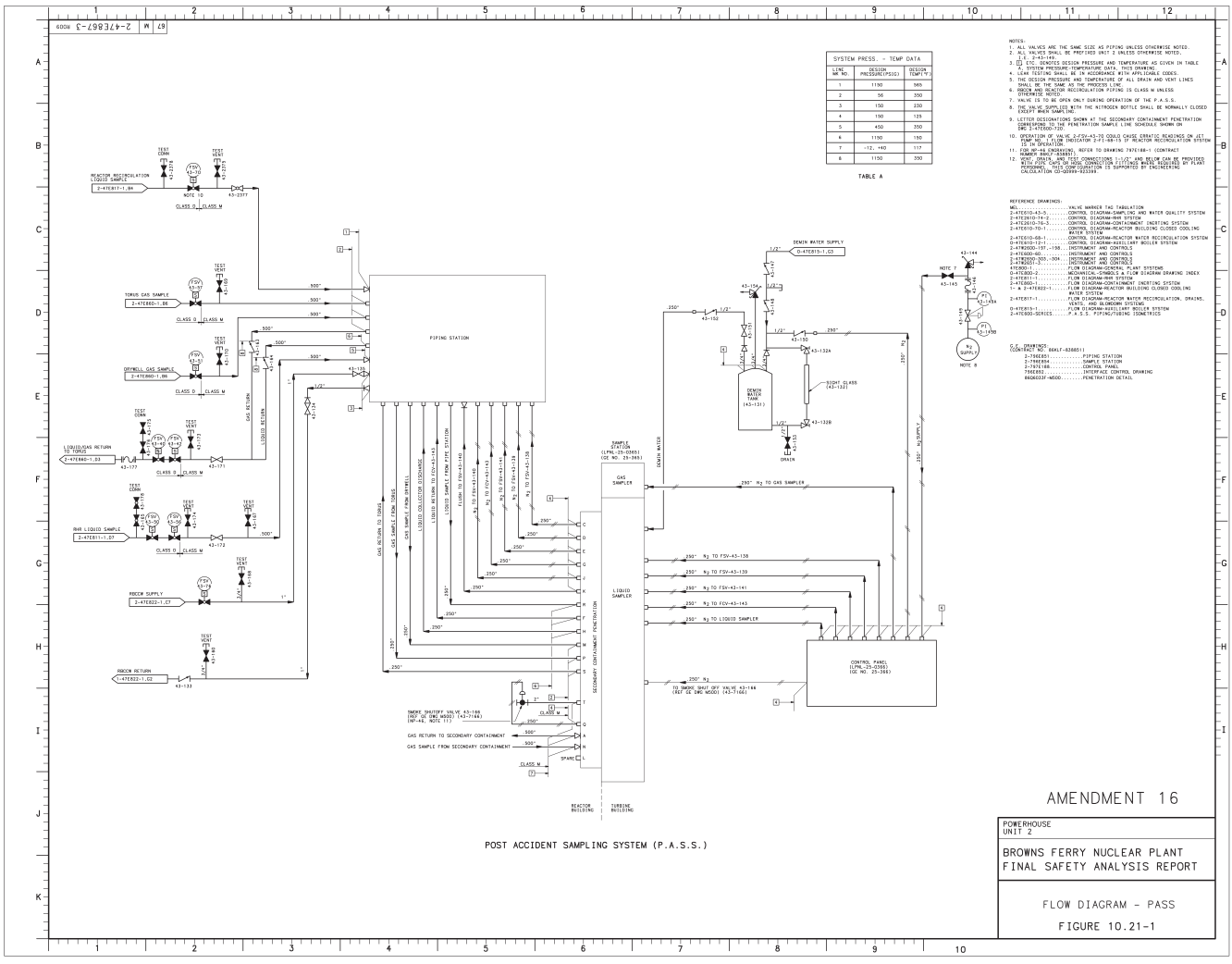
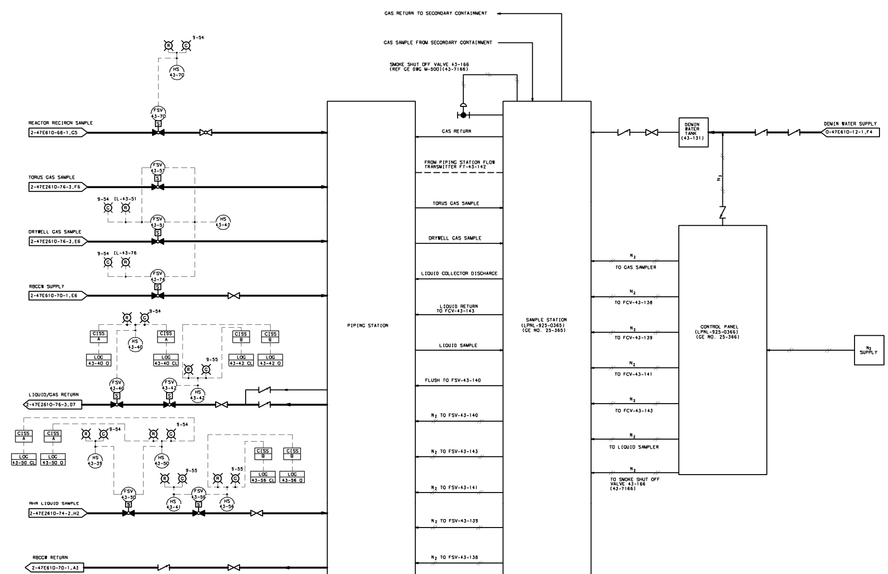


