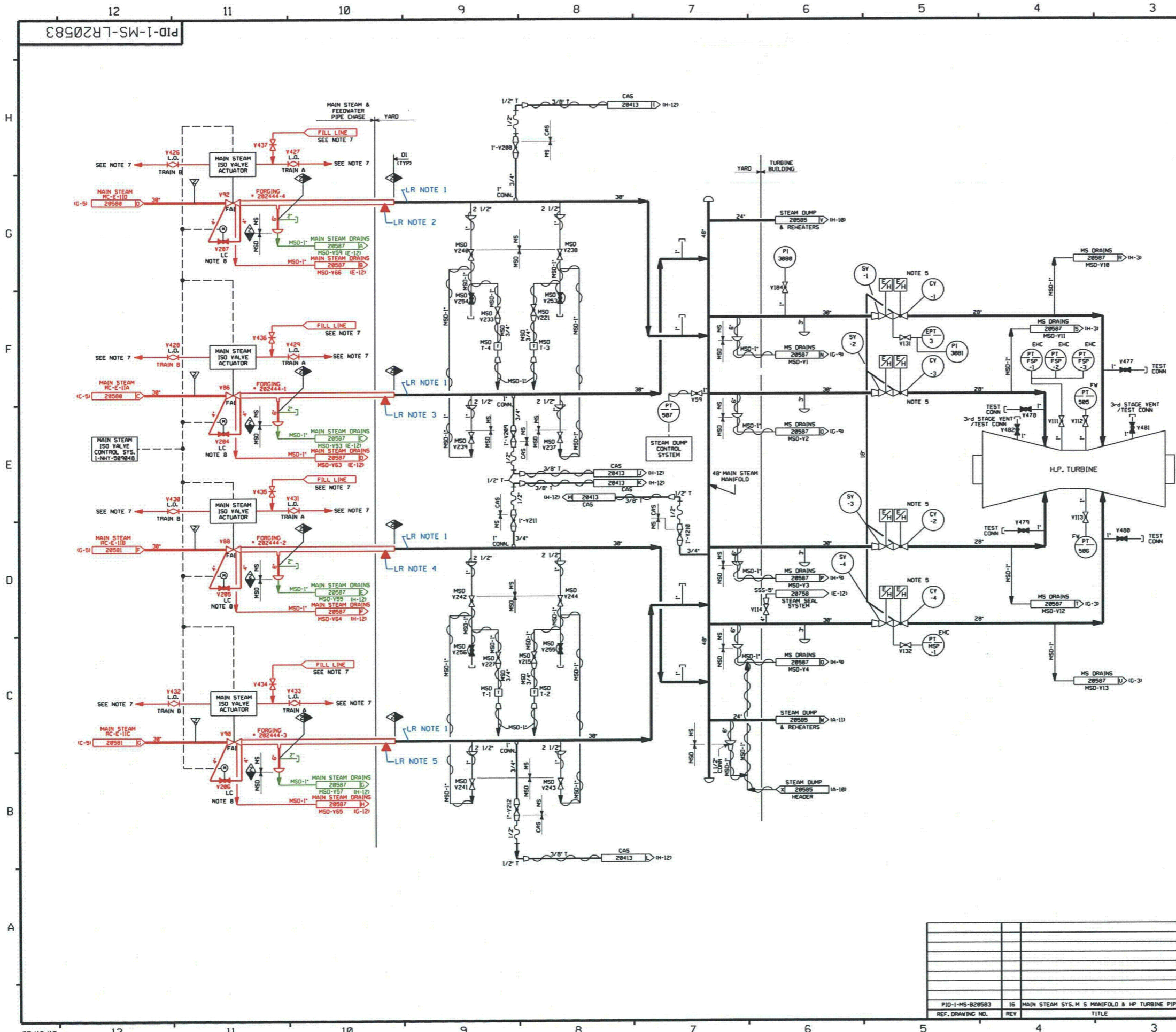
REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

**MAIN STEAM SYSTEM
 EMERGENCY FEEDWATER
 PUMP SUPPLY DETAIL
 LICENSE RENEWAL P&ID**

PID-1-MS-LR20582

REF. DRAWING NO.	REV	TITLE
PID-1-MS-820582	19	MAIN STEAM SYS EMERGENCY FEEDWATER PUMP DETAIL

PID-1-MS-LR20583



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
1. PIPING AND COMPONENTS LOCATED IN YARD AND IN THE TURBINE BUILDING HAVE NO LICENSE RENEWAL INTENDED FUNCTION SO THEY ARE NOT IN SCOPE.
 2. PIPE SUPPORT EQUIVALENT ANCHOR
ISO NO: 1-MS-4003-8 & FSAR SECTION 3.6(B)2.1
HANGER NOS: FORGING 4003-RG-15A&B AND 202444-4.
 3. PIPE SUPPORT EQUIVALENT ANCHOR
ISO NO: 1-MS-4008-11 & FSAR SECTION 3.6(B)2.1
HANGER NOS: FORGING 4008-RG-15A&B AND 202444-1.
 4. PIPE SUPPORT EQUIVALENT ANCHOR
ISO NO: 1-MS-4001-9 & FSAR SECTION 3.6(B)2.1
HANGER NOS: FORGING 4001-RG-15A&B AND 202444-2.
 5. PIPE SUPPORT EQUIVALENT ANCHOR
ISO NO: 1-MS-4002-9 & FSAR SECTION 3.6(B)2.1
HANGER NOS: FORGING 4002-RG-15A&B AND 202444-3.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20579 THRU 20582 & 20584 THRU 20587.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SAFETY PREFIX MS, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MS, UNLESS NOTED OTHERWISE.
 4. DELETED
 5. ABOVE SEAT DRAINS ON BOTH TURBINE STOP VALVES & TURBINE CONTROL VALVES ARE SHOWN ON DRAWING B20587.
 6. △ INDICATES REVISION LEVEL
 7. TO HYDRAULIC SYSTEM SEE FP23003 SHIT 9 & 13 ITEMS 2-3I.3-3I & 2-7.
 8. VALVE MAY BE OPEN DURING PLANT START-UP OR SURVEILLANCE TESTING, REF DCR 07-003

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

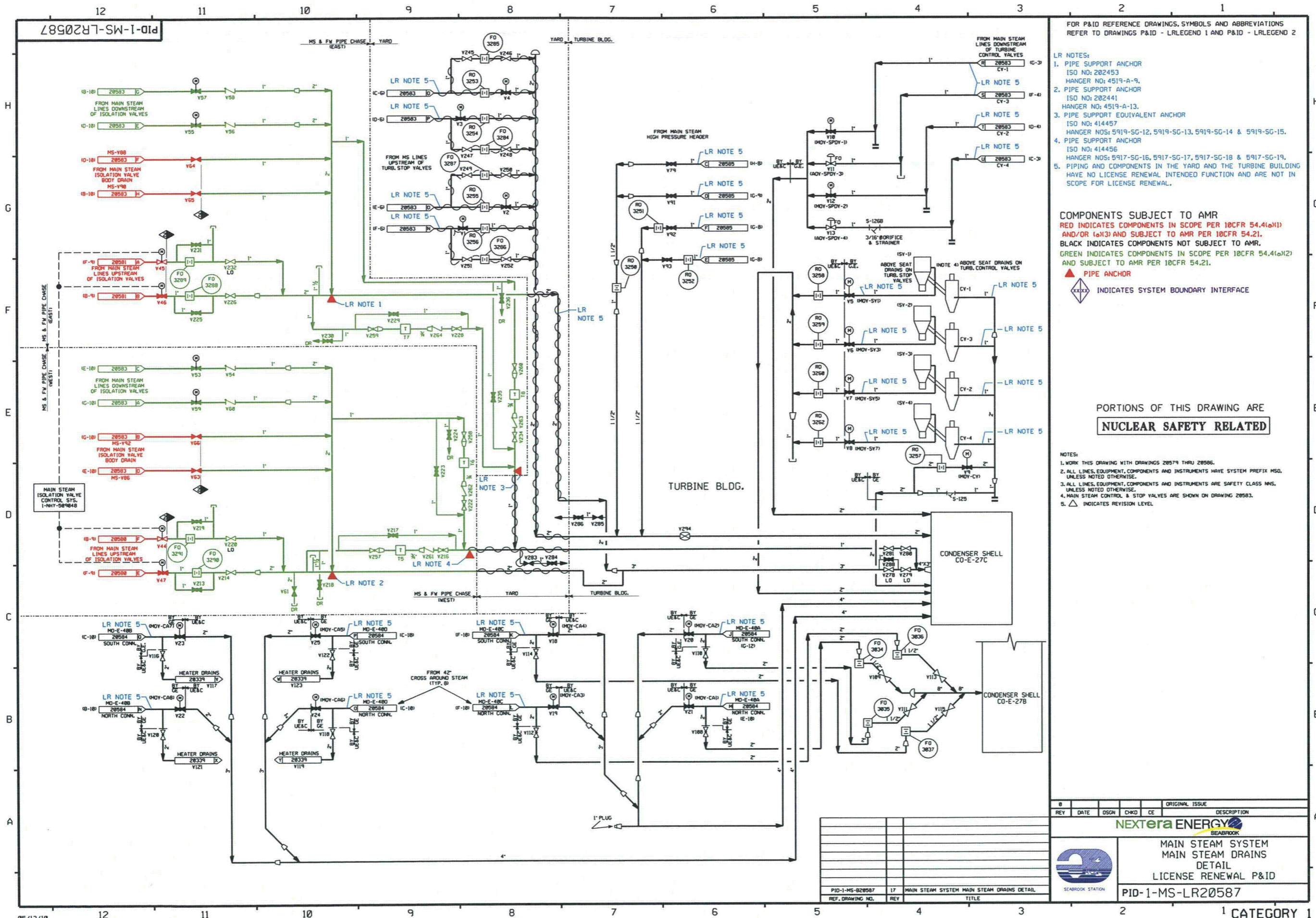
NEXTERA ENERGY
 SEABROOK

MAIN STEAM SYSTEM
 MAIN STEAM MANIFOLD
 & H.P. TURBINE PIPING DETAIL
 LICENSE RENEWAL P&ID

PID-1-MS-LR20583

REF. DRAWING NO.	REV	TITLE
PID-1-MS-B20583	16	MAIN STEAM SYS. M S MANIFOLD & HP TURBINE PIPING

PID-1-MS-LR20587



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
- PIPE SUPPORT ANCHOR
ISO NO: 202453
HANGER NO: 4519-A-9.
 - PIPE SUPPORT ANCHOR
ISO NO: 202441
HANGER NO: 4519-A-13.
 - PIPE SUPPORT EQUIVALENT ANCHOR
ISO NO: 414457
HANGER NOS: 5919-SG-12, 5919-SG-13, 5919-SG-14 & 5919-SG-15.
 - PIPE SUPPORT ANCHOR
ISO NO: 414456
HANGER NOS: 5917-SG-16, 5917-SG-17, 5917-SG-18 & 5917-SG-19.
 - PIPING AND COMPONENTS IN THE YARD AND THE TURBINE BUILDING HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE FOR LICENSE RENEWAL.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

- NOTES:
- WORK THIS DRAWING WITH DRAWINGS 20579 THRU 20586.
 - ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX MSO, UNLESS NOTED OTHERWISE.
 - ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NMS, UNLESS NOTED OTHERWISE.
 - MAIN STEAM CONTROL & STOP VALVES ARE SHOWN ON DRAWING 20583.
 - △ INDICATES REVISION LEVEL.

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

NEXTERA ENERGY
SEABROOK

MAIN STEAM SYSTEM
 MAIN STEAM DRAINS
 DETAIL
 LICENSE RENEWAL P&ID

PID-1-MS-LR20587

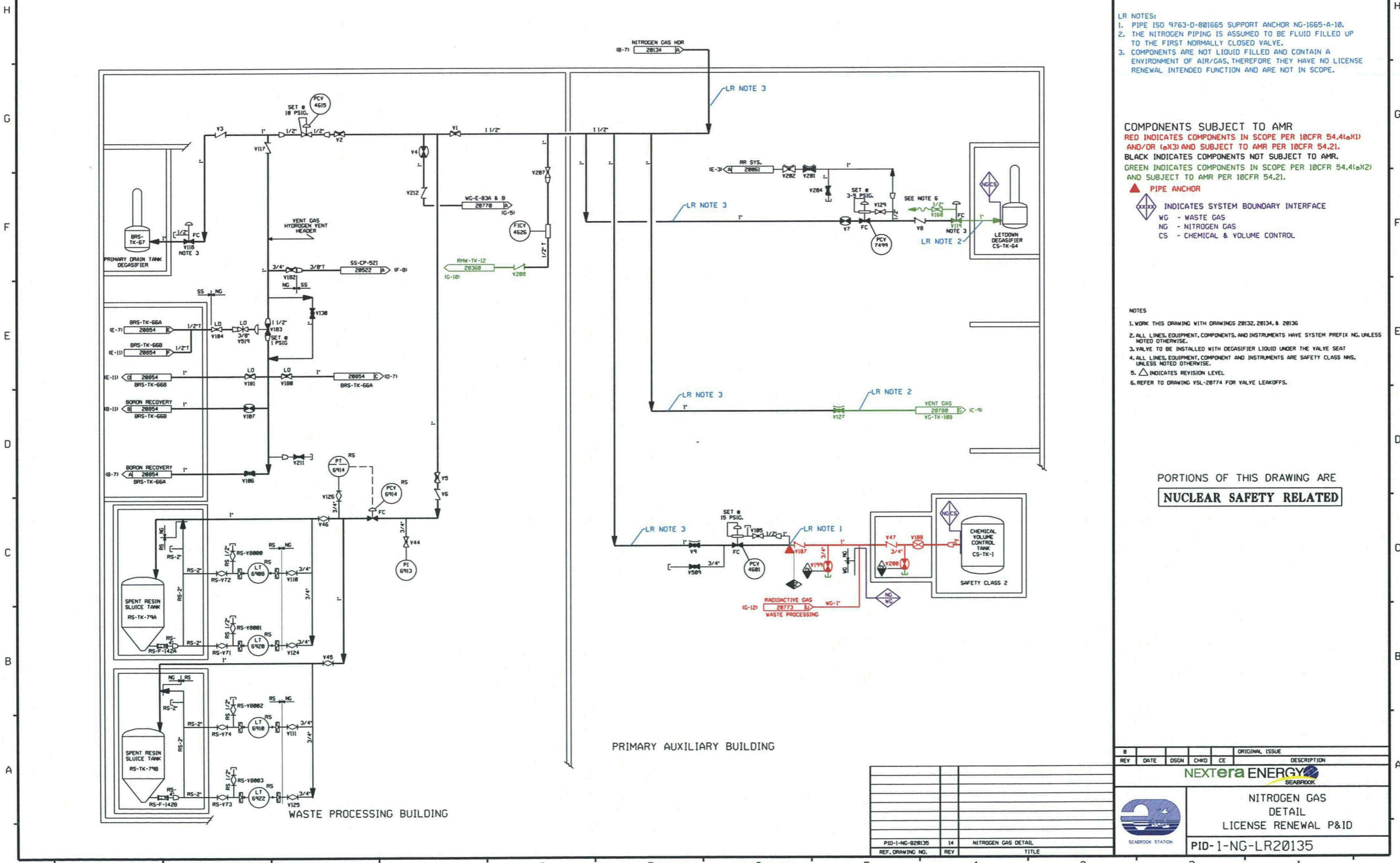
SEABROOK STATION

PID-1-MS-B20587 17 MAIN STEAM SYSTEM MAIN STEAM DRAINS DETAIL
 REF. DRAWING NO. REV. TITLE

1 CATEGORY 1

PID-1-NG-LR20135

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2



- LR NOTES:
- PIPE ISO 9763-D-801665 SUPPORT ANCHOR NG-1665-A-10.
 - THE NITROGEN PIPING IS ASSUMED TO BE FLUID FILLED UP TO THE FIRST NORMALLY CLOSED VALVE.
 - COMPONENTS ARE NOT LIQUID FILLED AND CONTAIN AN ENVIRONMENT OF AIR/GAS, THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◇ INDICATES SYSTEM BOUNDARY INTERFACE
 WG - WASTE GAS
 NG - NITROGEN GAS
 CS - CHEMICAL & VOLUME CONTROL

- NOTES
- WORK THIS DRAWING WITH DRAWINGS 20132, 20134, & 20136
 - ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTS HAVE SYSTEM PREFIX NG, UNLESS NOTED OTHERWISE.
 - VALVE TO BE INSTALLED WITH DEGASIFIER LIQUID UNDER THE VALVE SEAT UNLESS NOTED OTHERWISE.
 - ALL LINES, EQUIPMENT, COMPONENT AND INSTRUMENTS ARE SAFETY CLASS NMS, UNLESS NOTED OTHERWISE.
 - △ INDICATES REVISION LEVEL
 - REFER TO DRAWING VSL-20774 FOR VALVE LEAKOFFS.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

PRIMARY AUXILIARY BUILDING

WASTE PROCESSING BUILDING

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

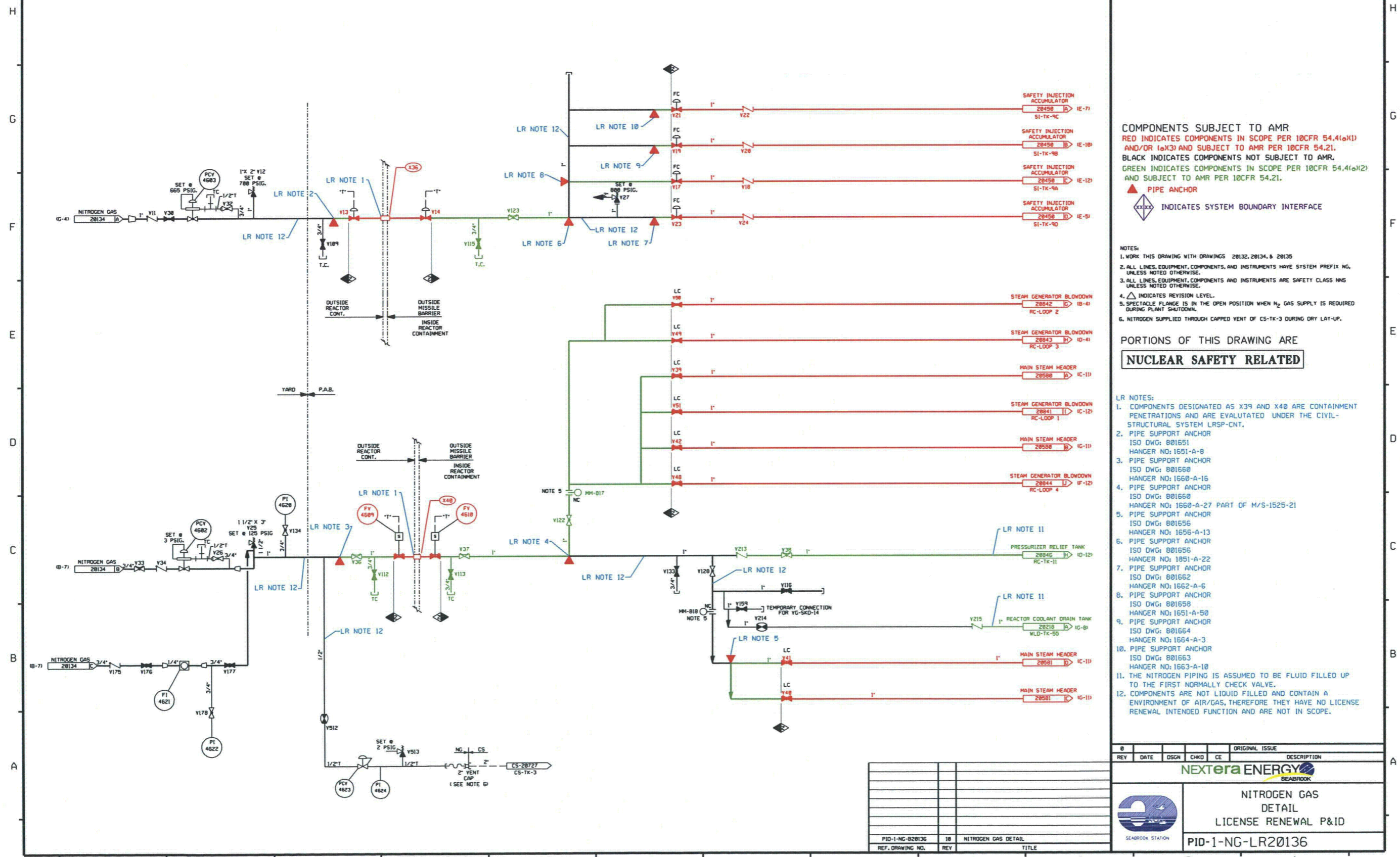
**NITROGEN GAS
DETAIL
LICENSE RENEWAL P&ID**

SEABROOK STATION
PID-1-NG-LR20135

REF. DRAWING NO.	REV	TITLE
PID-1-NG-820135	14	NITROGEN GAS DETAIL

PID-1-NG-LR20136

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2



COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
 ▲ PIPE ANCHOR
 ◊ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:**
1. WORK THIS DRAWING WITH DRAWINGS 20132, 20134, & 20135
 2. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTS HAVE SYSTEM PREFIX NG, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NMS UNLESS NOTED OTHERWISE.
 4. ▲ INDICATES REVISION LEVEL.
 5. SPECTACLE FLANGE IS IN THE OPEN POSITION WHEN H₂ GAS SUPPLY IS REQUIRED DURING PLANT SHUTDOWN.
 6. NITROGEN SUPPLIED THROUGH CAPPED VENT OF CS-TK-3 DURING DRY LAY-UP.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

