INSERVICE INSPECTION PROGRAM PLAN

CORE SPRAY SYSTEM

SHOREHAM NUCLEAR POWER PLANT

UNIT 1

Prepared For

LONG ISLAND LIGHTING COMPANY

Project Application	Copy No	Assigned To
5536		

APPROVALS

TITLE / DEPT. - SIGNATURE - DATE

REV NO	PREPARED BY	Proj. Manager	Dept. Manager	QA Manager	
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1					
2					
3	Albert A. Shell	Mark 1-26-88	D.P. 1-26-88	[illegible] 1-25-88	
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REVISION LOG

NUCLEAR ENERGY SERVICES, INC.

DOCUMENT NO. 80A8614

REV. NO.	DATE	PAGE NO.	DESCRIPTION	APPROVAL
1	6/28/84		See CRA 4415 Revision includes	Albert G. Hobbell
			editorial changes and the addition	
			of new information	
2	5/8/85	8	See CRA 5294.	Albert G. Hobbell
3	1/25/88	5,6, 7,8	See CRA 6721	Albert G. Hobbell

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1. INTRODUCTION

This document presents the Inservice Inspection Requirements for the Core Spray System of the Shoreham Nuclear Power Plant.

The General Text, NES Document Number 80A8608, presents the basis for the Inservice Inspection Program and a more detailed description of the Inservice Inspection Program Plan than is contained in this document.

2. CLASSIFICATION

The Core Spray System piping and instrumentation diagrams have been reviewed and Quality Group A and B boundaries have been established in accordance with Regulatory Guide 1.26 Rev 3. These boundaries are shown on Figure FM-23A-ISI.

3. EXEMPTIONS

The portions of the Core Spray System that are exempted from the volumetric and surface examinations of Section XI are listed in Table 3-1.

TABLE 3-1
EXEMPTIONS

Quality Group	Component Description	Basis for Exemption	Boundary Diagram
A	All piping 1 inch nominal pipe size and smaller	IWB-1220(b)	FM-23A-ISI
A	2" WR-115-901 A-1 2" WR-116-901 A-1	IWB-1220(a)	FM-23A-ISI

TABLE 3-1(continued)
EXEMPTIONS

Quality Group	Component Description	Basis for Exemption	Boundary Diagram	
B	All Piping 4 inches nominal pipe size and smaller.	Code Case N-408(a)(1)	FM-23A-ISI	3

4. EXCEPTIONS

For those examinations in the Core Spray System that cannot be completed in accordance with the Section XI requirements a relief request will be prepared and submitted to the NRC. Those areas for which a relief request has been prepared are listed in Table 4-1.

TABLE 4-1
EXCEPTIONS

Component Identification	Component Description	Fig. No.	Relief Request	Remarks
None				

5. CALIBRATION STANDARDS

Table 5-1 lists the Calibration Standards for ultrasonic examinations scheduled for the Core Spray System.

TABLE 5-1
CALIBRATION STANDARDS

Title	Size	Material	Drawing
10-080-CS	10" SCH. 80	SA-106, GR.B	NES 80C0513
12-STD-CS	12" STD.	SA-106, GR.B	Later
14-STD-CS	14" STD.	SA-106, GR.B	Later

3

6. PROGRAM PLAN AND SCHEDULE

The specific Core Spray ISI examination requirements are defined by the Program Plan and Schedule Tables. This Program Plan lists all the required examinations for a 10 year interval of 3 periods of 40 months each. Table 6-1 presents a summary of these Section XI required examinations scheduled by different Code categories applicable to this system.

Each weld and component is designated by a unique identification number, and then described. Also identified is the applicable examination procedure number, Code category and number, examination method, and the calibration block, if required. Any comments specific to a component are noted in the remarks column.

Examination items are divided according to the Isometric figure on which they appear and are listed following the direction of flow in the pipe. Multiple examination requirements of the same component are listed together in the schedule tables.

TABLE 6-1
SECTION XI EXAMINATION SCHEDULE
CORE SPRAY SYSTEM

Component Description	Code Category	Examinations by Period P_1	P_2	P_3	Total	Total In System
Bolting < 2"	B-G-2	2	2	2	6	6
Piping welds (circumferential)	B-J	4	3	3	10	38
Integral Attachments	B-K-1	2	2	0	4	4
Valve Bodies	B-M-2	2**	0	0	2	6
System Leakage Test	B-P	*	*	*	*	-
System Hydro Test	B-P	0	0	1	1	-
Integral Attachments	C-C	0	0	1	1	1
Piping Welds (circumferential)***	C-F-2	4	3	3	10	130 (78)@
System Leakage Test	C-H	1	1	1	3	-
System Hydro Test	C-H	0	0	1	1	-

(3)

* Leakage Test is required at each refueling outage.

** Deferral of these examinations to the end of the interval is permissible.

*** Weld selection in accordance with Code Case N-408.

@ Only 78 welds require nondestructive examination in accordance with Code Case N-408.