POST ACCIDENT SAMPLING SYSTEM (P.A.S.S.)

67 M 2-47E610-43-5



POST ACCIDENT SAMPLING SYSTEM (P.A.S.S.)

NOTES:

1. FOR GENERAL NOTES AND SYMBOLS SEE 2-47E610-43-1.
2. OPERATION OF THE POST ACCIDENT SAMPLING SYSTEM (P.A.S.S.) TO BE IN ACCORDANCE WITH GENERAL ELECTRIC (GE) DOCUMENT KLF-12 (GEK-94894) UNDER CONTRACT NO. 86KLF-838851.

REFERENCE DRAWINGS:

2-47E2610-74-2.....CONTROL DIAGRAM-RHR SYSTEM
2-47E2610-76-3.....CONTROL DIAGRAM-CONTAINMENT INERTING SYSTEM
2-47E610-70-1......CONTROL DIAGRAM-REACTOR BUILDING CLOSED COOLING WATER SYSTEM
2-47E610-68-1......CONTROL DIAGRAM-REACTOR WATER RECIRCULATION SYSTEM
0-47E610-12-1......CONTROL DIAGRAM-AUXILIARY BOILER SYSTEM
47W2600-197, -198..INSTRUMENT AND CONTROLS
2-47E600-60........INSTRUMENT AND CONTROLS
47W2650-303, -304..INSTRUMENT AND CONTROLS
47W2651-3..........INSTRUMENT AND CONTROLS
2-47E867-3.........FLOW DIAGRAM-SAMPLING AND WATER QUALITY SYSTEM

GENERAL ELECTRIC CO DRAWINGS: (CONTRACT NO 86KLF-838851)

796E851............PIPING STATION
796E854............SAMPLE STATION
797E188............CONTROL PANEL
796E864............CONNECTION DIAGRAM
796E892............P.A.S.S. INTERFACE CONTROL
86Q6033F-N500......PENETRATION DETAIL