- LR NOTES:**
1. COMPONENTS DESIGNATED AS X39 AND X40 ARE CONTAINMENT PENETRATIONS AND ARE EVALUTATED UNDER THE CIVIL-STRUCTURAL SYSTEM LRSP-CNT.
 2. PIPE SUPPORT ANCHOR
ISO DWG: 001651
HANGER NO: 1651-A-8
 3. PIPE SUPPORT ANCHOR
ISO DWG: 001650
HANGER NO: 1650-A-16
 4. PIPE SUPPORT ANCHOR
ISO DWG: 001660
HANGER NO: 1660-A-27 PART OF M/S-1525-21
 5. PIPE SUPPORT ANCHOR
ISO DWG: 001656
HANGER NO: 1656-A-13
 6. PIPE SUPPORT ANCHOR
ISO DWG: 001656
HANGER NO: 1656-A-22
 7. PIPE SUPPORT ANCHOR
ISO DWG: 001662
HANGER NO: 1662-A-6
 8. PIPE SUPPORT ANCHOR
ISO DWG: 001658
HANGER NO: 1651-A-50
 9. PIPE SUPPORT ANCHOR
ISO DWG: 001664
HANGER NO: 1664-A-3
 10. PIPE SUPPORT ANCHOR
ISO DWG: 001663
HANGER NO: 1663-A-10
 11. THE NITROGEN PIPING IS ASSUMED TO BE FLUID FILLED UP TO THE FIRST NORMALLY CHECK VALVE.
 12. COMPONENTS ARE NOT LIQUID FILLED AND CONTAIN AN ENVIRONMENT OF AIR/GAS, THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

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NEXTERA ENERGY
SEABROOK

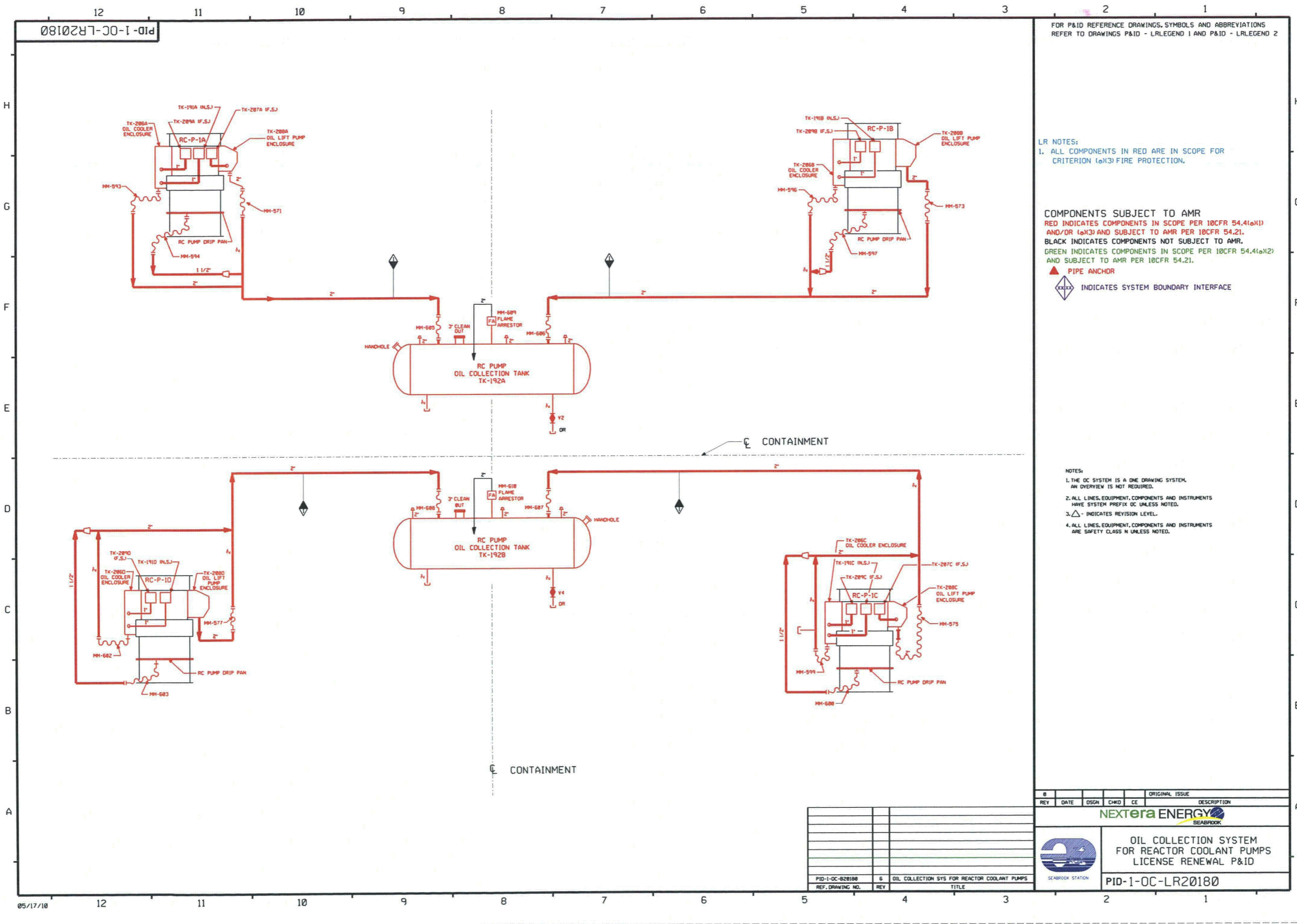
**NITROGEN GAS
 DETAIL
 LICENSE RENEWAL P&ID**

PID-1-NG-LR20136

PID-1-NG-B20136	10	NITROGEN GAS DETAIL
REF. DRAWING NO.	REV	TITLE

05/17/10

08102R7-1-0C-LR20180



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. ALL COMPONENTS IN RED ARE IN SCOPE FOR CRITERION (a)(3) FIRE PROTECTION.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
 ▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

NOTES:
 1. THE OC SYSTEM IS A ONE DRAWING SYSTEM. AN OVERVIEW IS NOT REQUIRED.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX OC UNLESS NOTED.
 3. △ INDICATES REVISION LEVEL.
 4. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS N UNLESS NOTED.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

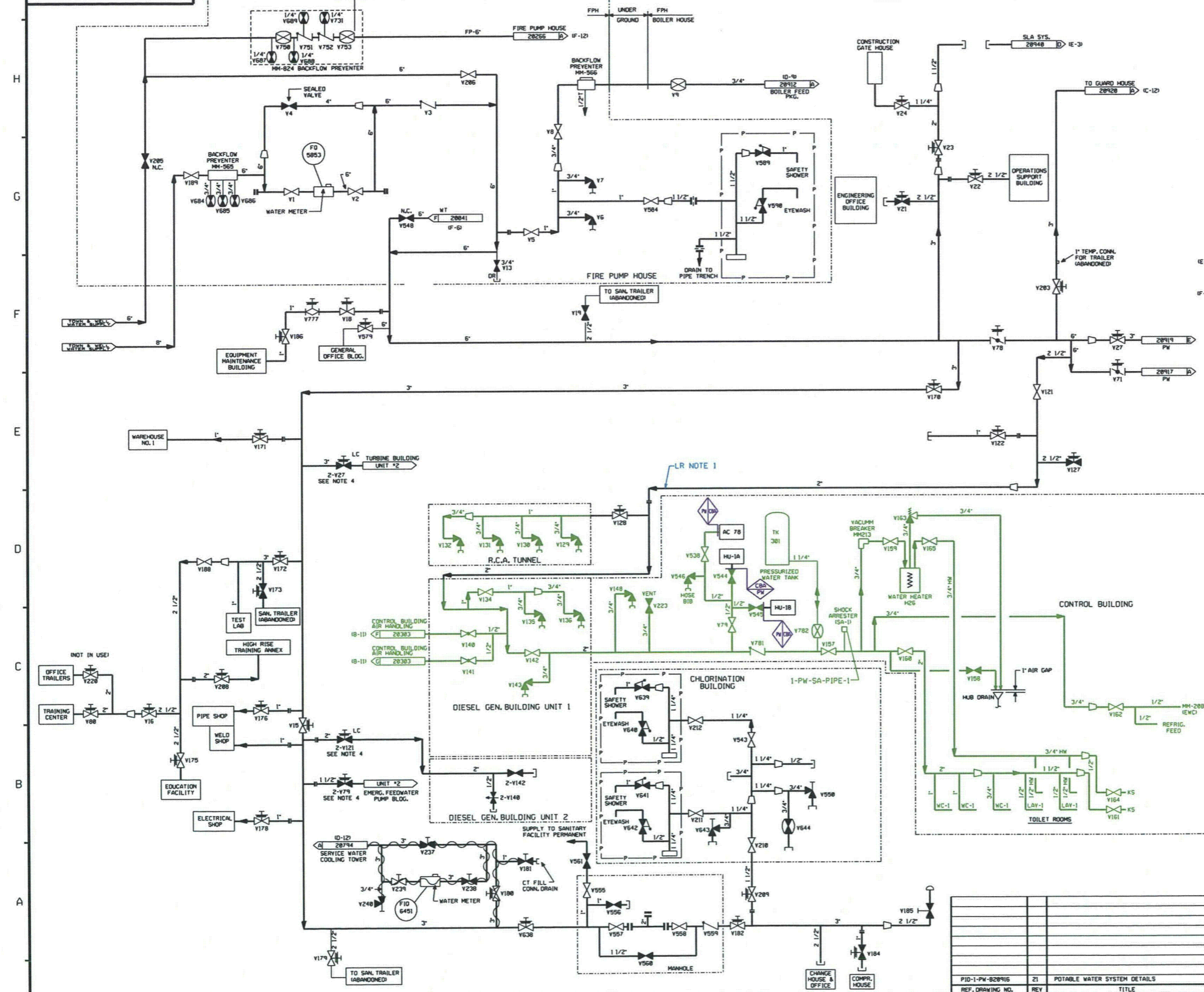
NEXTERA ENERGY
SEABROOK

OIL COLLECTION SYSTEM FOR REACTOR COOLANT PUMPS
 LICENSE RENEWAL P&ID

PID-1-OC-LR20180



PID-1-PW-LR20916



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:

- COMPONENTS LOCATED OUTSIDE THE RCA TUNNEL, DIESEL GENERATOR BUILDING UNIT 1 AND CONTROL BUILDING DO NOT CONTAIN SAFETY RELATED COMPONENTS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR

◇ INDICATES SYSTEM BOUNDARY INTERFACE
 PW - POTABLE WATER SYSTEM
 CBA - CONTROL BLDG AIR HANDLING

NOTES:

- WORK THIS DWG. WITH DWS'S 28914, 28915 AND 28917 THRU 28928.
- ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX "PW" UNLESS NOTED OTHERWISE.
- ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MNS. UNLESS NOTED OTHERWISE.
- VALVES ARE CLOSED UNTIL UNIT # 2 CONSTRUCTION IS COMPLETED.
- SHUT OFF VALVE WITH BOX AT GRADE
- DIELECTRIC FITTING
- INDICATES REVISION LEVEL.
- ALL POTABLE WATER OPENINGS AND OUTLETS SHALL BE PROTECTED AGAINST BACKFLOW BY ATTACHED HOSE CONNECTION VACUUM BREAKER.

LEGEND:

WC WATER CLOSET
 LAY LAYATORY
 EWC ELECT. WATER COOLER
 UR URINAL
 KS KITCHEN SINK
 HW HOT WATER

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
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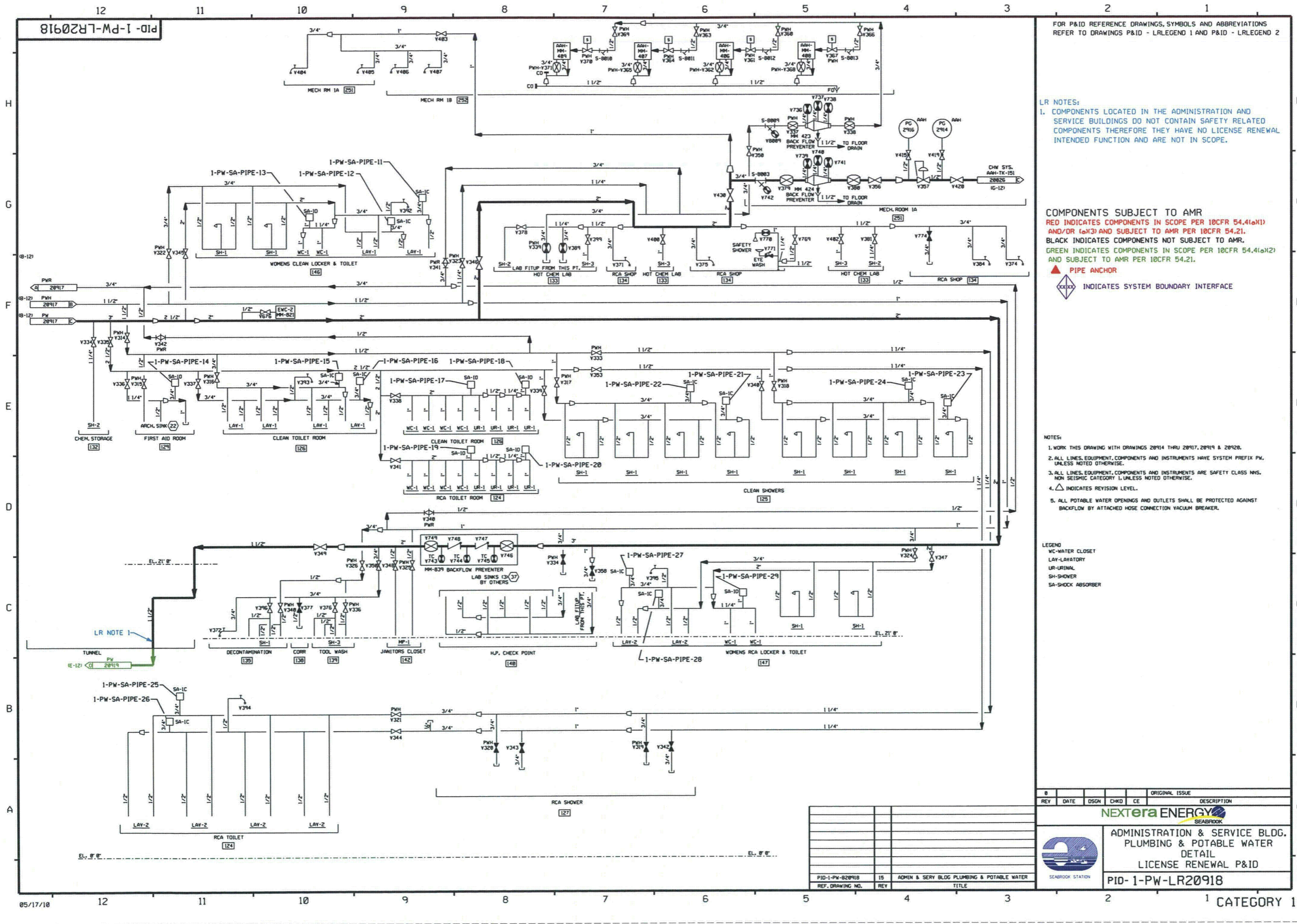


POTABLE WATER SYSTEM DETAILS LICENSE RENEWAL P&ID

PID-1-PW-LR20916

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
1					POTABLE WATER SYSTEM DETAILS
2					POTABLE WATER SYSTEM DETAILS

PID-1-PW-LR20918



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS LOCATED IN THE ADMINISTRATION AND SERVICE BUILDINGS DO NOT CONTAIN SAFETY RELATED COMPONENTS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◊ INDICATES SYSTEM BOUNDARY INTERFACE

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20914 THRU 20917, 20919 & 20920.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MNS. NON SEISMIC CATEGORY I UNLESS NOTED OTHERWISE.
 4. △ INDICATES REVISION LEVEL.
 5. ALL POTABLE WATER OPENINGS AND OUTLETS SHALL BE PROTECTED AGAINST BACKFLOW BY ATTACHED HOSE CONNECTION VACUUM BREAKER.