7. PRESSURE TESTS

In accordance with Section XI all Quality Group A pressure retaining components are to receive a leakage test in accordance with IWB-5221 every refueling outage, all Quality Group B pressure retaining components are to receive a leakage test in accordance with IWC-5221 every period (40 months), and both Quality Group A & B pressure retaining components are to receive a hydrostatic test in accordance with IWB-5222 and IWC-5222 respectively at or near the end of the interval. The portions of the Core Spray System requiring these pressure tests are those marked Quality Group A and B including lines 1 inch and less on boundary diagram FM-23A-ISI.

8. ISOMETRIC FIGURES AND SKETCHES

The piping isometric figures listed in Table 8-1 show the identification and location of areas for the Core Spray System requiring examination. Sketches may also be included that illustrate or locate areas of components requiring identification for examination. Boundary Diagrams are provided to show the Quality Group boundaries and also to define those areas requiring pressure testing under Code Category B-P and C-H.

TABLE 8-1

Isometric Figures

8614-1	Rev. 1	
8614-2	Rev. 1	
8614-3	Rev. 1	
8614-4	Rev. 0	3
8614-5	Rev. 0	|

Boundary Diagrams

FM-23A-ISI	Rev. 1	|

9. AUGMENTED REQUIREMENTS

There are no augmented requirements that apply to the Core Spray System except for the requirements of I&E Bulletin 80-13 which are covered under the RPV Program Plan (Document No. 80A8609).

APPENDIX A

APPENDIX A

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The following notes apply to the Program Plan and Schedule Tables.

Note 1 - The valve internal surface examination (B-M-2) has been scheduled for the first period, however the examination may be performed at any time during the interval when the valve interior is accessible.

PERIOD 1

SYSTEM:CORE SPRAY
NES ISO NUMBER 8614-1

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-MOV-033A-b	<2	VALVE MOV-033A - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-MOV-033B-b	<2	VALVE MOV-033B - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-IC-64-FW5	10	VALVE E21-MOV-033B TO PIPE	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-IC-64-FW7	10	PIPE TO ELBOW	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-41-A	10	ELBOW TO PIPE	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-41-F	10	PIPE TO ELBOW	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-PSSH-045	10	INTEGRALLY WELDED ATTACHMENT	80A3132	N/A	B-K-1	B10.10	PT	

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-1

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 1

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-PSSP-807	10	INTEGRALLY WELDED ATTACHMENT	80A3132	N/A	B-K-1	B10.10	PT	△3
E21-MOV-033B	10	VALVE - INTERNAL SURFACES	80A3133	N/A	B-M-2	B12.50	VT-3	SEE NOTE 1
E21-AOV-081B	10	VALVE - INTERNAL SURFACES	80A3133	N/A	B-M-2	B12.50	VT-3	SEE NOTE 1

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-3

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 1

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-524-A	12	PIPE TO ELBOW	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	3

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-4

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 1

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-IC-55-FW6	12	ELBOW TO PIPE	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	3
E21-IC-55-FW3	14	VALVE E21-MOV-31B TO PIPE	80A3131 80A3132	14-STD-CS	C-F-2	C5.51	UT PT	
E21-6A-B	14	ELBOW TO PIPE	80A3131 80A3132	14-STD-CS	C-F-2	C5.51	UT PT	

PERIOD 2

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-1

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 2

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-AOV-081B-b	<2	VALVE AOV-081B - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-HV-071B-b	<2	VALVE HV-071B - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-IC-59-FW10	10	VALVE E21-HV-071A TO PIPE	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-IC-64-FW9	10	PIPE TO VALVE E21-AOV-081B	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-IC-64-FW13	10	PIPE TO NOZZLE N5A (SAFE-END)	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-PSSH-035	10	INTEGRALLY WELDED ATTACHMENT	80A3132	N/A	B-K-1	B10.10	PT	
E21-PSSP-804	10	INTEGRALLY WELDED ATTACHMENT	80A3132	N/A	B-K-1	B10.10	PT	

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-3

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 2
PAGE 2 OF 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-IC-63-FW2	12	ELBOW TO VALVE E21-12V-0013B	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	3

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-5

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 2
PAGE 3 OF 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-10E-A	12	PIPE TO ELBOW	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	(3)
E21-IC-56-FW13	14	PIPE TO 14"X12" TEE	80A3131 80A3132	14-STD-CS	C-F-2	C5.51	UT PT	

PERIOD 3

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-1

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8514 REV. 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-AOV-081A-b	<2	VALVE AOV-081A - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-HV-071A-b	<2	VALVE HV-071A - BOLTING	80A3133	N/A	B-G-2	B7.70	VT-1	
E21-27-A	10	ELBOW TO PIPE	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-28-C	10	PIPE TO ELBOW	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	
E21-28-H	10	ELBOW TO PIPE	80A3131 80A3132	10-080-CS	B-J	B9.11	UT PT	