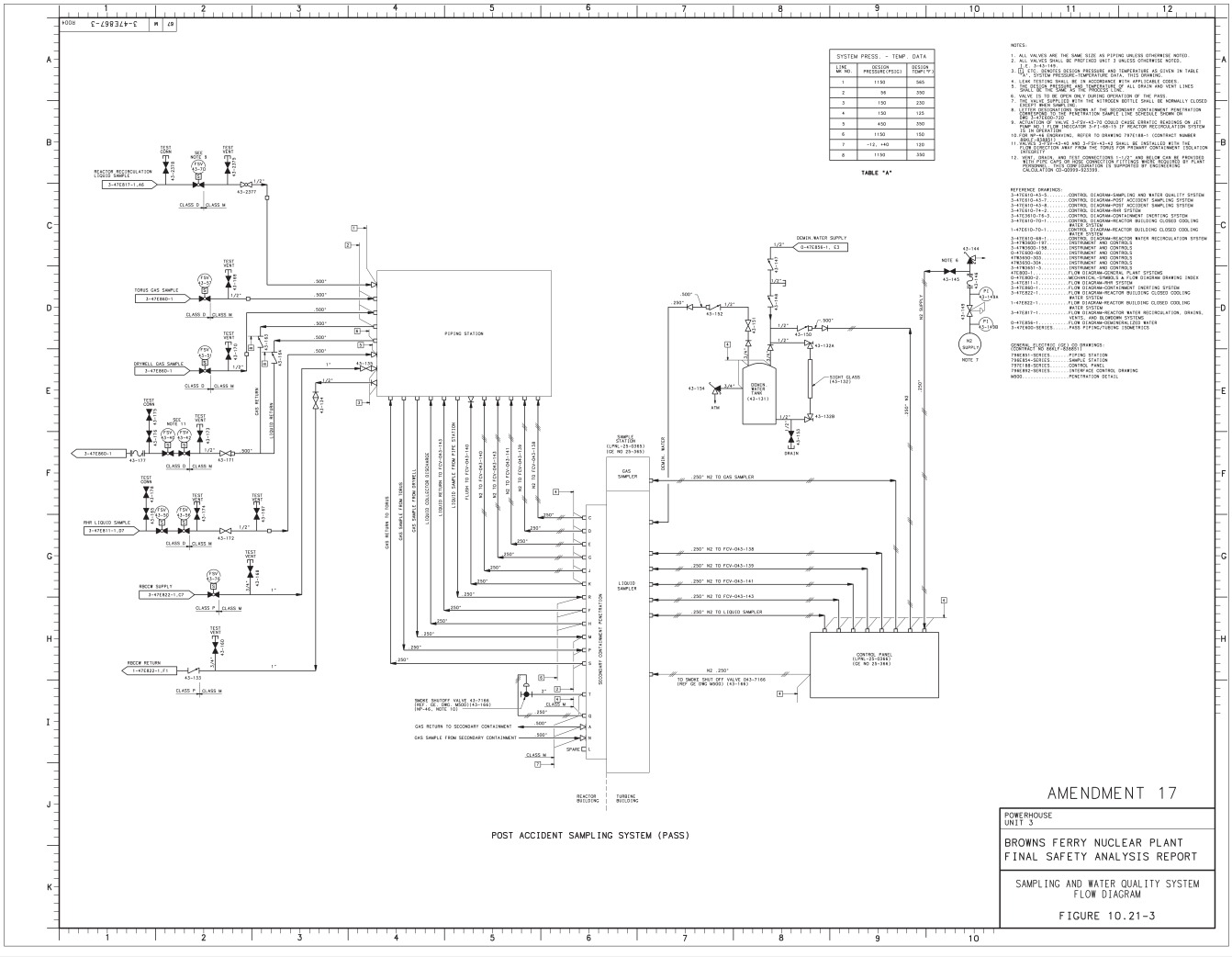
AMENDMENT 24

POWERHOUSE
UNIT 2

BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY ANALYSIS REPORT

MECHANICAL CONTROL
DIAGRAM - PASS

FIGURE 10.21-2



POST ACCIDENT SAMPLING SYSTEM (PASS)