LEGEND
 WC-WATER CLOSET
 LAY-LAVATORY
 UR-URINAL
 SH-SHOWER
 SA-SHOCK ABSORBER

REV	DATE	OSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

ADMINISTRATION & SERVICE BLDG.
PLUMBING & POTABLE WATER
DETAIL
LICENSE RENEWAL P&ID

PID-1-PW-LR20918

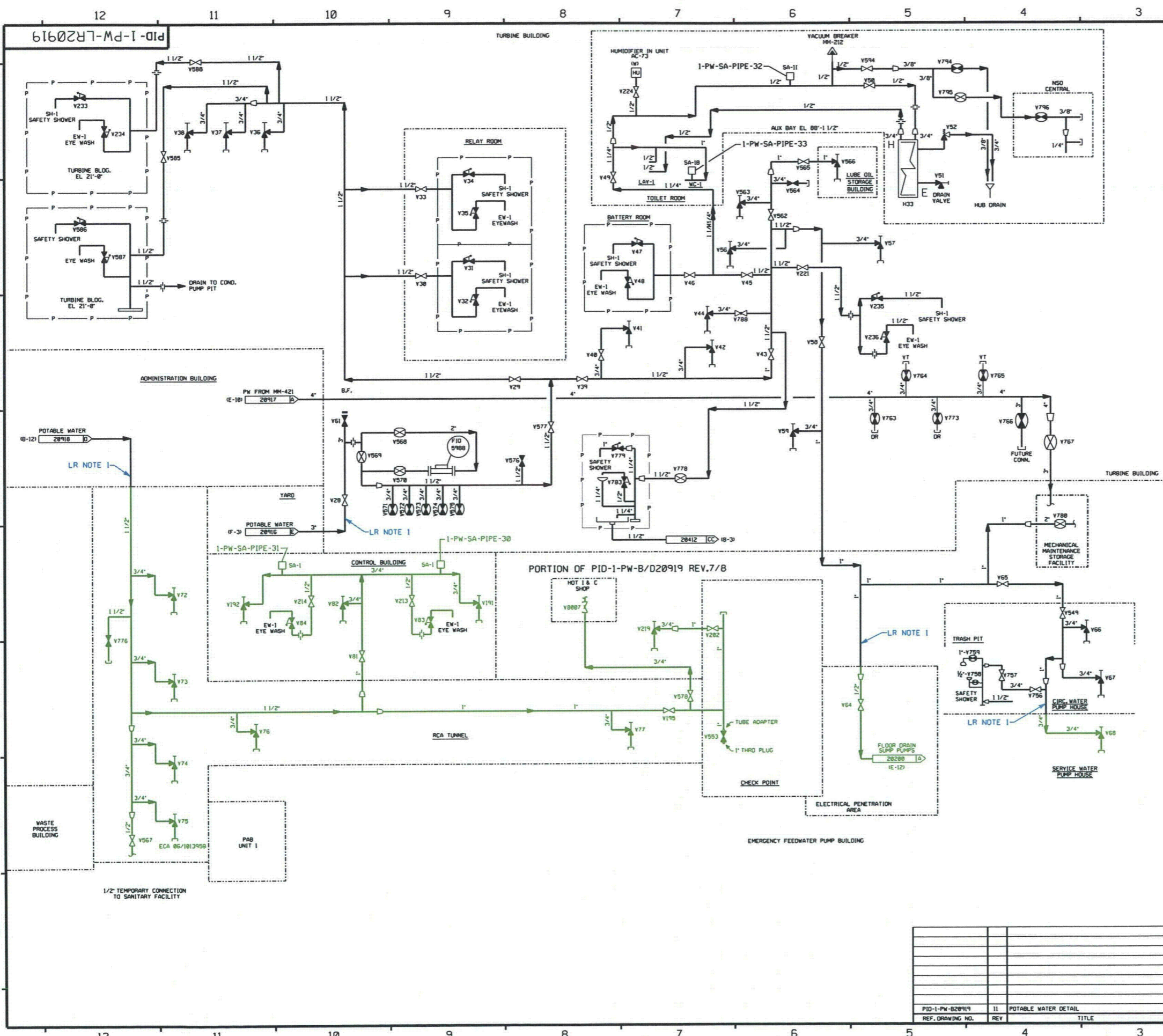


SEABROOK STATION

REF. DRAWING NO.	REV	TITLE
PID-1-PW-820918	15	ADMIN & SERV BLDG PLUMBING & POTABLE WATER

05/17/10

1 CATEGORY 1



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS LOCATED IN THE ADMINISTRATION BUILDING, TURBINE BUILDING, MECHANICAL MAINTENANCE STORAGE FACILITY, AND CIRCULATING WATER PUMP HOUSE DO NOT CONTAIN SAFETY RELATED COMPONENTS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 28914 THRU 28918 AND 28928.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX PW, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NWS, UNLESS NOTED OTHERWISE.
 4. △ - INDICATES REVISION LEVEL.
 5. ALL POTABLE WATER OPENINGS AND OUTLETS SHALL BE PROTECTED AGAINST BACKFLOW BY ATTACHED HOSE CONNECTION VACUUM BREAKER.

LEGEND:
 VC - WATER CLOSET
 LAV - LAVATORY
 EW - ELECTRIC WATER
 SH - SHOWER
 SA - SHOCK ABSORBER

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

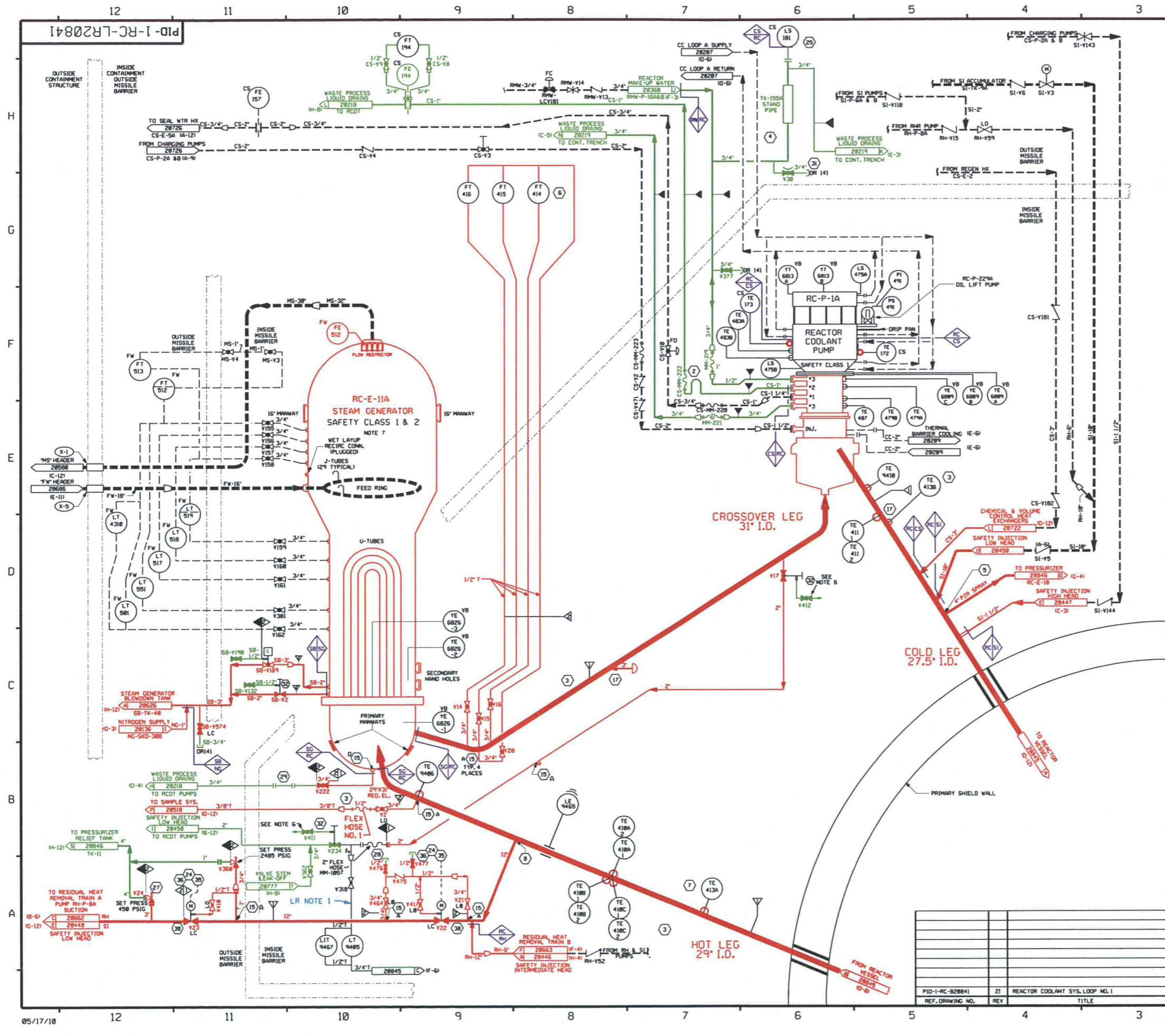
ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

POTABLE WATER
DETAIL
LICENSE RENEWAL P&ID

PID-1-PW-LR20919

PID-1-RC-LR20841



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS ARE NOT WATER FILLED DURING NORMAL OPERATIONS SO THEY HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SB - STEAM GENERATOR BLOWDOWN
 NG - NITROGEN GAS
 RC - REACTOR COOLANT
 CS - CHEMICAL & VOLUME CONTROL
 SI - SAFETY INJECTION
 RH - RESIDUAL HEAT REMOVAL
 SG - STEAM GENERATOR
 RMW - REACTOR MAKE-UP WATER

NOTES:
 1. ○ INDICATES GENERAL NOTE NUMBER - REFER TO DRAWING 20848 FOR GENERAL NOTES.
 2. WORK THIS DRAWING WITH DRAWINGS 20848 AND 20842 THROUGH 20846 AND 20848.
 3. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTATION HAVE SYSTEM PREFIX RC UNLESS OTHERWISE NOTED.
 4. VENT, DRAIN & TEST CONN. CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-MHY-880111, UNLESS NOTED OTHERWISE.
 5. △ INDICATES REVISION LEVEL.
 6. VALVE STEM LEAK-OFF ISOLATION VALVES Y411 & Y412 ARE TO BE MAINTAINED CLOSED, VALVE STEM LEAK-OFF TO BE CONSIDERED IMPROPER.
 7. STEAM GENERATOR SHELL SIDE IS ANS SAFETY CLASS 2 AND MANUFACTURED AS ASME CODE CLASS 1.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

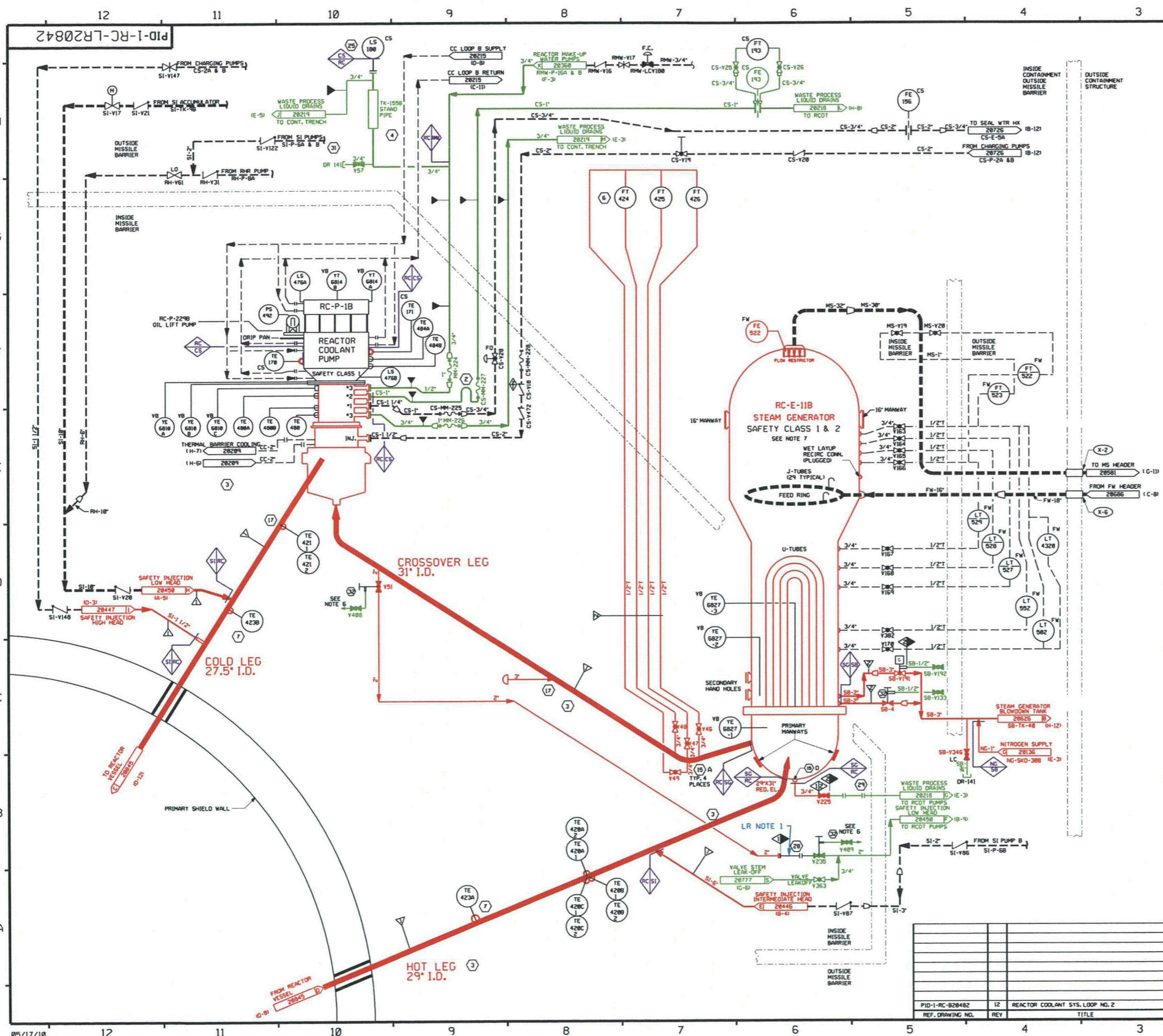
ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

REACTOR COOLANT SYSTEM
 LOOP NO. 1
 LICENSE RENEWAL P&ID

PID- 1-RC-LR20841





FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS ARE NOT WATER FILLED DURING NORMAL OPERATIONS SO THEY HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.41(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆◆◆◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SB - STEAM GENERATOR BLOWDOWN
 NG - NITROGEN GAS
 RC - REACTOR COOLANT
 CS - CHEMICAL & VOLUME CONTROL
 SI - SAFETY INJECTION
 SG - STEAM GENERATOR
 RMW - REACTOR MAKE-UP WATER

NOTES:
 1. ○ INDICATES GENERAL NOTE NUMBER - REFER TO DRAWING 28848 FOR GENERAL NOTES.
 2. WORK THIS DRAWING WITH DRAWINGS 28848, 28841 AND 28843 THROUGH 28845 AND 28848.
 3. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTATION HAVE SYSTEM PREFIX RC UNLESS OTHERWISE NOTED.
 4. VENT, DRAIN & TEST CONN. CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER I-NM-885111 UNLESS NOTED OTHERWISE.
 5. △ INDICATES REVISION LEVEL.
 6. VALVE STEM LEAK-OFF ISOLATION VALVES Y488 & Y489 ARE TO BE MAINTAINED CLOSED. VALVE STEM LEAK-OFF TO BE CONSIDERED INOPERABLE.
 7. THE STEAM GENERATOR SHELL SIDE IS ANS SAFETY CLASS 2 AND WAS MANUFACTURED AS ASME CODE CLASS 1.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHD	CE	ORIGINAL ISSUE	DESCRIPTION

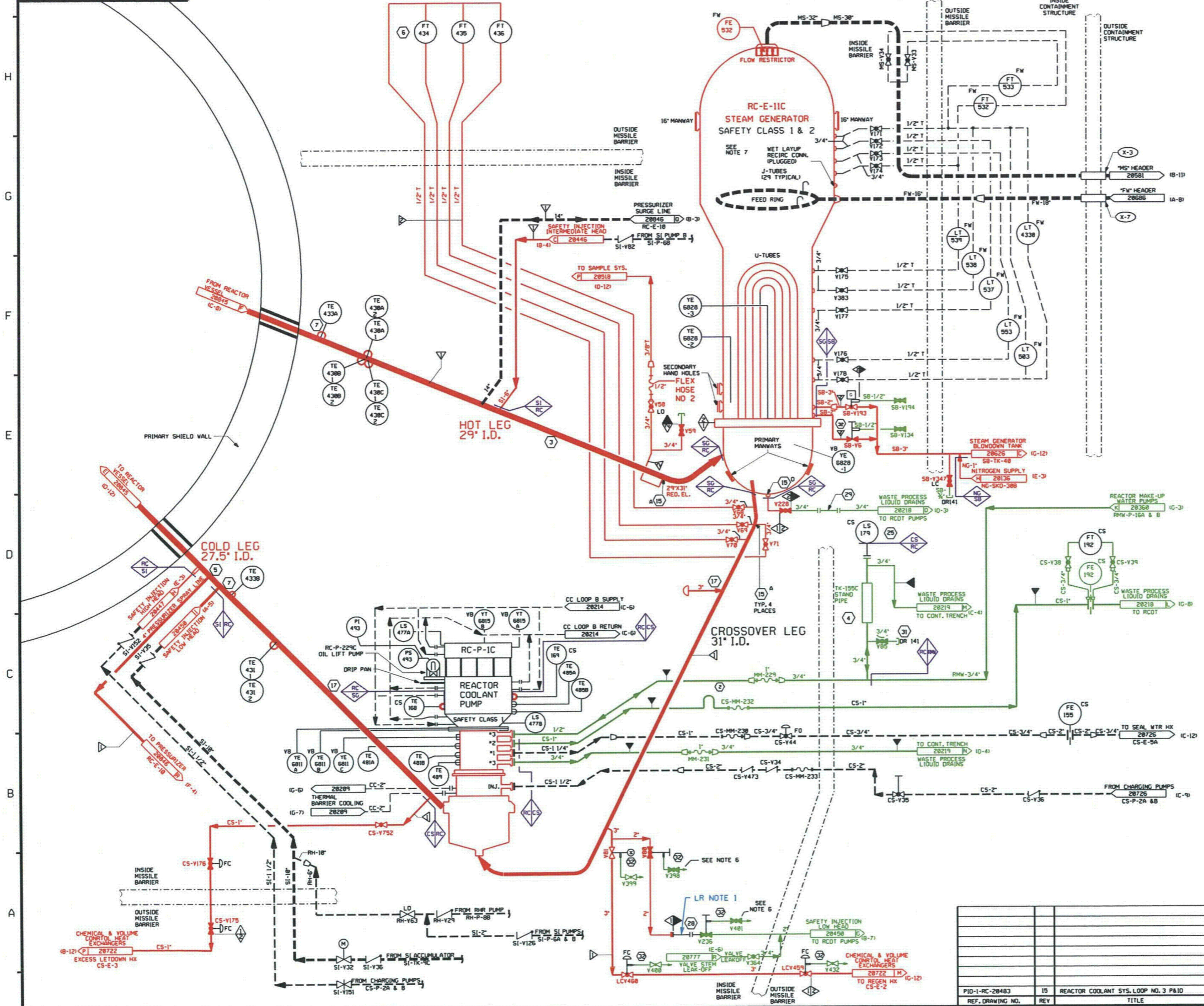
NEXTERA ENERGY
SEABROOK

REACTOR COOLANT SYSTEM
LOOP NO. 2
LICENSE RENEWAL P&ID

PID-1-RC-LR20842

PID-1-RC-20842	12	REACTOR COOLANT SYS. LOOP NO. 2
REF. DRAWING NO.	REV	TITLE

PID-1-RC-LR20843



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS ARE NOT WATER FILLED DURING NORMAL OPERATIONS SO THEY HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SB - STEAM GENERATOR BLOWDOWN
 NG - NITROGEN GAS
 RC - REACTOR COOLANT
 CS - CHEMICAL & VOLUME CONTROL
 SI - SAFETY INJECTION
 SG - STEAM GENERATOR
 RMW - REACTOR MAKE-UP WATER