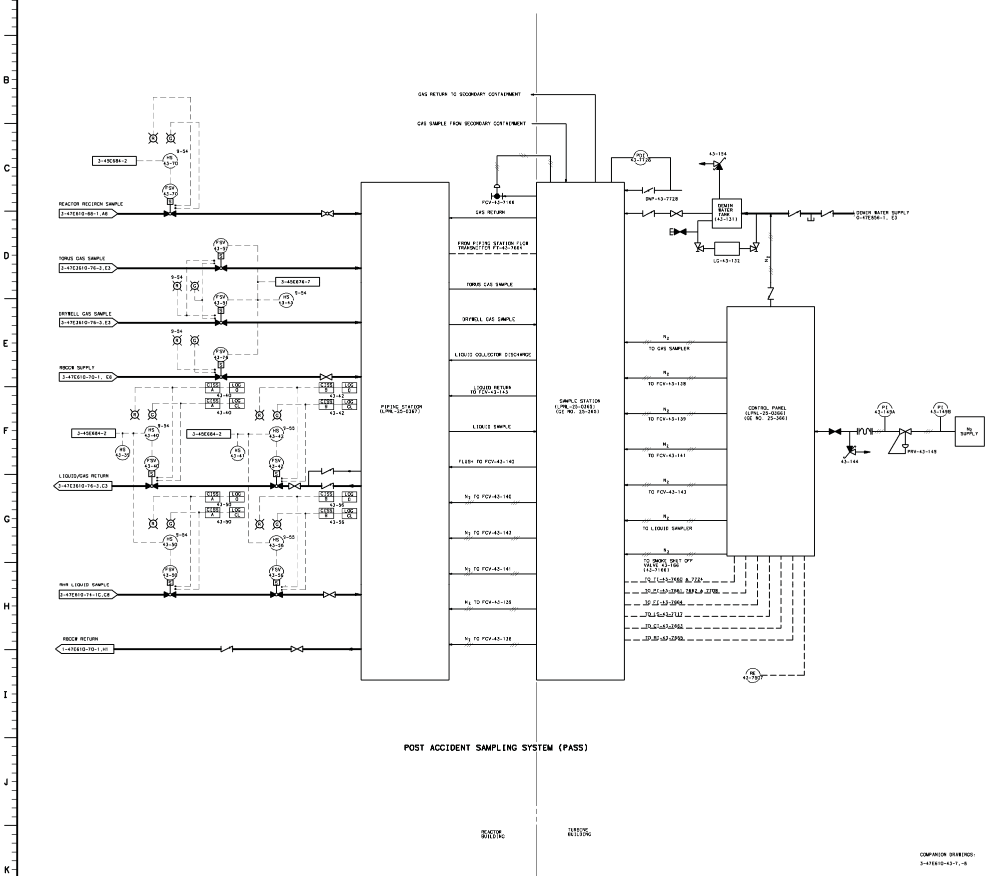
AMENDMENT 17

POWERHOUSE UNIT 3

BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY ANALYSIS REPORT

SAMPLING AND WATER QUALITY SYSTEM FLOW DIAGRAM

FIGURE 10.21-3



POST ACCIDENT SAMPLING SYSTEM (PASS)

NOTES:

1. FOR GENERAL NOTES AND SYMBOLS SEE 3-47E610-43-1.
2. OPERATION OF THE POST ACCIDENT SAMPLING SYSTEM (PASS) TO BE IN ACCORDANCE WITH GENERAL ELECTRIC (GE) DOCUMENT KLF-12 (GEK-94894) UNDER CONTRACT NO. 86KLF-838851.

REFERENCE DRAWINGS:

3-47E610-74-2......CONTROL DIAGRAM-RHR SYSTEM
3-47E3610-76-3.....CONTROL DIAGRAM-CONTAINMENT INERTING SYSTEM
3-47E610-70-1......CONTROL DIAGRAM-REACTOR BUILDING CLOSED COOLING WATER SYSTEM
1-47E610-70-1......CONTROL DIAGRAM -REACTOR BUILDING CLOSED COOLING WATER SYSTEM
3-47E610-68-1......CONTROL DIAGRAM-REACTOR WATER RECIRCULATION SYSTEM
0-47E856-1.........FLOW DIAGRAM DEMIN-WATER
3-47W3600-197,-198.INSTRUMENT AND CONTROLS
3-47E600-60........INSTRUMENT AND CONTROLS
3-47E867-3.........FLOW DIAGRAM-SAMPLING AND WATER QUALITY SYSTEM
0-47E600-0A........PANEL INDEX
0-47E600-6.........PANEL LOCATION
3-47E200-13........EQUIPMENT LOCATION
0-47E600-7.........PANEL INDEX
3-47E600-714,-715,-716,-717,-718,-719,-720,-721,-722... MECHANICAL INSTRUMENT AND CONTROLS ISOMETRIC
0-47E605-0.........MECHANICAL LAYOUT OF CONTROL BOARDS
3-47E605-180.......MECHANICAL LAYOUT OF CONTROL BOARDS
3-45E684-2.........WIRING DIAGRAM CONTAINMENT ATM OIL SYSTEM SCHEMATIC DIAGRAM
3-45E676-7.........WIRING DIAGRAM CONTAINMENT ATM MON SYS SCHEMATIC DIAGRAM