NOTES:
 1. ○ INDICATES GENERAL NOTE NUMBER - REFER TO DRAWING 20848 FOR GENERAL NOTES.
 2. WORK THIS DRAWING WITH DRAWINGS 20848, 20841, 20842, AND 20844 THROUGH 20846 AND 20848.
 3. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTATION HAVE SYSTEM PREFIX RC UNLESS OTHERWISE NOTED.
 4. TENTS, DRAINS & TEST COIL CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER I-NHY-885111 UNLESS NOTED OTHERWISE.
 5. △ INDICATES REVISION LEVEL.
 6. VALVE STEM LEAK-OFF ISOLATION VALVES V392, V394, V395, V396, V398, V401 & V402 ARE TO BE MAINTAINED CLOSED. VALVE STEM LEAK-OFF TO BE CONSIDERED IMPERABLE.
 7. THE STEAM GENERATOR SHELL SIDE IS ANS SAFETY CLASS 2 AND WAS MANUFACTURED AS ASME CODE CLASS 1.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

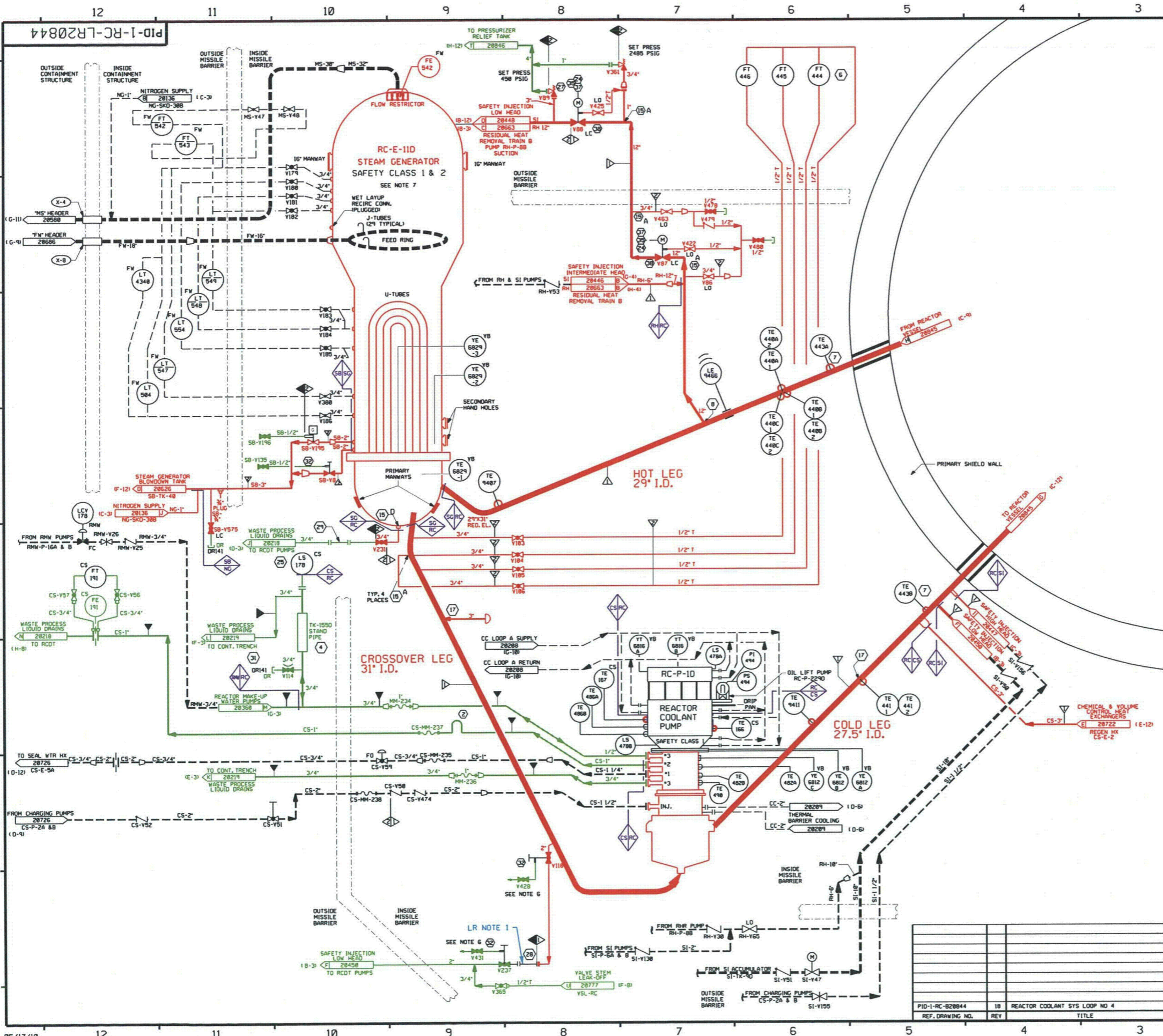
ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

REACTOR COOLANT SYSTEM
 LOOP NO. 3
 LICENSE RENEWAL P&ID

PID-1-RC-LR20843

REF. DRAWING NO.	REV	TITLE
PID-1-RC-20843	15	REACTOR COOLANT SYS. LOOP NO. 3 P&ID



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS ARE NOT WATER FILLED DURING NORMAL OPERATIONS SO THEY HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆◆◆◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SB - STEAM GENERATOR BLOWDOWN
 NG - NITROGEN GAS
 RC - REACTOR COOLANT
 CS - CHEMICAL & VOLUME CONTROL
 SI - SAFETY INJECTION
 RH - RESIDUAL HEAT REMOVAL
 SG - STEAM GENERATOR
 RMW - REACTOR MAKE-UP WATER

NOTES:
 1. ○ INDICATES GENERAL NOTE NUMBER - REFER TO DRAWING 28848 FOR GENERAL NOTES.
 2. WORK THIS DRAWING WITH DRAWINGS 28848 THROUGH 28843 AND 28845 THROUGH 28846 & 28848.
 3. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTATION HAVE SYSTEM PREFIX RC UNLESS OTHERWISE NOTED.
 4. VENT, DRAIN AND TEST CONN. CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NHY-805111 UNLESS NOTED OTHERWISE.
 5. △ - INDICATES REVISION LEVEL.
 6. VALVE STEM LEAK-OFF ISOLATION VALVES Y428 & Y431 ARE TO BE MAINTAINED CLOSED. VALVE STEM LEAK-OFF TO BE CONSIDERED INOPERABLE.
 7. THE STEAM GENERATOR SHELL SIDE IS ANS CLASS 2 AND WAS MANUFACTURED AS ASME CODE CLASS 1.

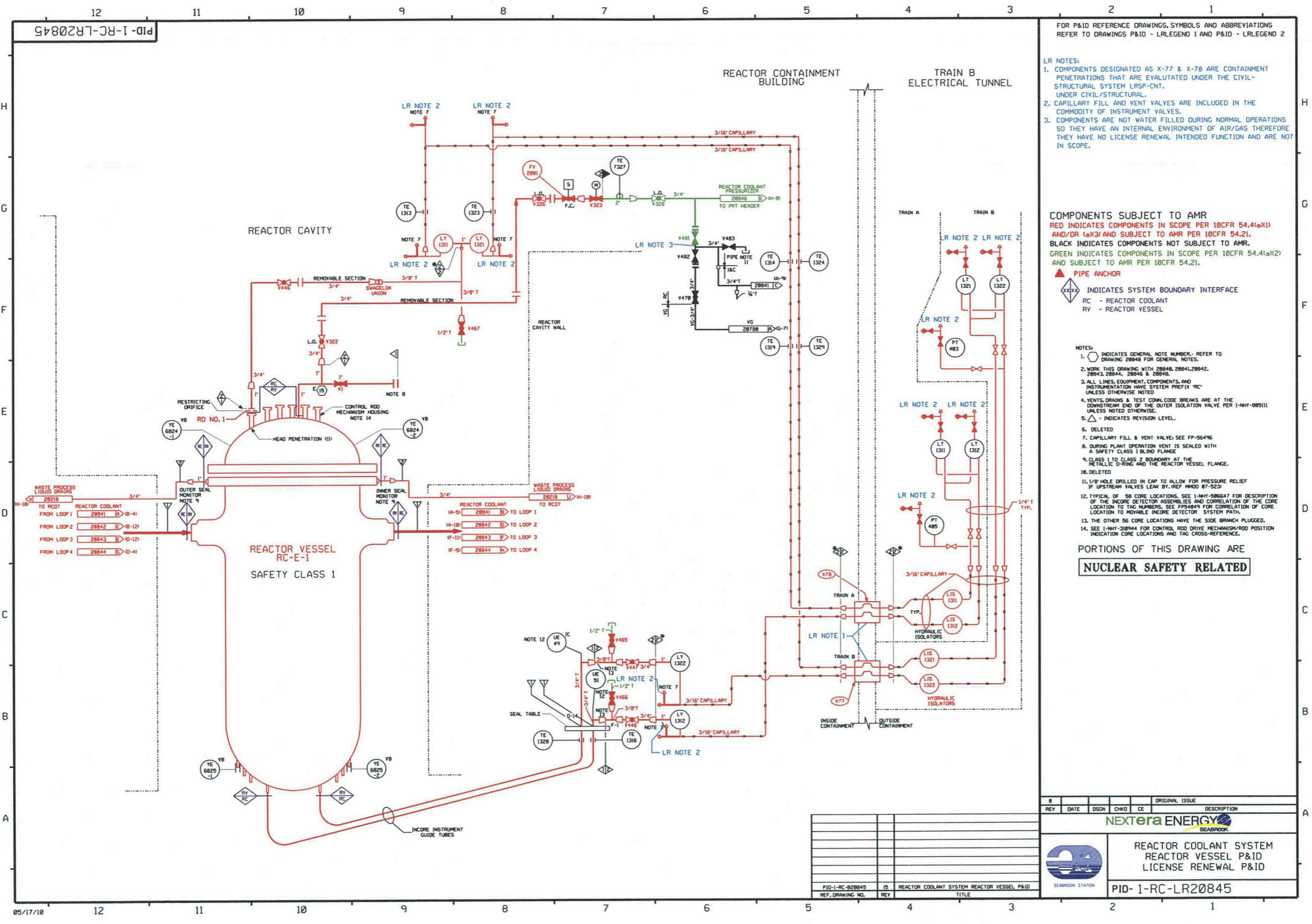
PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION



REACTOR COOLANT SYSTEM
 LOOP NO. 4
 LICENSE RENEWAL P&ID
 PID-1-RC-LR20844

PID-1-RC-B20844	18	REACTOR COOLANT SYS LOOP NO 4
REF. DRAWING NO.	REV	TITLE



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
- COMPONENTS DESIGNATED AS X-77 & X-78 ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER THE CIVIL-STRUCTURAL SYSTEM LRSP-CNT, UNDER CIVIL/STRUCTURAL.
 - CAPILLARY FILL AND VENT VALVES ARE INCLUDED IN THE COMMODITY OF INSTRUMENT VALVES.
 - COMPONENTS ARE NOT WATER FILLED DURING NORMAL OPERATIONS SO THEY HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
▲ PIPE ANCHOR

◇ INDICATES SYSTEM BOUNDARY INTERFACE
 RC - REACTOR COOLANT
 RV - REACTOR VESSEL

- NOTES:
- INDICATES GENERAL NOTE NUMBER- REFER TO DRAWING 20849 FOR GENERAL NOTES.
 - WORK THIS DRAWING WITH 20840, 20841, 20842, 20843, 20844, 20845 & 20846.
 - ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTATION HAVE SYSTEM PREFIX "RC" UNLESS OTHERWISE NOTED.
 - VENTS, DRAINS & TEST CONDUIT BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NHY-805111 UNLESS NOTED OTHERWISE.
 - △ - INDICATES REVISION LEVEL.
 - DELETED
 - CAPILLARY FILL & VENT VALVE: SEE FP-56496
 - DURING PLANT OPERATION VENT IS SEALED WITH A SAFETY CLASS 1 BLIND FLANGE
 - CLASS 1 TO CLASS 2 BOUNDARY AT THE METALLIC O-RING AND THE REACTOR VESSEL FLANGE.
 - DELETED
 - 1/8" HOLE DRILLED IN CAP TO ALLOW FOR PRESSURE RELIEF IF UPSTREAM VALVES LEAK BY. REF MMOD 07-523
 - TYPICAL OF 58 CORE LOCATIONS. SEE 1-NHY-506647 FOR DESCRIPTION OF THE INCORE DETECTOR ASSEMBLIES AND CORRELATION OF THE CORE LOCATION TO TAG NUMBERS. SEE FP54849 FOR CORRELATION OF CORE LOCATION TO MOVABLE INCORE DETECTOR SYSTEM PATH.
 - THE OTHER 56 CORE LOCATIONS HAVE THE SIDE BRANCH PLUGGED.
 - SEE 1-NHY-318944 FOR CONTROL ROD DRIVE MECHANISM/ROD POSITION INDICATION CORE LOCATIONS AND TAG CROSS-REFERENCE.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

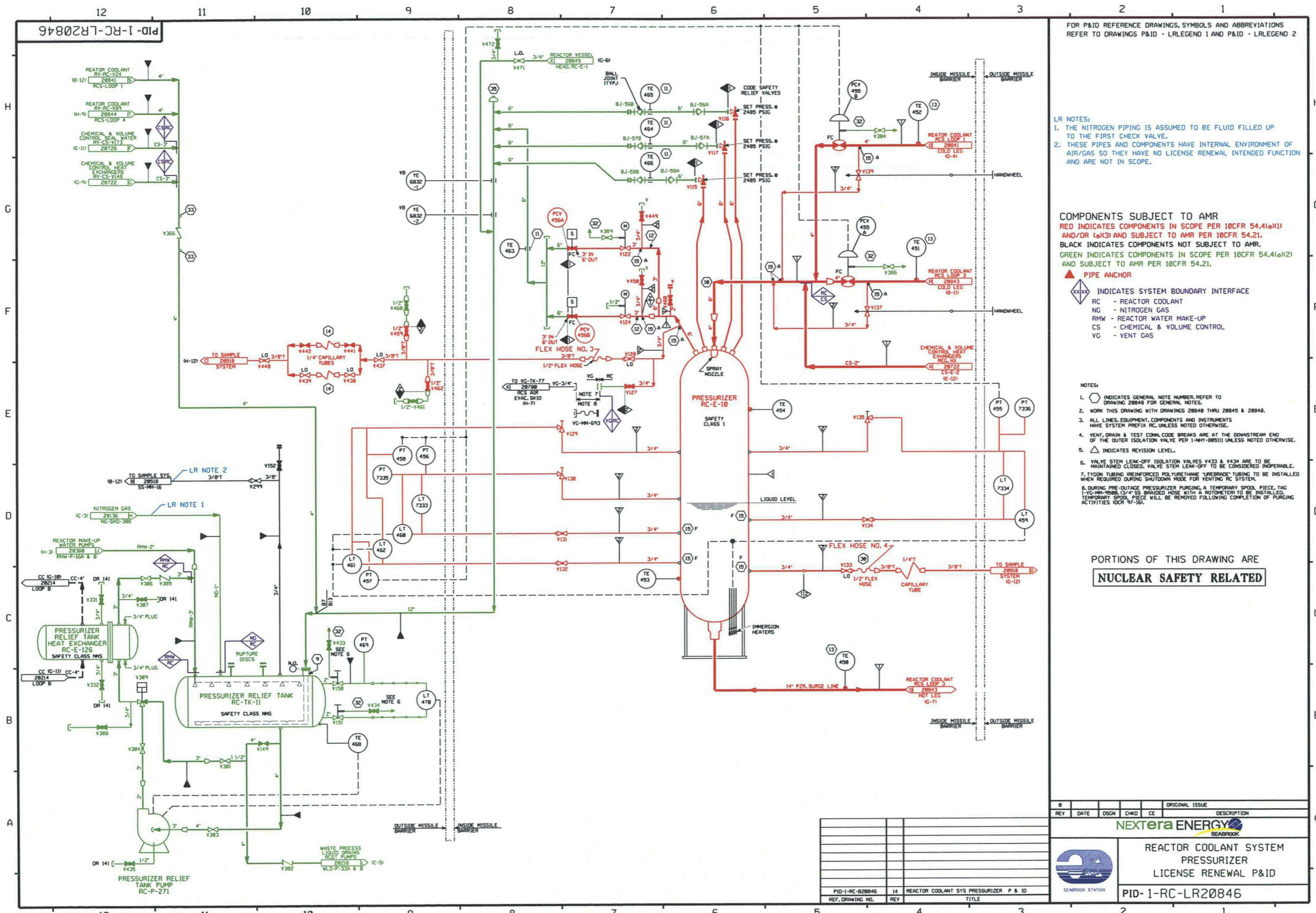
NEXTERA ENERGY
 SEABROOK

REACTOR COOLANT SYSTEM
 REACTOR VESSEL P&ID
 LICENSE RENEWAL P&ID

PID-1-RC-LR20845

REF. DRAWING NO.	REV	TITLE
PID-1-RC-20845	15	REACTOR COOLANT SYSTEM REACTOR VESSEL P&ID

PID-1-RC-LR20846



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. THE NITROGEN PIPING IS ASSUMED TO BE FLUID FILLED UP TO THE FIRST CHECK VALVE.
 2. THESE PIPES AND COMPONENTS HAVE INTERNAL ENVIRONMENT OF AIR/GAS SO THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

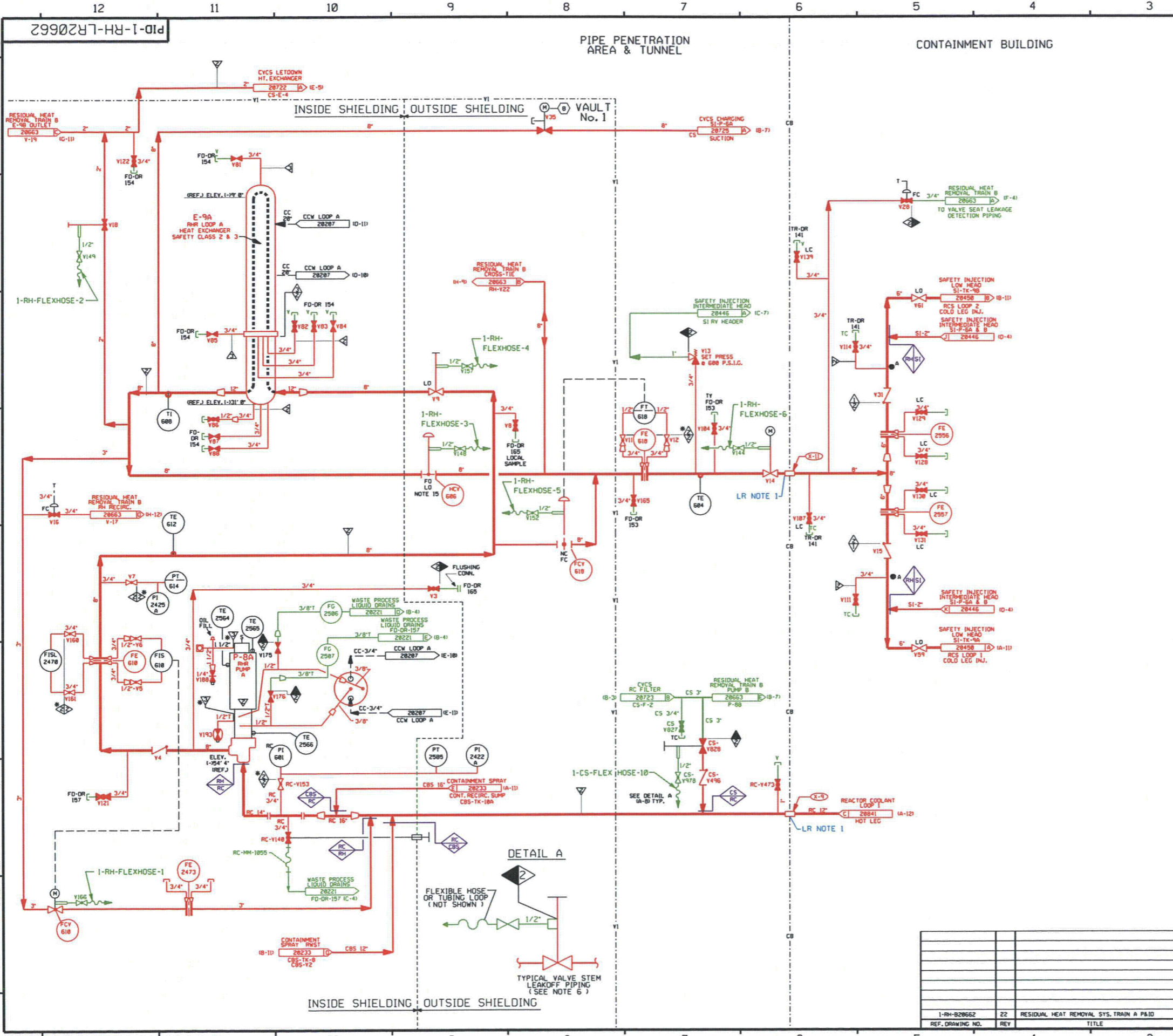
▲ PIPE ANCHOR
 □ INDICATES SYSTEM BOUNDARY INTERFACE
 RC - REACTOR COOLANT
 NG - NITROGEN GAS
 RMW - REACTOR WATER MAKE-UP
 CS - CHEMICAL & VOLUME CONTROL
 VG - VENT GAS

NOTES:
 1. ○ INDICATES GENERAL NOTE NUMBER, REFER TO DRAWING 20848 FOR GENERAL NOTES.
 2. WORK THIS DRAWING WITH DRAWINGS 20840 THRU 20845 & 20848.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX RC, UNLESS NOTED OTHERWISE.
 4. VENT, DRAIN & TEST CONN. CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NM-005111 UNLESS NOTED OTHERWISE.
 5. △ INDICATES REVISION LEVEL.
 6. VALVE STEM LEAK-OFF ISOLATION VALVES Y433 & Y434 ARE TO BE MAINTAINED CLOSED. VALVE STEM LEAK-OFF TO BE CONSIDERED IMPERMEABLE.
 7. TIGON TUBING (REINFORCED POLYURETHANE "UREBRACE" TUBING) TO BE INSTALLED WHEN REQUIRED DURING SHUTDOWN MODE FOR VENTING RC SYSTEM.
 8. DURING PRE-OUTAGE PRESSURIZER PURGING, A TEMPORARY SPOOL PIECE, TAG 1-VG-MM-9588, 1/2" SS BRAIDED HOSE WITH A ROTOMETER TO BE INSTALLED. TEMPORARY SPOOL PIECE WILL BE REMOVED FOLLOWING COMPLETION OF PURGING ACTIVITIES (DCR 97-10).

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
0					ORIGINAL ISSUE
REACTOR COOLANT SYSTEM PRESSURIZER LICENSE RENEWAL P&ID					
PID-1-RC-LR20846					

REF. DRAWING NO.	REV	TITLE
PID-1-RC-820846	14	REACTOR COOLANT SYS PRESSURIZER P & ID



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS DESIGNATED AS (X-9 & 11) ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER THE CIVIL/ STRUCTURAL SYSTEM LRSP-CNT.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

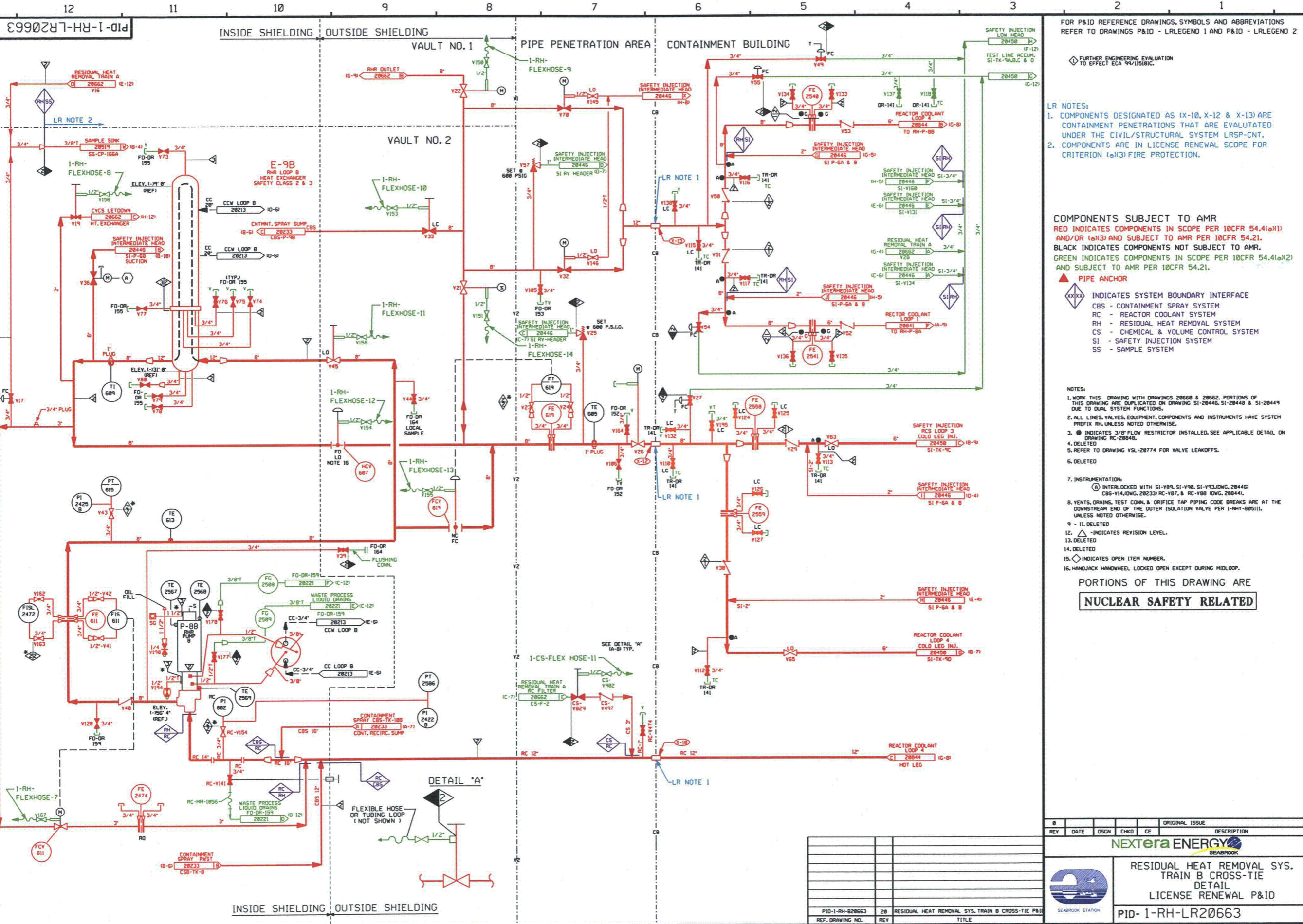
▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 CBS - CONTAINMENT SPRAY SYSTEM
 RC - REACTOR COOLANT SYSTEM
 RH - RESIDUAL HEAT REMOVAL SYSTEM
 CS - CHEMICAL & VOLUME CONTROL SYSTEM
 SI - SAFETY INJECTION SYSTEM

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20668 & 20663. PORTIONS OF THIS DRAWING ARE DUPLICATED ON DRAWINGS SI-20448 & SI-20449 DUE TO DUAL SYSTEM FUNCTIONS.
 2. ALL LINES, VALVES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX RH, UNLESS NOTED OTHERWISE.
 3. DELETED.
 4. ● INDICATES 3/8" FLOW RESTRICTOR INSTALLED. SEE APPLICABLE DETAIL ON DRAWING 1-RC-20848.
 5. DELETED.
 6. REFER TO DRAWING YSL-20774 FOR VALVE LEAKOFFS.
 7. DELETED
 8. INSTRUMENTATION:
 (D) INTERLOCKED WITH SI-Y89, SI-Y98, SI-Y93, I.D.G. 20448 & CBS-Y6, I.D.G. 20233, RC-Y22, & RC-Y23, I.D.G. 20841
 9. VENTS, DRAINS, TEST CONN. & ORIFICE TAP PIPING CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NHY-80511, UNLESS NOTED OTHERWISE.
 10. DELETED.
 11. DELETED.
 12. △ - INDICATES REVISION LEVEL
 13. DELETED
 14. DELETED
 15. HANDJACK HANDWHEEL LOCKED OPEN EXCEPT DURING MIDLOOP.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
0					ORIGINAL ISSUE
RESIDUAL HEAT REMOVAL SYS. TRAIN A DETAIL LICENSE RENEWAL P&ID					
PID- 1-RH-LR20662					

REF. DRAWING NO.	REV	TITLE
1-RH-B20662	22	RESIDUAL HEAT REMOVAL SYS. TRAIN A P&ID



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

FURTHER ENGINEERING EVALUATION TO EFFECT ECA 99/15181C.

- LR NOTES:
- COMPONENTS DESIGNATED AS (X-10, X-12 & X-13) ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER THE CIVIL/STRUCTURAL SYSTEM LRSP-CNT.
 - COMPONENTS ARE IN LICENSE RENEWAL SCOPE FOR CRITERION (a)(3) FIRE PROTECTION.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

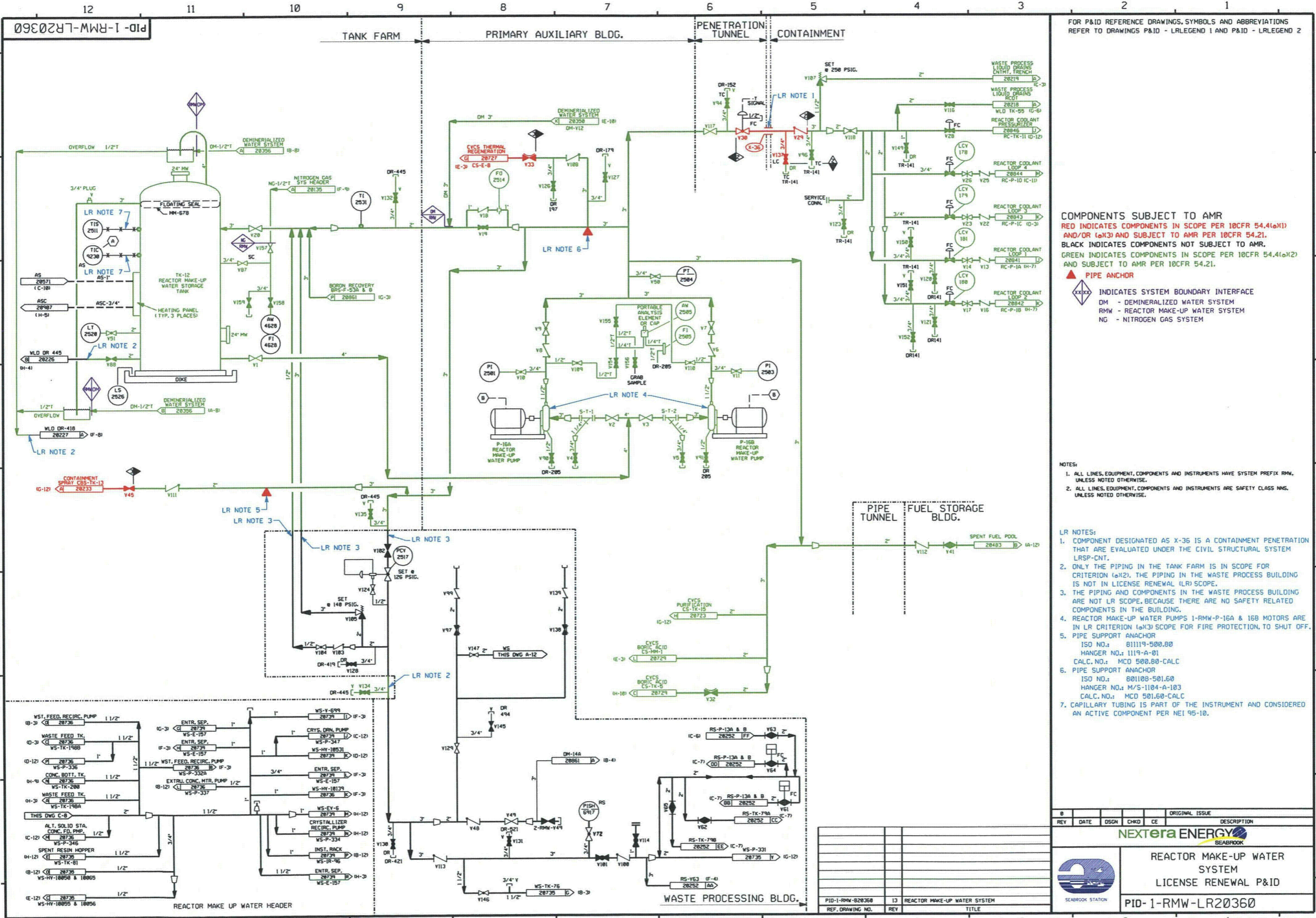
- ▲ PIPE ANCHOR
- ◇ INDICATES SYSTEM BOUNDARY INTERFACE
- CBS - CONTAINMENT SPRAY SYSTEM
 - RC - REACTOR COOLANT SYSTEM
 - RH - RESIDUAL HEAT REMOVAL SYSTEM
 - CS - CHEMICAL & VOLUME CONTROL SYSTEM
 - SI - SAFETY INJECTION SYSTEM
 - SS - SAMPLE SYSTEM

- NOTES:
- WORK THIS DRAWING WITH DRAWINGS 20650 & 20662. PORTIONS OF THIS DRAWING ARE DUPLICATED ON DRAWING SI-20446, SI-20448 & SI-20449 DUE TO DUAL SYSTEM FUNCTIONS.
 - ALL LINES, VALVES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX UNLESS NOTED OTHERWISE.
 - INDICATES 3/8" FLOW RESTRICTOR INSTALLED. SEE APPLICABLE DETAIL ON DRAWING RC-20048.
 - DELETED
 - REFER TO DRAWING VSL-20774 FOR VALVE LEAKOFFS.
 - DELETED
 - INSTRUMENTATION:
 - ⊕ INTERLOCKED WITH SI-Y09, SI-Y08, SI-Y13, DOWG, 20446, CBS-Y14, DOWG, 20233, RC-Y07, & RC-Y08, DOWG, 20444.
 - VENTS, GRABS, TEST COIL & ORIFICE TAP PIPING CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NHT-805111, UNLESS NOTED OTHERWISE.
 - DELETED
 - DELETED
 - DELETED
 - INDICATES OPEN ITEM NUMBER.
 - HANDJACK HANDWHEEL LOCKED OPEN EXCEPT DURING MIDLOOP.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

RESIDUAL HEAT REMOVAL SYS. TRAIN B CROSS-TIE DETAIL LICENSE RENEWAL P&ID
 PID-1-RH-LR20663



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
▲ PIPE ANCHOR
◇ INDICATES SYSTEM BOUNDARY INTERFACE
 DM - DEMINERALIZED WATER SYSTEM
 RMW - REACTOR MAKE-UP WATER SYSTEM
 NG - NITROGEN GAS SYSTEM

NOTES:
 1. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX RMW, UNLESS NOTED OTHERWISE.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MNS, UNLESS NOTED OTHERWISE.

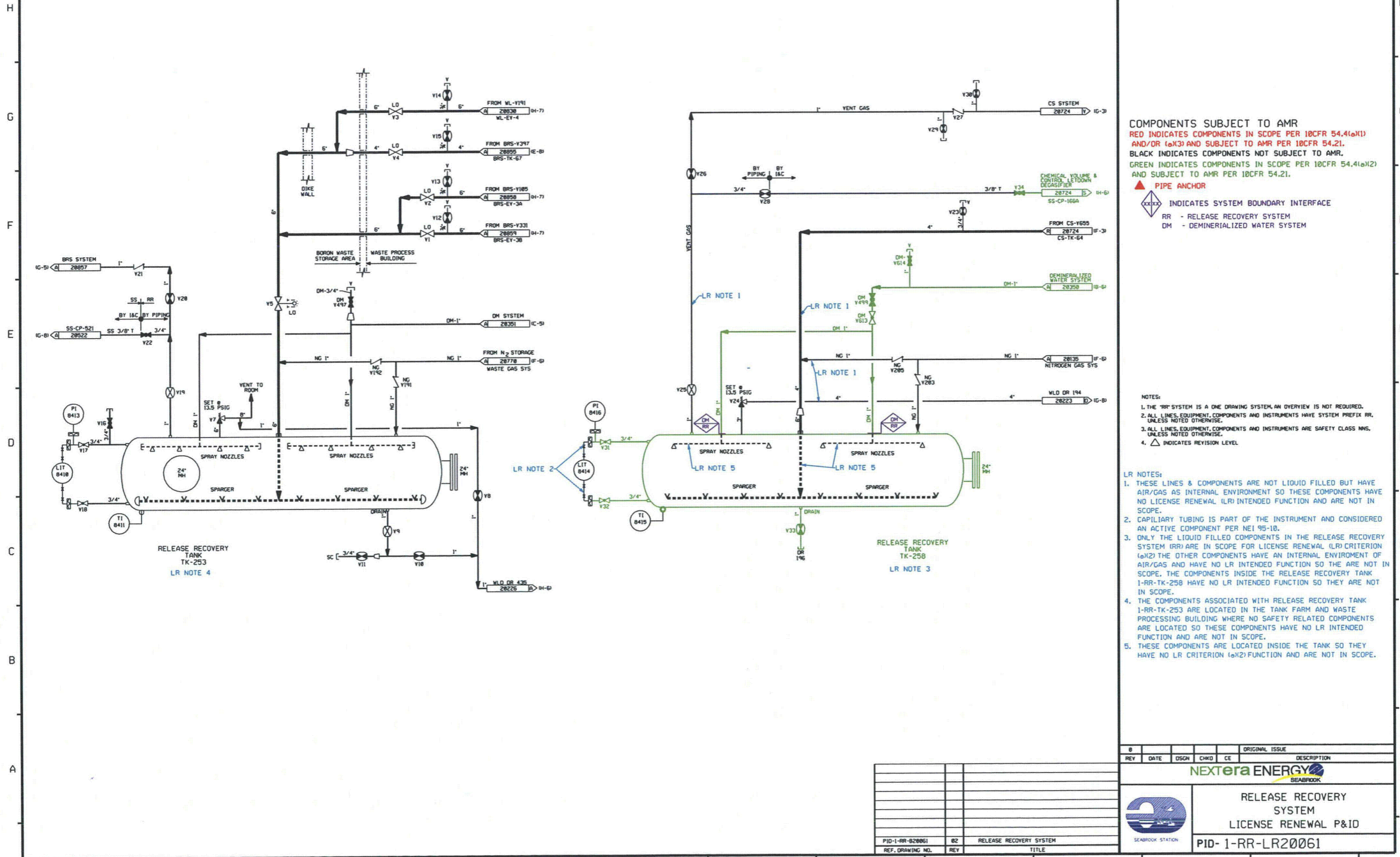
LR NOTES:
 1. COMPONENT DESIGNATED AS X-36 IS A CONTAINMENT PENETRATION THAT ARE EVALUATED UNDER THE CIVIL STRUCTURAL SYSTEM LRSP-CNT.
 2. ONLY THE PIPING IN THE TANK FARM IS IN SCOPE FOR CRITERION (a)(2), THE PIPING IN THE WASTE PROCESS BUILDING IS NOT IN LICENSE RENEWAL (LR) SCOPE.
 3. THE PIPING AND COMPONENTS IN THE WASTE PROCESS BUILDING ARE NOT LR SCOPE, BECAUSE THERE ARE NO SAFETY RELATED COMPONENTS IN THE BUILDING.
 4. REACTOR MAKE-UP WATER PUMPS 1-RMW-P-16A & 16B MOTORS ARE IN LR CRITERION (a)(3) SCOPE FOR FIRE PROTECTION, TO SHUT OFF.
 5. PIPE SUPPORT ANCHOR
 ISO NO.: 81119-500.80
 HANGER NO.: 1119-A-01
 CALC. NO.: MCD 500.80-CALC
 6. PIPE SUPPORT ANCHOR
 ISO NO.: 801188-501.60
 HANGER NO.: M/S-1104-A-183
 CALC. NO.: MCD 501.60-CALC
 7. CAPILLARY TUBING IS PART OF THE INSTRUMENT AND CONSIDERED AN ACTIVE COMPONENT PER NET 95-10.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

NEXTera ENERGY		SEABROOK	
REACTOR MAKE-UP WATER SYSTEM			
LICENSE RENEWAL P&ID			
PID-1-RMW-LR20360		CATEGORY 1	

1900ZRT-RR-1-01

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2



COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

PIPE ANCHOR
 [Symbol] INDICATES SYSTEM BOUNDARY INTERFACE
 RR - RELEASE RECOVERY SYSTEM
 DM - DEMINERALIZED WATER SYSTEM

NOTES:
 1. THE 'RR' SYSTEM IS A ONE DRAWING SYSTEM, AN OVERVIEW IS NOT REQUIRED.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX RR, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MNS, UNLESS NOTED OTHERWISE.
 4. [Symbol] INDICATES REVISION LEVEL.