GENERAL ELECTRIC CO DRAWINGS: (CONTRACT NO 86KLF-838851)

796E851............PIPING STATION
796E854............SAMPLE STATION
797E188............CONTROL PANEL
796E864............CONNECTION DIAGRAM
796E892............PASS INTERFACE CONTROL
M500...............PENETRATION DETAIL
797E186............INTERCONNECTION DIAGRAM
796E875............LIQUID SAMPLER
796E867............GAS SAMPLER

COMPANION DRAWINGS:
3-47E610-43-7,-8

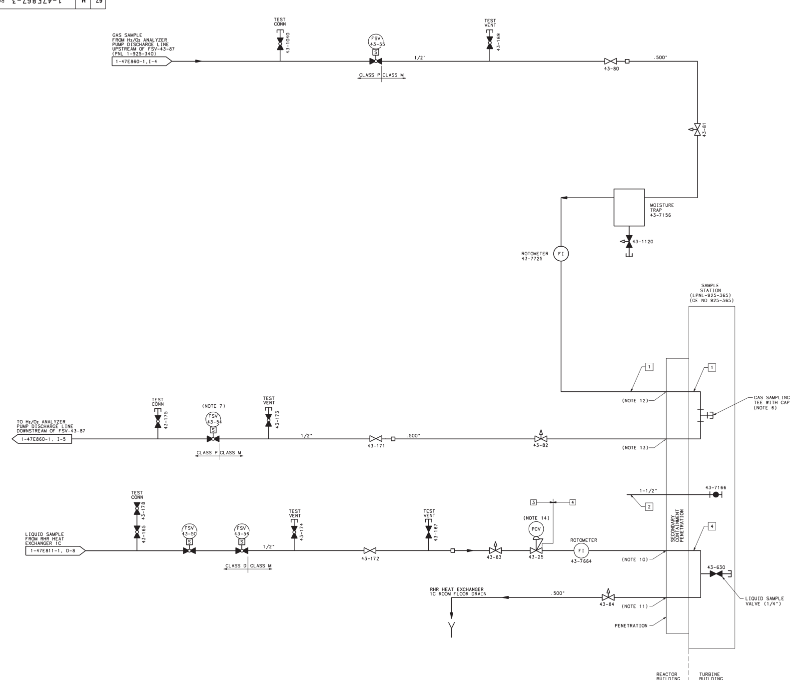
AMENDMENT 24

POWERHOUSE
UNIT 3

BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY ANALYSIS REPORT

SAMPLING AND WATER QUALITY SYSTEM
MECHANICAL CONTROL DIAGRAM

FIGURE 10.21-4



SYSTEM PRESS. - TEMP. DATA		
LINE MK NO.	DESIGN PRESSURE(PSIG)	DESIGN TEMP(°F)
1	56	340
2	-12,+40	120
3	450	350
4	30	350

TABLE "A"