LR NOTES:
 1. THESE LINES & COMPONENTS ARE NOT LIQUID FILLED BUT HAVE AIR/GAS AS INTERNAL ENVIRONMENT SO THESE COMPONENTS HAVE NO LICENSE RENEWAL (LR) INTENDED FUNCTION AND ARE NOT IN SCOPE.
 2. CAPILLARY TUBING IS PART OF THE INSTRUMENT AND CONSIDERED AN ACTIVE COMPONENT PER NEI 95-10.
 3. ONLY THE LIQUID FILLED COMPONENTS IN THE RELEASE RECOVERY SYSTEM (RR) ARE IN SCOPE FOR LICENSE RENEWAL (LR) CRITERION (a)(2) THE OTHER COMPONENTS HAVE AN INTERNAL ENVIRONMENT OF AIR/GAS AND HAVE NO LR INTENDED FUNCTION SO THEY ARE NOT IN SCOPE. THE COMPONENTS INSIDE THE RELEASE RECOVERY TANK 1-RR-TK-258 HAVE NO LR INTENDED FUNCTION SO THEY ARE NOT IN SCOPE.
 4. THE COMPONENTS ASSOCIATED WITH RELEASE RECOVERY TANK 1-RR-TK-253 ARE LOCATED IN THE TANK FARM AND WASTE PROCESSING BUILDING WHERE NO SAFETY RELATED COMPONENTS ARE LOCATED SO THESE COMPONENTS HAVE NO LR INTENDED FUNCTION AND ARE NOT IN SCOPE.
 5. THESE COMPONENTS ARE LOCATED INSIDE THE TANK SO THEY HAVE NO LR CRITERION (a)(2) FUNCTION AND ARE NOT IN SCOPE.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

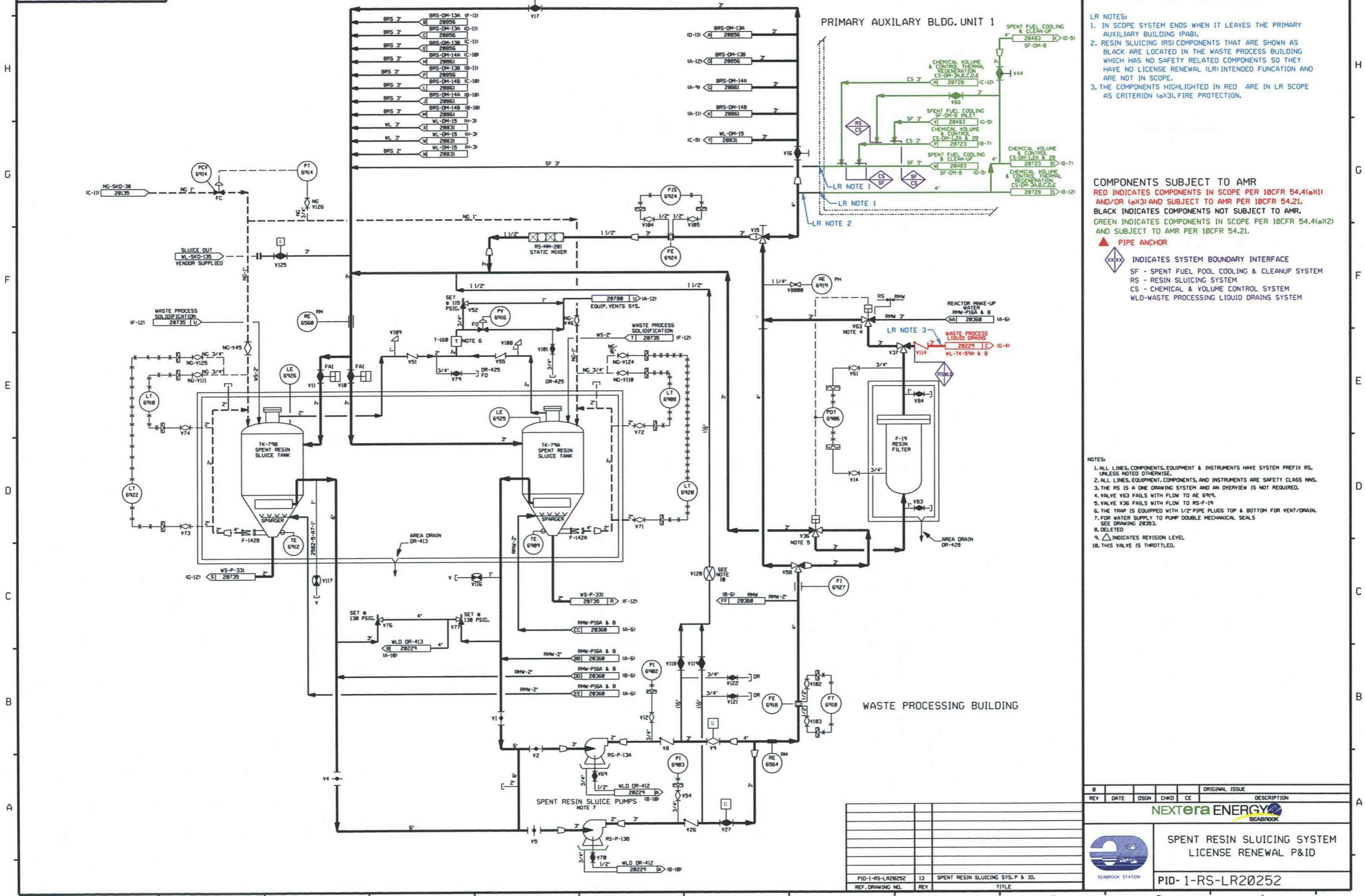


RELEASE RECOVERY SYSTEM
 LICENSE RENEWAL P&ID
 PID-1-RR-LR20061

REF. DRAWING NO.	REV	TITLE
PID-1-RR-020061	02	RELEASE RECOVERY SYSTEM



PID-1-RS-LR20252



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
1. IN SCOPE SYSTEM ENDS WHEN IT LEAVES THE PRIMARY AUXILIARY BUILDING (PAB).
 2. RESIN SLUICING (RS) COMPONENTS THAT ARE SHOWN AS BLACK ARE LOCATED IN THE WASTE PROCESS BUILDING WHICH HAS NO SAFETY RELATED COMPONENTS SO THEY HAVE NO LICENSE RENEWAL (LR) INTENDED FUNCTION AND ARE NOT IN SCOPE.
 3. THE COMPONENTS HIGHLIGHTED IN RED ARE IN LR SCOPE AS CRITERION (a)(3), FIRE PROTECTION.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

- ▲ PIPE ANCHOR
- ◇ INDICATES SYSTEM BOUNDARY INTERFACE
- SF - SPENT FUEL POOL COOLING & CLEANUP SYSTEM
- RS - RESIN SLUICING SYSTEM
- CS - CHEMICAL & VOLUME CONTROL SYSTEM
- WLD-WASTE PROCESSING LIQUID DRAINS SYSTEM

- NOTES:
1. ALL LINES, COMPONENTS, EQUIPMENT & INSTRUMENTS HAVE SYSTEM PREFIX RS, UNLESS NOTED OTHERWISE.
 2. ALL LINES, EQUIPMENT, COMPONENTS, AND INSTRUMENTS ARE SAFETY CLASS MNS.
 3. THE RS IS A ONE DRAWING SYSTEM AND AN OVERVIEW IS NOT REQUIRED.
 4. VALVE Y63 FAILS WITH FLOW TO AE 6919.
 5. VALVE Y36 FAILS WITH FLOW TO RS-F-19.
 6. THE TRAP IS EQUIPPED WITH 1/2" PIPE PLUGS TOP & BOTTOM FOR VENT/DRAIN.
 7. FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS SEE DRAWING 28303.
 8. DELETED
 9. △ INDICATES REVISION LEVEL
 10. THIS VALVE IS THROTTLED.

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

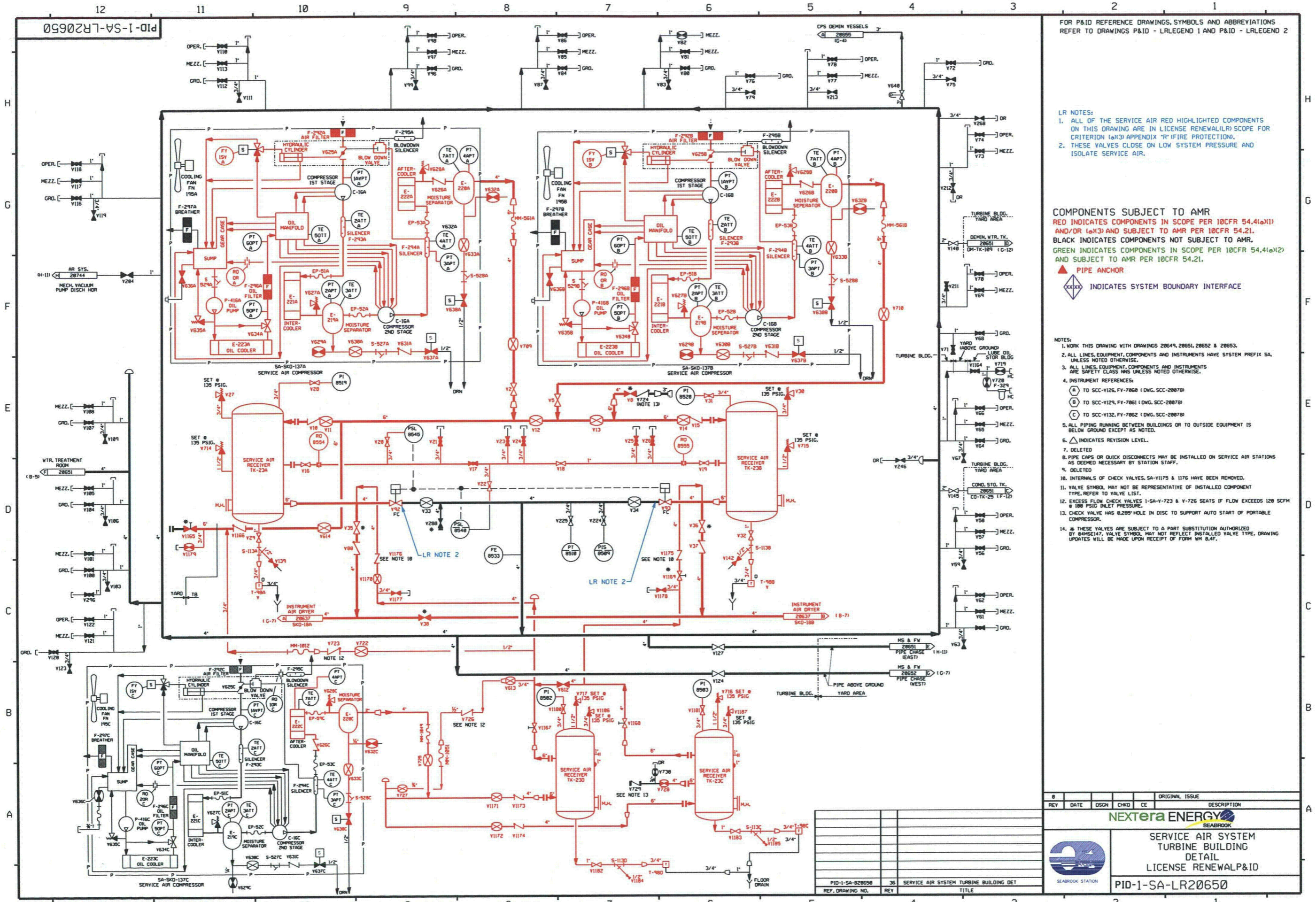
NEXTERA ENERGY
SEABROOK

SPENT RESIN SLUICING SYSTEM LICENSE RENEWAL P&ID

PID-1-RS-LR20252

PID-1-RS-LR20252	REV	TITLE

PID-1-SA-LR20650



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. ALL OF THE SERVICE AIR RED HIGHLIGHTED COMPONENTS ON THIS DRAWING ARE IN LICENSE RENEWAL(LR) SCOPE FOR CRITERION (a)(3) APPENDIX 'R' FIRE PROTECTION.
 2. THESE VALVES CLOSE ON LOW SYSTEM PRESSURE AND ISOLATE SERVICE AIR.

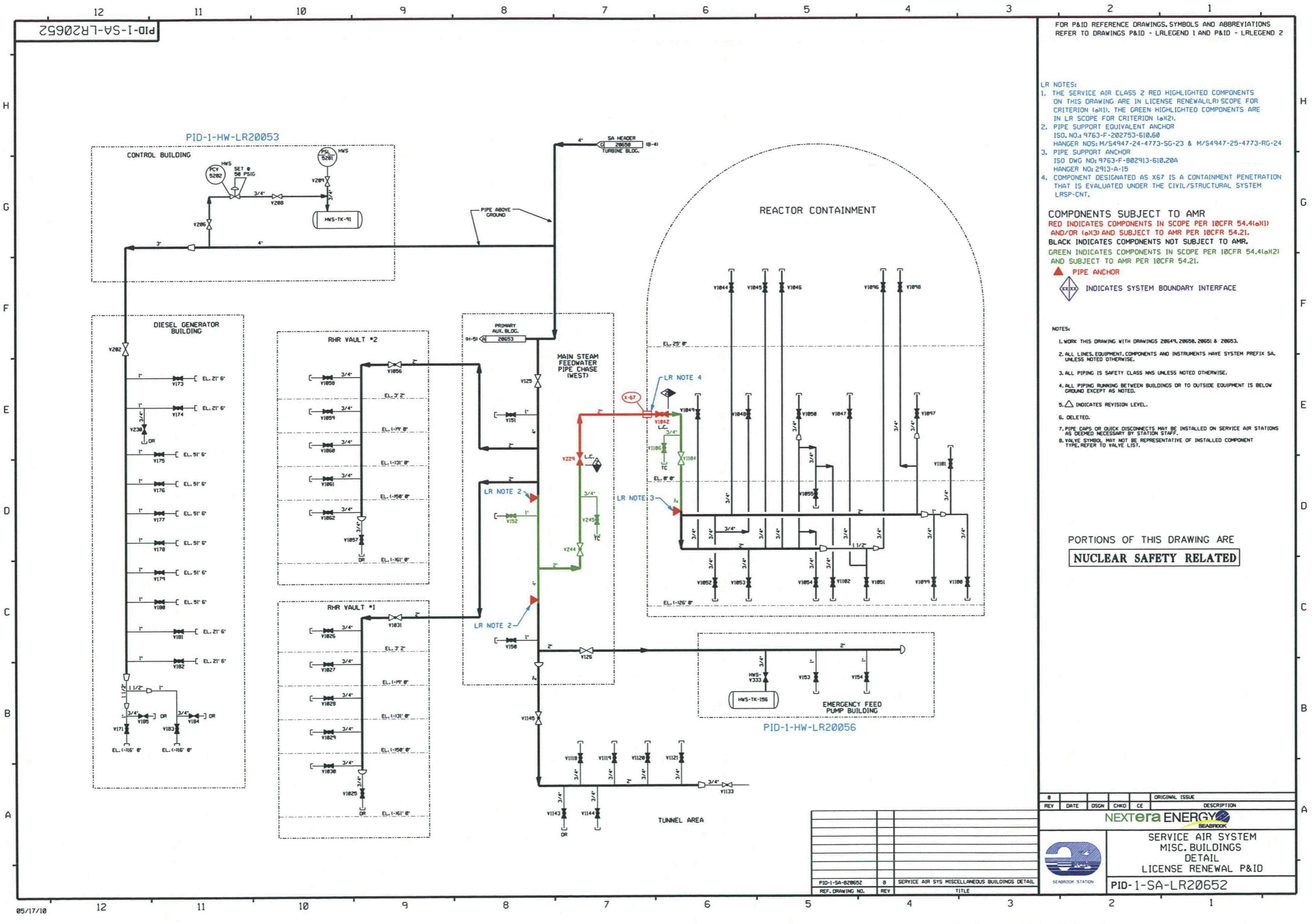
COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
 ▲ PIPE ANCHOR
 ◊ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20649, 20651, 20652 & 20653.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX SA, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MMS UNLESS NOTED OTHERWISE.
 4. INSTRUMENT REFERENCES:
 (A) TO SCC-V126, FY-7068 (DNG, SCC-2007B)
 (B) TO SCC-V124, FY-7061 (DNG, SCC-2007B)
 (C) TO SCC-V132, FY-7062 (DNG, SCC-2007B)
 5. ALL PIPING RUNNING BETWEEN BUILDINGS OR TO OUTSIDE EQUIPMENT IS BELOW GROUND EXCEPT AS NOTED.
 6. ▲ INDICATES REVISION LEVEL.
 7. DELETED
 8. PIPE CAPS OR QUICK DISCONNECTS MAY BE INSTALLED ON SERVICE AIR STATIONS AS DEEMED NECESSARY BY STATION STAFF.
 9. DELETED
 10. INTERNALS OF CHECK VALVES, SA-V1175 & V1176 HAVE BEEN REMOVED.
 11. VALVE SYMBOL MAY NOT BE REPRESENTATIVE OF INSTALLED COMPONENT TYPE, REFER TO VALVE LIST.
 12. EXCESS FLOW CHECK VALVES I-SA-V-723 & V-726 SEATS IF FLOW EXCEEDS 120 SCFM @ 100 PSIG INLET PRESSURE.
 13. CHECK VALVE HAS 0.285" HOLE IN DISC TO SUPPORT AUTO START OF PORTABLE COMPRESSOR.
 14. * THESE VALVES ARE SUBJECT TO A PART SUBSTITUTION AUTHORIZED BY 04MSE147. VALVE SYMBOL MAY NOT REFLECT INSTALLED VALVE TYPE. DRAWING UPDATES WILL BE MADE UPON RECEIPT OF FORM WH 84F.

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

SERVICE AIR SYSTEM TURBINE BUILDING DETAIL LICENSE RENEWAL P&ID	
	PID-1-SA-LR20650

PID-1-SA-LR20652



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
1. THE SERVICE AIR CLASS 2 RED HIGHLIGHTED COMPONENTS ON THIS DRAWING ARE IN LICENSE RENEWAL(LR) SCOPE FOR CRITERION (a)(1). THE GREEN HIGHLIGHTED COMPONENTS ARE IN LR SCOPE FOR CRITERION (a)(2).
 2. PIPE SUPPORT EQUIVALENT ANCHOR
ISO. NO. 9763-F-202753-610.60
HANGER NOS: M/54947-24-4773-S0-23 & M/54947-25-4773-RG-24
 3. PIPE SUPPORT ANCHOR
ISO DWG NO: 9763-F-802913-610.20A
HANGER NO: 2913-A-15
 4. COMPONENT DESIGNATED AS X67 IS A CONTAINMENT PENETRATION THAT IS EVALUATED UNDER THE CIVIL/STRUCTURAL SYSTEM LRSP-CNT.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
▲ PIPE ANCHOR
◇ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:
1. WORK THIS DRAWING WITH DRAWINGS 20649, 20650, 20651 & 20653.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX SA, UNLESS NOTED OTHERWISE.
 3. ALL PIPING IS SAFETY CLASS NNS UNLESS NOTED OTHERWISE.
 4. ALL PIPING RUNNING BETWEEN BUILDINGS OR TO OUTSIDE EQUIPMENT IS BELOW GROUND EXCEPT AS NOTED.
 5. △ INDICATES REVISION LEVEL.
 6. DELETED.
 7. PIPE CAPS OR QUICK DISCONNECTS MAY BE INSTALLED ON SERVICE AIR STATIONS AS DEEMED NECESSARY BY STATION STAFF.
 8. VALVE SYMBOL MAY NOT BE REPRESENTATIVE OF INSTALLED COMPONENT TYPE. REFER TO VALVE LIST.

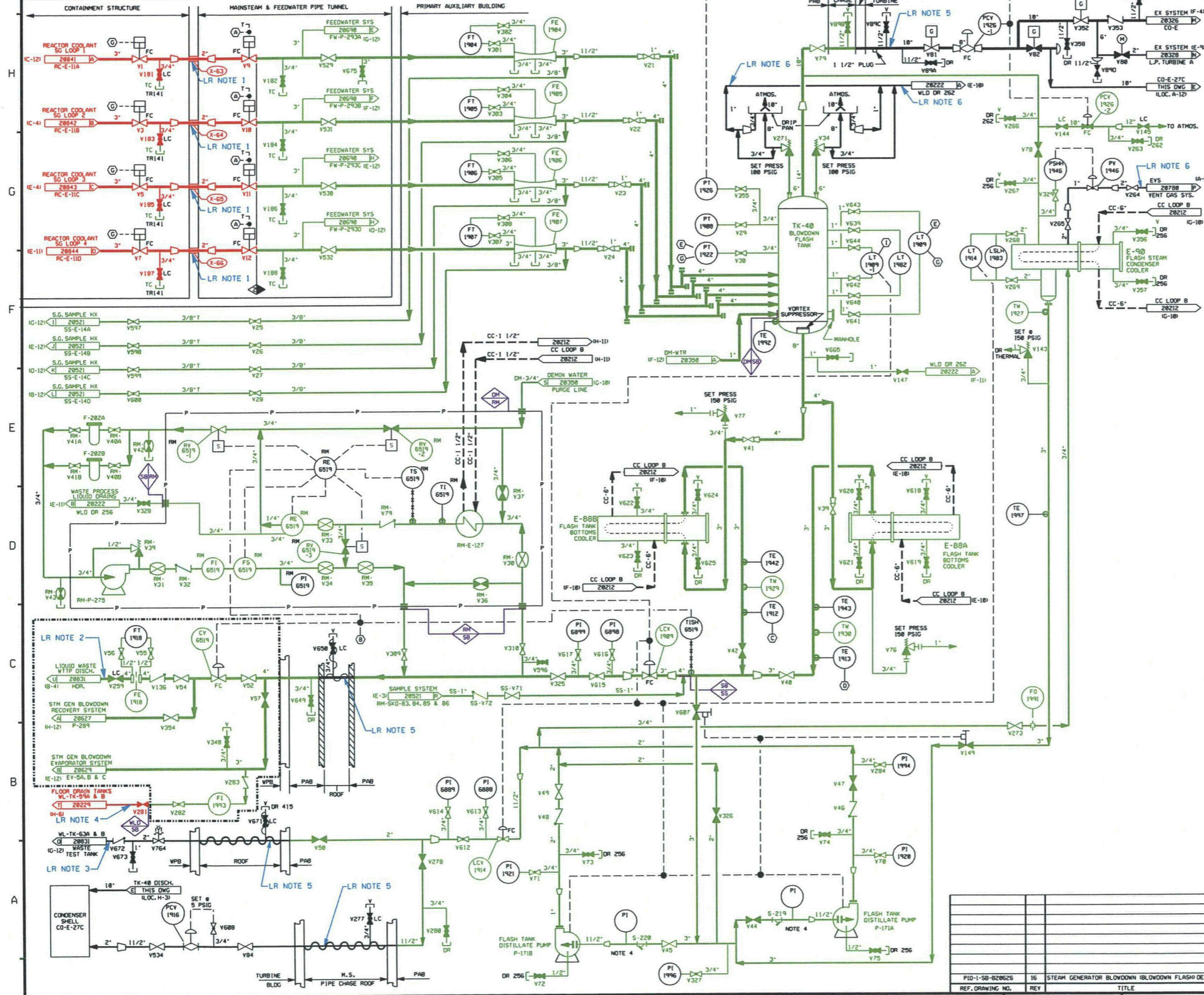
PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	DESCRIPTION
0					ORIGINAL ISSUE

SERVICE AIR SYSTEM MISC. BUILDINGS DETAIL LICENSE RENEWAL P&ID	
PID-1-SA-LR20652	

PID-1-SA-B20652	0	SERVICE AIR SYS MISCELLANEOUS BUILDINGS DETAIL
REF. DRAWING NO.	REV	TITLE

PID-1-SB-LR20626



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

- LR NOTES:
- COMPONENTS DESIGNATED AS X-63, X-64, X-65 & X-66 ARE CONTAINMENT PENETRATIONS THAT ARE EVALUATED UNDER THE CIVIL STRUCTURAL SYSTEM LRSP-CNT.
 - THESE COMPONENTS ARE IN SCOPE FOR (a)(2) BECAUSE THEY ARE LOCATED IN THE TANK FARM PORTION OF WPB.
 - PIPE EXITS WASTE PROCESS BUILDING TANK FARM AREA AND IS NOT SUBJECT TO AGING MANAGEMENT REVIEW.
 - THE COMPONENTS HIGHLIGHTED IN RED THAT ARE NOT SAFETY RELATED ARE IN LR SCOPE AS CRITERION (a)(3), FIRE PROTECTION.
 - COMPONENTS ARE LOCATED IN AREA WHERE NO SAFETY RELATED COMPONENTS ARE THEREFORE THESE COMPONENTS HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.
 - PIPING HAS AN AIR/GAS ENVIRONMENT THEREFORE THESE COMPONENTS HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

- ▲ PIPE ANCHOR
- ◆ INDICATES SYSTEM BOUNDARY INTERFACE
- SB - STEAM GENERATOR BLOWDOWN SYSTEM
 - RM - RADIATION MONITORING SYSTEM
 - SS - SAMPLE SYSTEM
 - DM - DEMINERALIZED WATER SYSTEM
 - WLD - WASTE PROCESSING LIQUID DRAINS SYSTEM

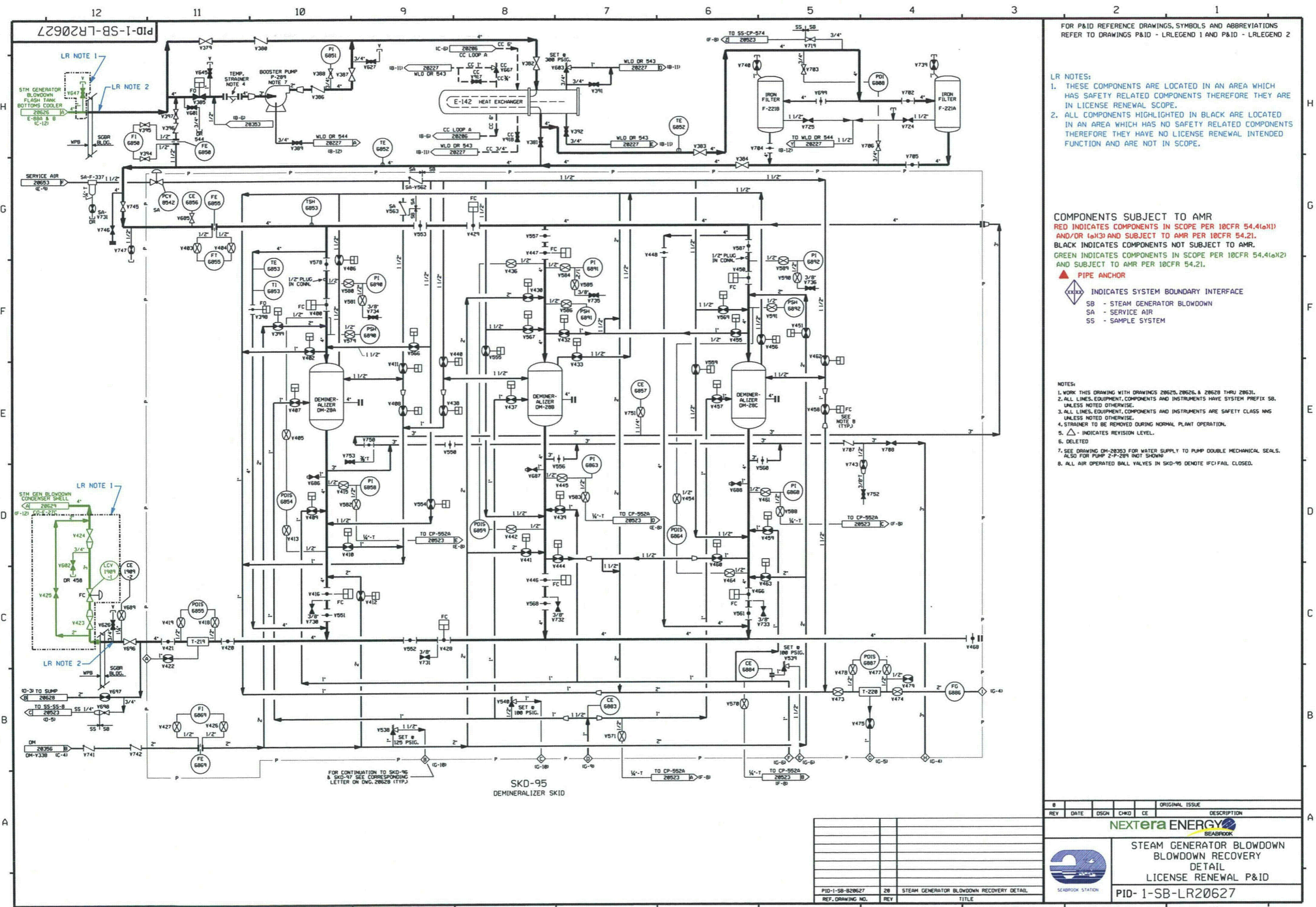
- NOTES:
- WORK THIS DRAWING 20625 AND 20627 THRU 20631.
 - ALL PIPING, VALVES, EQUIP. & INSTRUMENTS HAVE SYSTEM PREFIX SB, UNLESS NOTED OTHERWISE.
 - ALL PIPING, VALVES, EQUIPMENT & INSTRUMENTS ARE SAFETY CLASS NMS UNLESS NOTED OTHERWISE.
 - PROVIDE 3/4" PRESSURE TAP & PLUG FOR PIS, START-UP ENGINEERING TO PROVIDE PIPING, VALVES & PIS ALSO STRAINER BLOW-OFF PIPING & VALVES FOR INITIAL OPERATION, STRAINER SCREEN TO BE REMOVED AFTER START-UP.
 - ▲ INDICATES REVISION LEVEL.
 - VENTS, DRAINS, AND TEST CONNECTION CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-800511, UNLESS NOTED OTHERWISE.
 - INSTRUMENT REFERENCES:
 - (A) FROM EMERGENCY FEEDWATER PUMPS, CLOSE SIGNAL TO SB-Y9 THRU SB-Y12.
 - (B) FROM RM-RM-6510 THRU 6513 INTERLOCK, DWG 20519 & RM-RM-6519.
 - (C) TO TCY-1912 (SB-E-888 OUTLET) ON DWG 20212.
 - (D) TO TCY-1913 (SB-E-888 OUTLET) ON DWG 20212.
 - (E) TO TCY-1922 (SB-E-98 OUTLET) ON DWG 20212.
 - (F) HI HI PR & HI HI LEVEL ON TK-40 TO SHUT SB-V1, V3, V5 & V7.
 - (I) TO LCY-1909-1 ON DWG 20627.

PORTIONS OF THIS DRAWING ARE
NUCLEAR SAFETY RELATED

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

STEAM GENERATOR BLOWDOWN (FLASH) DETAIL
 LICENSE RENEWAL P&ID
 PID-1-SB-LR20626

PID-1-SB-LR20627



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRL0001 AND P&ID - LRL0002

LR NOTES:
 1. THESE COMPONENTS ARE LOCATED IN AN AREA WHICH HAS SAFETY RELATED COMPONENTS THEREFORE THEY ARE IN LICENSE RENEWAL SCOPE.
 2. ALL COMPONENTS HIGHLIGHTED IN BLACK ARE LOCATED IN AN AREA WHICH HAS NO SAFETY RELATED COMPONENTS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SB - STEAM GENERATOR BLOWDOWN
 SA - SERVICE AIR
 SS - SAMPLE SYSTEM

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20625, 20626 & 20628 THRU 20631.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX SB, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS MNS UNLESS NOTED OTHERWISE.
 4. STRAINER TO BE REMOVED DURING NORMAL PLANT OPERATION.
 5. △ - INDICATES REVISION LEVEL.
 6. DELETED
 7. SEE DRAWING DM-20353 FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS. ALSO FOR PUMP 2-P-289 NOT SHOWN.
 8. ALL AIR OPERATED BALL VALVES IN SKD-95 DENOTE IFC/FAIL CLOSED.

FOR CONTINUATION TO SKD-96 & SKD-97 SEE CORRESPONDING LETTER ON DWG. 20629 (TYP.)
 SKD-95
 DEMINERALIZER SKID

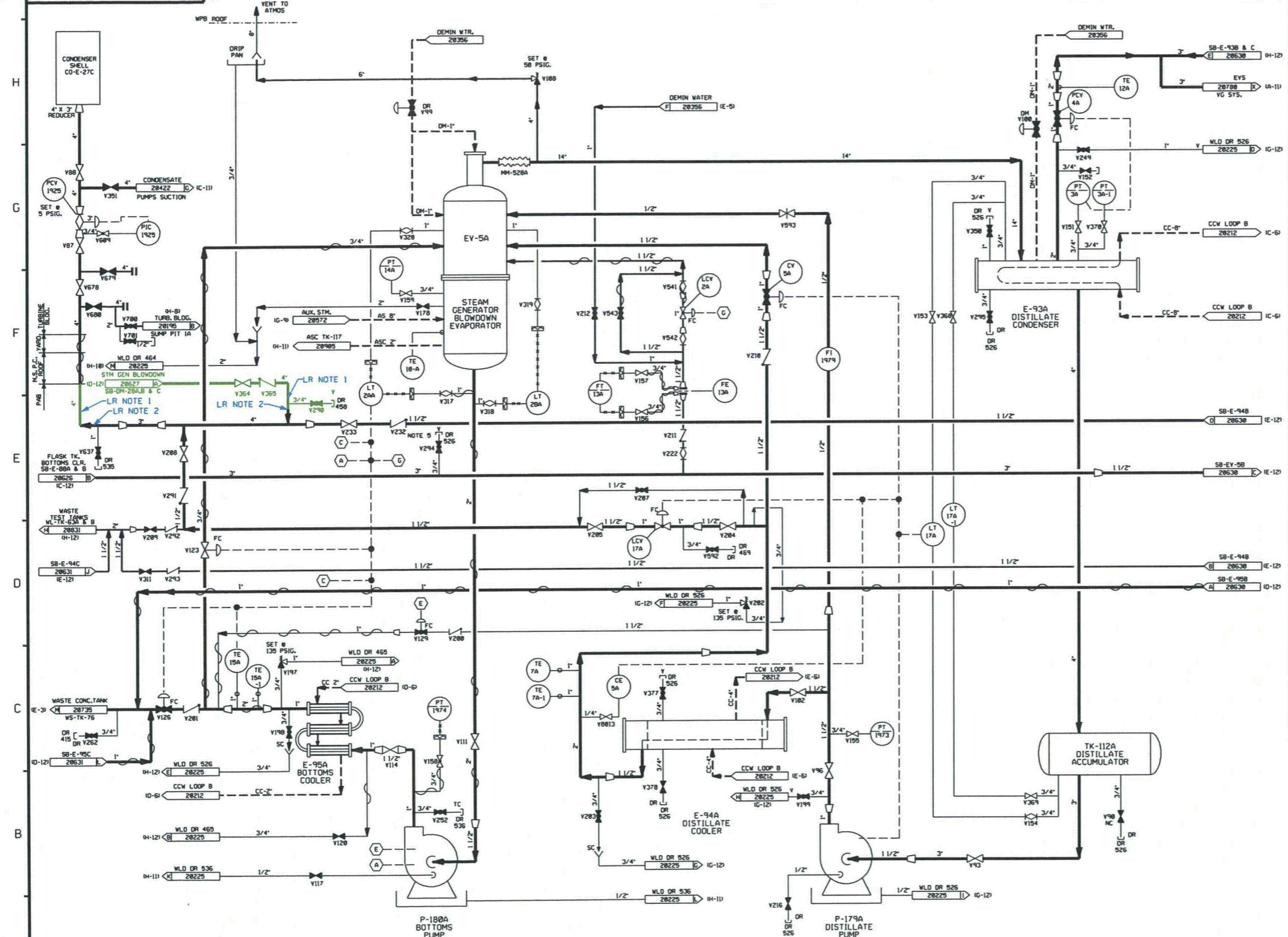
REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

NEXTERA ENERGY
SEABROOK

STEAM GENERATOR BLOWDOWN
BLOWDOWN RECOVERY
DETAIL
LICENSE RENEWAL P&ID

PID-1-SB-LR20627

PID-1-SB-LR20629



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. THESE COMPONENTS ARE LOCATED IN AN AREA WHICH HAS SAFETY RELATED COMPONENTS THEREFORE THEY ARE IN LICENSE RENEWAL SCOPE.
 2. ALL COMPONENTS IN BLACK ARE LOCATED IN AN AREA WHICH HAS NO SAFETY RELATED COMPONENTS THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.
 ▲ PIPE ANCHOR
 ◊ INDICATES SYSTEM BOUNDARY INTERFACE

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 28625 THRU 28628, 28630 & 28631.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX SB, UNLESS NOTED OTHERWISE.
 3. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS NMS, UNLESS NOTED OTHERWISE.
 4. FLUSH AND CHEMICAL ADDITION CONNECTION.
 5. NITROGEN PURGE CONNECTION FOR DRY LAY-UP.
 6. SEE DRAWING 28353 FOR WATER SUPPLY TO PUMP DOUBLE MECHANICAL SEALS.
 7. ▲ INDICATES REVISION LEVEL.
 8. INSTRUMENTATION REFERENCES
 (A) LOW LOW EV-5A INTERLOCK WITH P-180A
 (C) HIGH E-95A OUTLET TEMP., HIGH WS-TK-76 LEVEL AND LOW DISCHARGE EV-5A INTERLOCK.
 (E) DISTILLATE FLUSH Y124, P-180A.
 (D) EV-5A HI HI LVL. LCV-2A INTERLOCK.
 9. CONNECTION FOR TEMPORARY CST FILL LINE.