NOTES:
1. ALL VALVES ARE THE SAME SIZE AS PIPING UNLESS OTHERWISE NOTED.
2. ALL VALVES SHALL BE PREFIXED UNIT 1 UNLESS OTHERWISE NOTED, I.E. 1-43-149.
3. [1], ETC. DENOTES DESIGN PRESSURE AND TEMPERATURE AS GIVEN IN TABLE "A", SYSTEM PRESSURE-TEMPERATURE DATA, THIS DRAWING.
4. LEAK TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE CODES.
5. THE DESIGN PRESSURE AND TEMPERATURE OF ALL DRAIN AND VENT LINES SHALL BE THE SAME AS THE PROCESS LINE.
6. GAS SAMPLE SEPTUM ASSEMBLY WHICH IS REQUIRED TO TAKE GAS SAMPLE SHALL BE PROVIDED AND INSTALLED BY TVA, CHEMISTRY TECHNICAL SUPPORT. SAMPLE TO BE TAKEN ACCORDING TO TECHNICAL INSTRUCTIONS AND PROCEDURES DEVELOPED BY TVA, CHEMISTRY TECHNICAL SUPPORT.
7. VALVE FSV-43-54 SHALL BE INSTALLED WITH THE FLOW DIRECTION AWAY FROM THE H_2/O_2 ANALYZER FOR PRIMARY CONTAINMENT ISOLATION INTEGRITY.
8. VENT, DRAIN, AND TEST CONNECTIONS 1-1/2" AND BELOW CAN BE PROVIDED WITH PIPE CAPS OR HOSE CONNECTION FITTINGS WHERE REQUIRED BY PLANT PERSONNEL. THIS CONFIGURATION IS SUPPORTED BY ENGINEERING CALCULATION CD-Q0999-923399.
9. DELETED.
10. TIE-IN CONNECTION AT PENETRATION ON REACTOR BUILDING SIDE WITH TUBING DOWNSTREAM OF 1-FI-43-7664 ON RHR LIQUID SAMPLE LINE AS SHOWN ON DRAWING 1-47E600-2634.
11. TIE-IN CONNECTION AT PENETRATION ON REACTOR BUILDING SIDE WITH TUBING UPSTREAM OF NEEDLE VALVE 1-SHV-43-84 ON RHR LIQUID SAMPLE LINE AS SHOWN ON DRAWING 1-47E600-2634.
12. TIE-IN CONNECTION AT PENETRATION ON REACTOR BUILDING SIDE WITH TUBING DOWNSTREAM OF 1-FI-43-7725 ON H_2/O_2 SAMPLE LINE AS SHOWN ON DRAWING 1-47E600-2634.
13. TIE-IN CONNECTION AT PENETRATION ON REACTOR BUILDING SIDE WITH TUBING UPSTREAM OF NEEDLE VALVE 1-SHV-43-82 ON H_2/O_2 GAS SAMPLE LINE AS SHOWN ON DRAWING 1-47E600-2634.
14. THE 1-PCV-43-25 PRESCREENS MAY BE REMOVED TO LESSEN CHANCES OF PLUGGING.

REFERENCE DRAWINGS:
1-47E610-43-5........CONTROL DIAGRAM-SAMPLING AND WATER QUALITY SYSTEM
1-47E610-74-1A.......CONTROL DIAGRAM-RHR SYSTEM (074)
1-47E610-76-4........CONTROL DIAGRAM-CONTAINMENT INERTING SYSTEM (076)
1-47E600-2633........PASS RHR/H_2/O_2 SAMPLE LINE ISOMETRIC
1-47E600-2634........PASS RHR/H_2/O_2 SAMPLE LINE ISOMETRIC
1-47E600-2635........PASS H_2/O_2 TIE-IN ISOMETRIC
1-47E600-2636........PASS RHR TIE-IN ISOMETRIC
0-47E800-1...........FLOW DIAGRAM-GENERAL PLANT SYSTEMS
1-47E811-1...........FLOW DIAGRAM-RHR SYSTEM
1-47E860-1...........FLOW DIAGRAM-CONTAINMENT INERTING SYSTEM
1-48C500-001.........PENETRATION DETAIL DRAWING
0-47E800-2...........MECHANICAL-SYMBOLS & FLOW DIAGRAM DRAWING INDEX

GENERAL ELECTRIC (GE) CO DRAWINGS:
(CONTRACT NO 86KLF-838851)
796E854.......SAMPLE STATION ARRANGEMENT

POST ACCIDENT SAMPLING SYSTEM (PASS)