REV	DATE	DSGN	CHKD	CE	ORIGINAL ISSUE	DESCRIPTION

NEXTERA ENERGY
SEABROOK

**STEAM GENERATOR BLOWDOWN
BLOWDOWN EVAPORATION
DETAIL
LICENSE RENEWAL P&ID**

PID-1-SB-LR20629



05/17/10

PID-1-SCW-LR20709

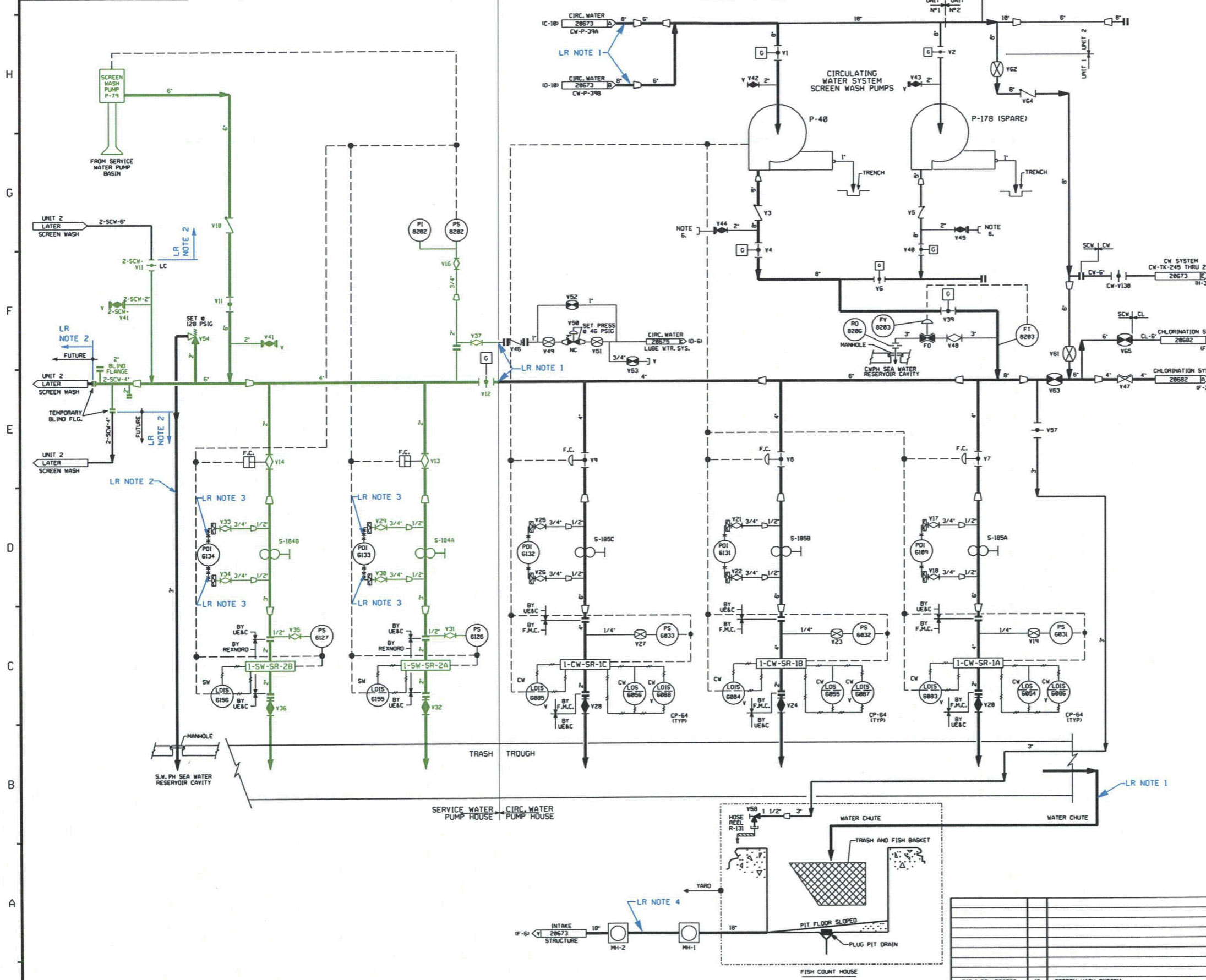
FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGENO 1 AND P&ID - LRLEGENO 2

- LR NOTES:
1. SCREEN WASH (SCW) COMPONENTS IN THE CIRCULATING WATER PUMP HOUSE ARE NOT IN THE SCOPE OF LICENSE RENEWAL (LR) SINCE THERE ARE NO SAFETY RELATED COMPONENTS IN THIS BUILDING.
 2. PIPING CONTAINS AIR/GAS INTERNAL ENVIRONMENT SO THEREFORE THIS PIPING HAS NO LR INTENDED FUNCTION SO IT IS NOT IN SCOPE.
 3. CAPILLARY TUBING IS PART OF THE INSTRUMENT AND CONSIDERED AN ACTIVE COMPONENT PER NEI 95-10.
 4. COMPONENTS ARE LOCATED IN THE YARD WHERE NO SAFETY RELATED COMPONENTS ARE, THEREFORE THEY HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE

- NOTES:
- 1) THE SCW IS A ONE DRAWING SYSTEM AND AN OVERVIEW IS NOT REQUIRED.
 - 2) ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS HAVE SYSTEM PREFIX 1-SCW UNLESS NOTED OTHERWISE.
 - 3) ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTS ARE SAFETY CLASS INWS UNLESS NOTED OTHERWISE.
 - 4) INSTRUMENTATION REFERENCES:
 (A) TO 2-SCW-LOIS-6155 & 6156
 - 5) ▲ INDICATES REVISION LEVEL
 - 6) ALTERNATE CW/LUBE WATER SUPPLY HOSE CONNECTION TO CW-Y-235 (PID-1-CW-20673 ID-10P)



REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

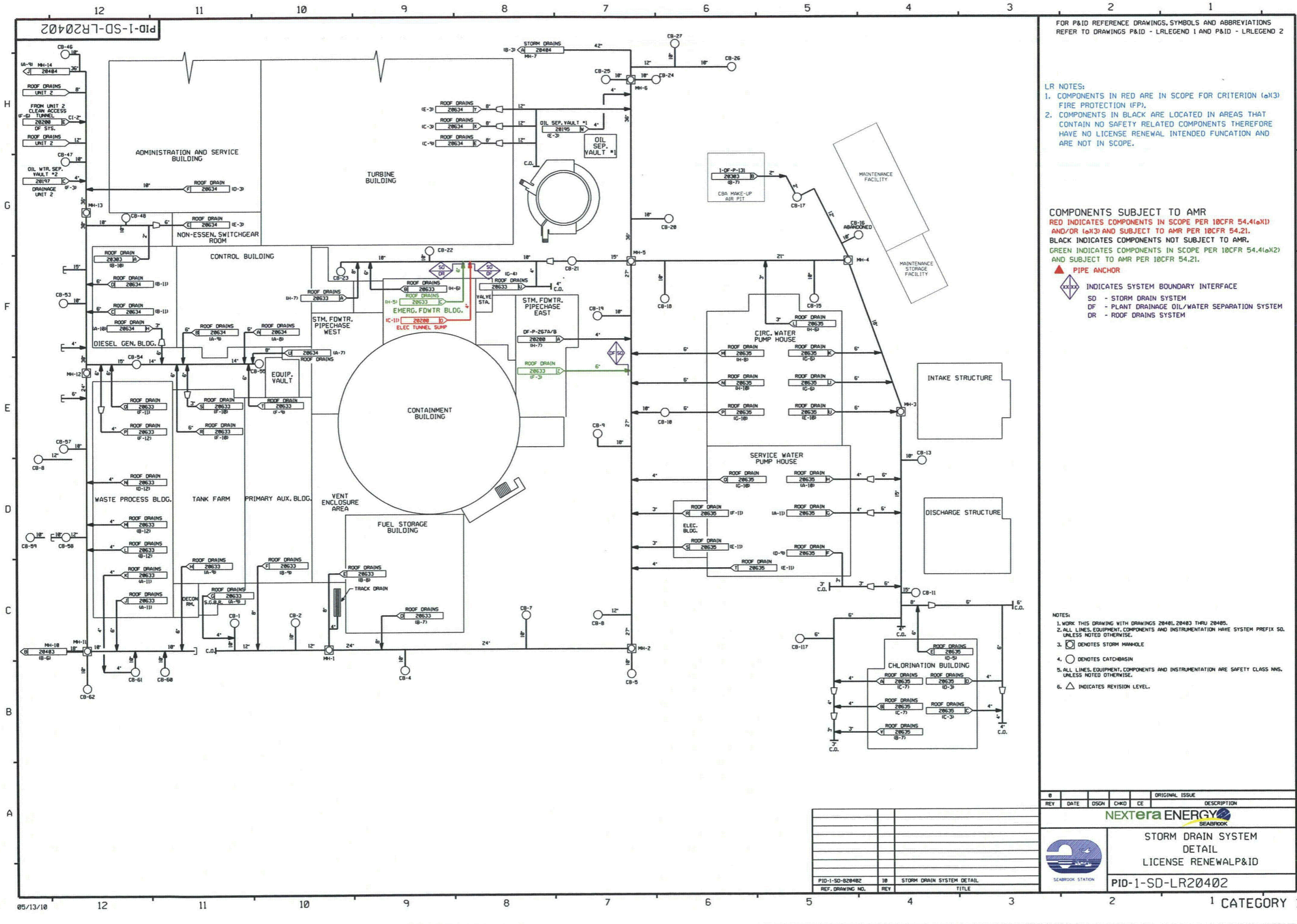
SCREEN WASH SYSTEM
LICENSE RENEWAL P&ID

PID-1-SCW-LR20709

SEABROOK STATION

PID-1-SCW-820709	16	SCREEN WASH SYSTEM
REF. DRAWING NO.	REV	TITLE

PID-1-SD-LR20402



FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2

LR NOTES:
 1. COMPONENTS IN RED ARE IN SCOPE FOR CRITERION (a)(3) FIRE PROTECTION (FP).
 2. COMPONENTS IN BLACK ARE LOCATED IN AREAS THAT CONTAIN NO SAFETY RELATED COMPONENTS THEREFORE HAVE NO LICENSE RENEWAL INTENDED FUNCTION AND ARE NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◆ INDICATES SYSTEM BOUNDARY INTERFACE
 SD - STORM DRAIN SYSTEM
 DF - PLANT DRAINAGE OIL/WATER SEPARATION SYSTEM
 DR - ROOF DRAINS SYSTEM

NOTES:
 1. WORK THIS DRAWING WITH DRAWINGS 20401, 20403 THRU 20405.
 2. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTATION HAVE SYSTEM PREFIX SD, UNLESS NOTED OTHERWISE.
 3. ○ DENOTES STORM MANHOLE
 4. ○ DENOTES CATCHBASIN
 5. ALL LINES, EQUIPMENT, COMPONENTS AND INSTRUMENTATION ARE SAFETY CLASS NNS, UNLESS NOTED OTHERWISE.
 6. △ INDICATES REVISION LEVEL.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

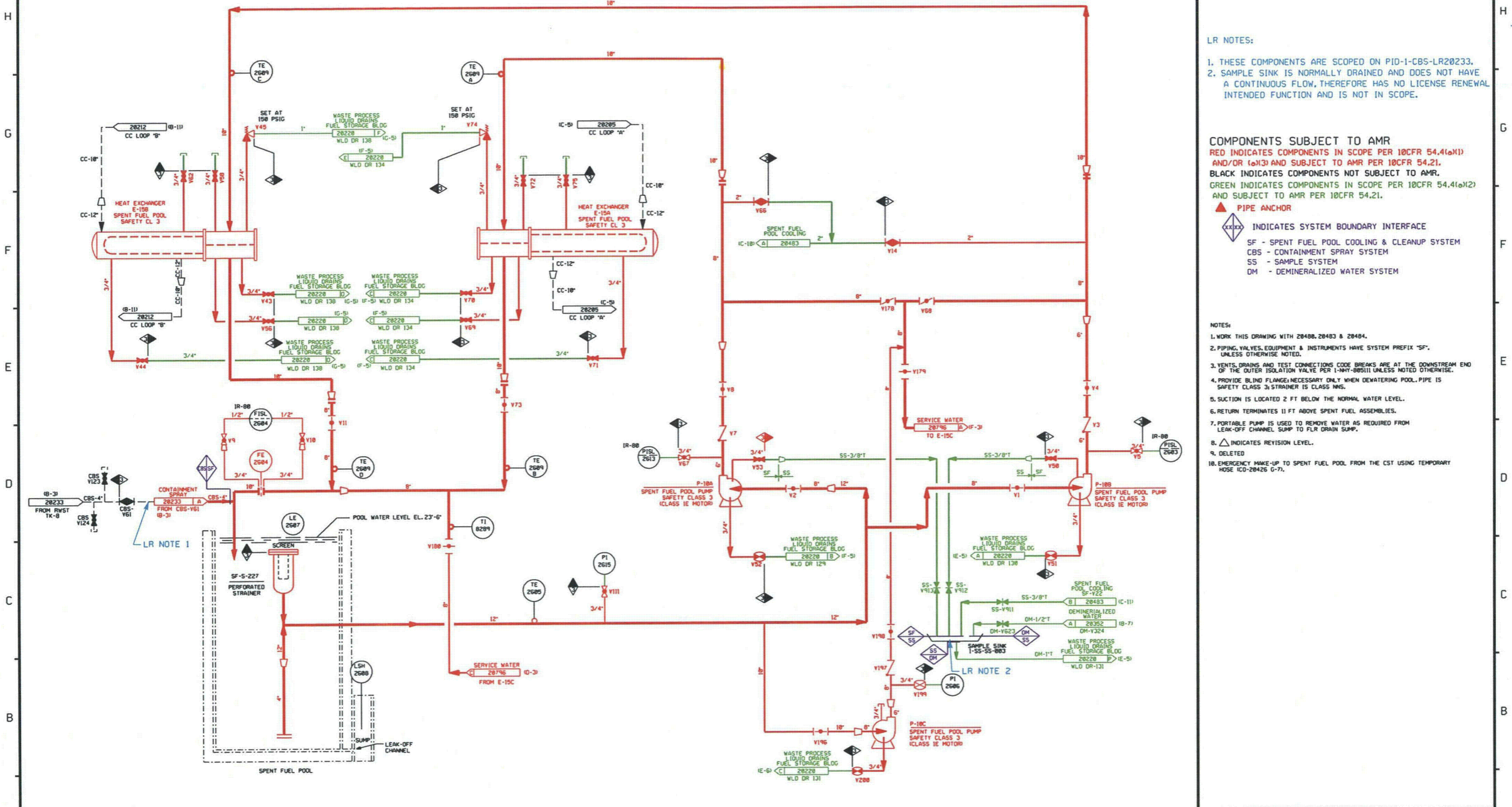
NEXTERA ENERGY
SEABROOK

STORM DRAIN SYSTEM
DETAIL
LICENSE RENEWAL P&ID

PID-1-SD-LR20402

05/13/10 12 11 10 9 8 7 6 5 4 3 2 1 CATEGORY 1

FOR P&ID REFERENCE DRAWINGS, SYMBOLS AND ABBREVIATIONS REFER TO DRAWINGS P&ID - LRLEGEND 1 AND P&ID - LRLEGEND 2



LR NOTES:
 1. THESE COMPONENTS ARE SCOPED ON PID-1-CBS-LR20233.
 2. SAMPLE SINK IS NORMALLY DRAINED AND DOES NOT HAVE A CONTINUOUS FLOW, THEREFORE HAS NO LICENSE RENEWAL INTENDED FUNCTION AND IS NOT IN SCOPE.

COMPONENTS SUBJECT TO AMR
 RED INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(1) AND/OR (a)(3) AND SUBJECT TO AMR PER 10CFR 54.21.
 BLACK INDICATES COMPONENTS NOT SUBJECT TO AMR.
 GREEN INDICATES COMPONENTS IN SCOPE PER 10CFR 54.4(a)(2) AND SUBJECT TO AMR PER 10CFR 54.21.

▲ PIPE ANCHOR
 ◊ INDICATES SYSTEM BOUNDARY INTERFACE
 SF - SPENT FUEL POOL COOLING & CLEANUP SYSTEM
 CBS - CONTAINMENT SPRAY SYSTEM
 SS - SAMPLE SYSTEM
 DM - DEMINERALIZED WATER SYSTEM

NOTES:
 1. WORK THIS DRAWING WITH 20480, 20483 & 20484.
 2. PIPING, VALVES, EQUIPMENT & INSTRUMENTS HAVE SYSTEM PREFIX 'SF', UNLESS OTHERWISE NOTED.
 3. VENTS, DRAINS AND TEST CONNECTIONS CODE BREAKS ARE AT THE DOWNSTREAM END OF THE OUTER ISOLATION VALVE PER 1-NHY-88511 UNLESS NOTED OTHERWISE.
 4. PROVIDE BLIND FLANGE, NECESSARY ONLY WHEN DRAINING POOL. PIPE IS SAFETY CLASS 3; STRAINER IS CLASS MNS.
 5. SUCTION IS LOCATED 2 FT BELOW THE NORMAL WATER LEVEL.
 6. RETURN TERMINATES 11 FT ABOVE SPENT FUEL ASSEMBLIES.
 7. PORTABLE PUMP IS USED TO REMOVE WATER AS REQUIRED FROM LEAK-OFF CHANNEL SUMP TO FLR DRAIN SUMP.
 8. ▲ INDICATES REVISION LEVEL.
 9. DELETED
 10. EMERGENCY MAKE-UP TO SPENT FUEL POOL FROM THE CST USING TEMPORARY HOSE ICD-20426 G-7.

REV	DATE	DSGN	CHKD	CE	DESCRIPTION

ORIGINAL ISSUE

NEXTERA ENERGY
SEABROOK

SPENT FUEL POOL COOLING AND CLEAN-UP SYSTEM
DETAIL
LICENSE RENEWAL P&ID

PID-1-SF-LR20482