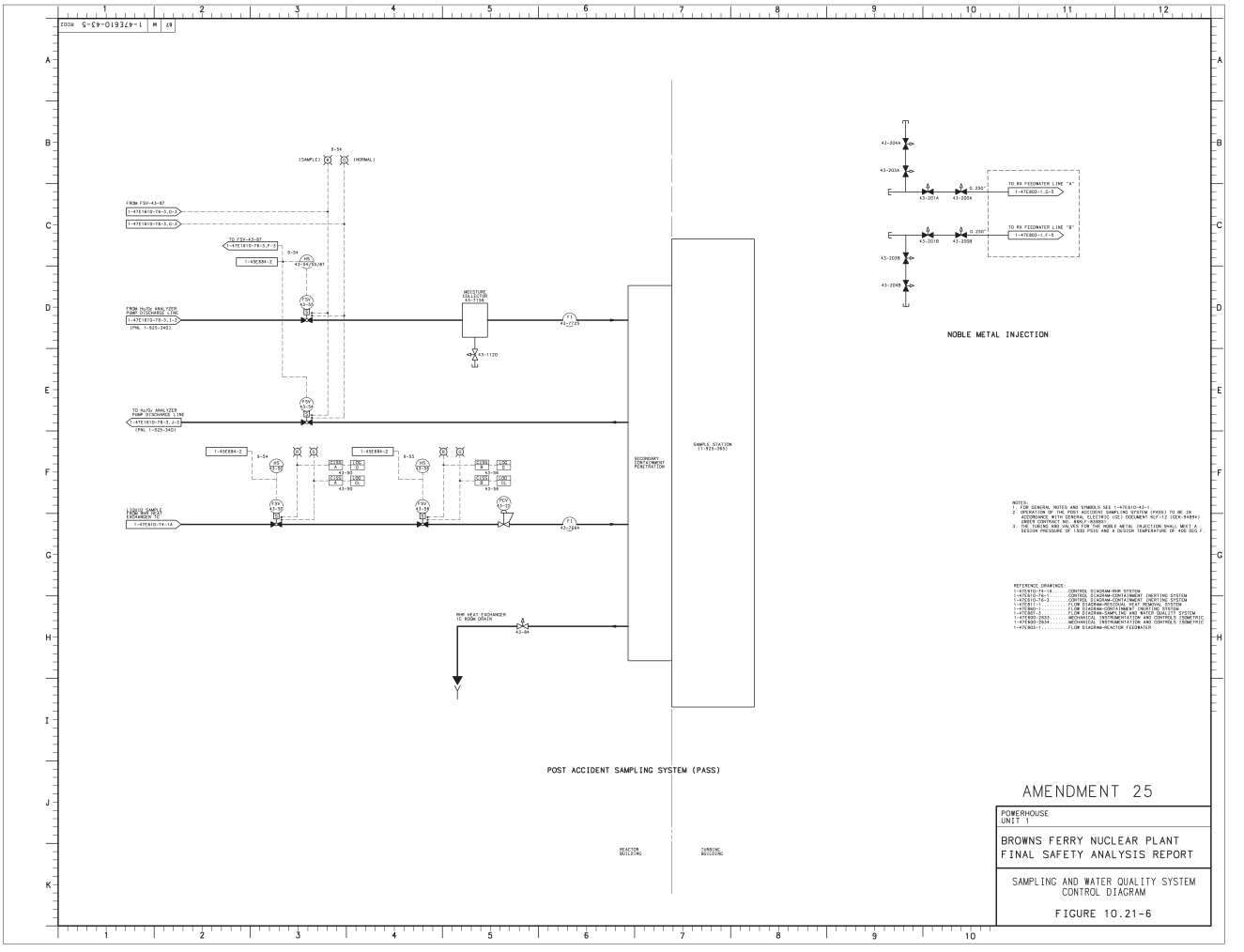
AMENDMENT 22

POWERHOUSE
UNIT 1

BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY ANALYSIS REPORT

SAMPLING AND WATER QUALITY SYSTEM
FLOW DIAGRAM

FIGURE 10.21-5



AMENDMENT 25

POWERHOUSE
UNIT 1

BROWNS FERRY NUCLEAR PLANT
FINAL SAFETY ANALYSIS REPORT

SAMPLING AND WATER QUALITY SYSTEM
CONTROL DIAGRAM

FIGURE 10.21-6