SYSTEM: CORE SPRAY
NES ISO NUMBER 8614-2

SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-PSA-007	10	INTEGRALLY WELDED ATTACHMENT	80A3132	N/A	C-C	C3.20	PT	
E21-IC-57-FW1	12	PUMP P-013A TO TEE	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	(3)
E21-IC-57-FW5	12	ELBOW TO PIPE	80A3131 80A3132	12-STD-CS	C-F-2	C5.51	UT PT	

SYSTEM:CORE SPRAY
NES ISO NUMBER 8614-5

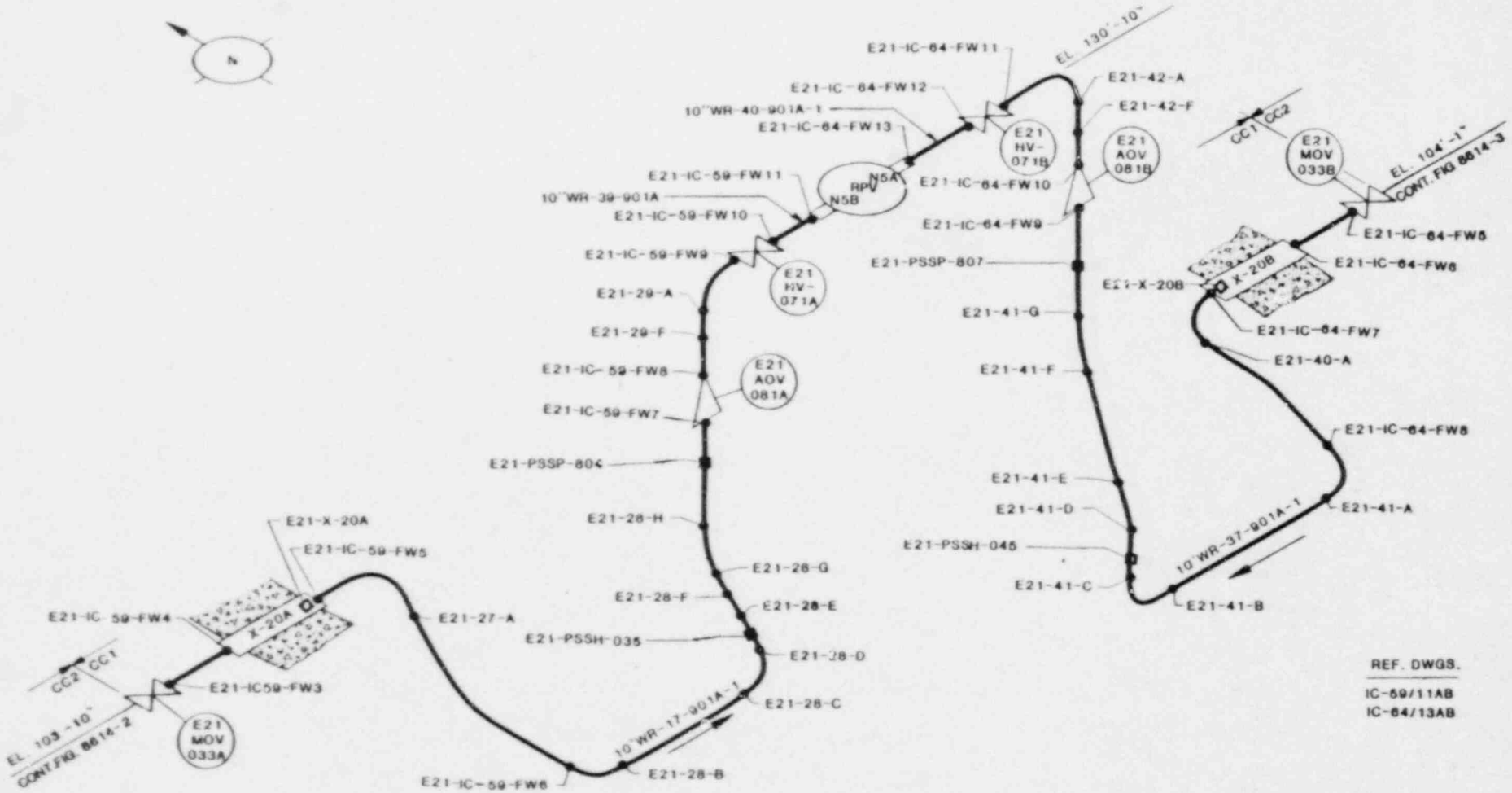
SHOREHAM NUCLEAR POWER STATION
ISI PROGRAM PLAN AND SCHEDULE
80A8614 REV. 3

PERIOD 3

COMPONENT IDENTIFICATION	SIZE (IN)	COMPONENT DESCRIPTION	PROC. NO.	CAL. BLOCK	CODE CAT.	CODE NO.	CODE EXAM METH	REMARKS
E21-15C-B	14	ELBOW TO PIPE	80A3131 80A3132	14-STD-CS	C-F-2	C5.51	UT PT	3

SYSTEM

ISOMETRIC FIGURES



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IC-59/11AB
IC-64/13AB

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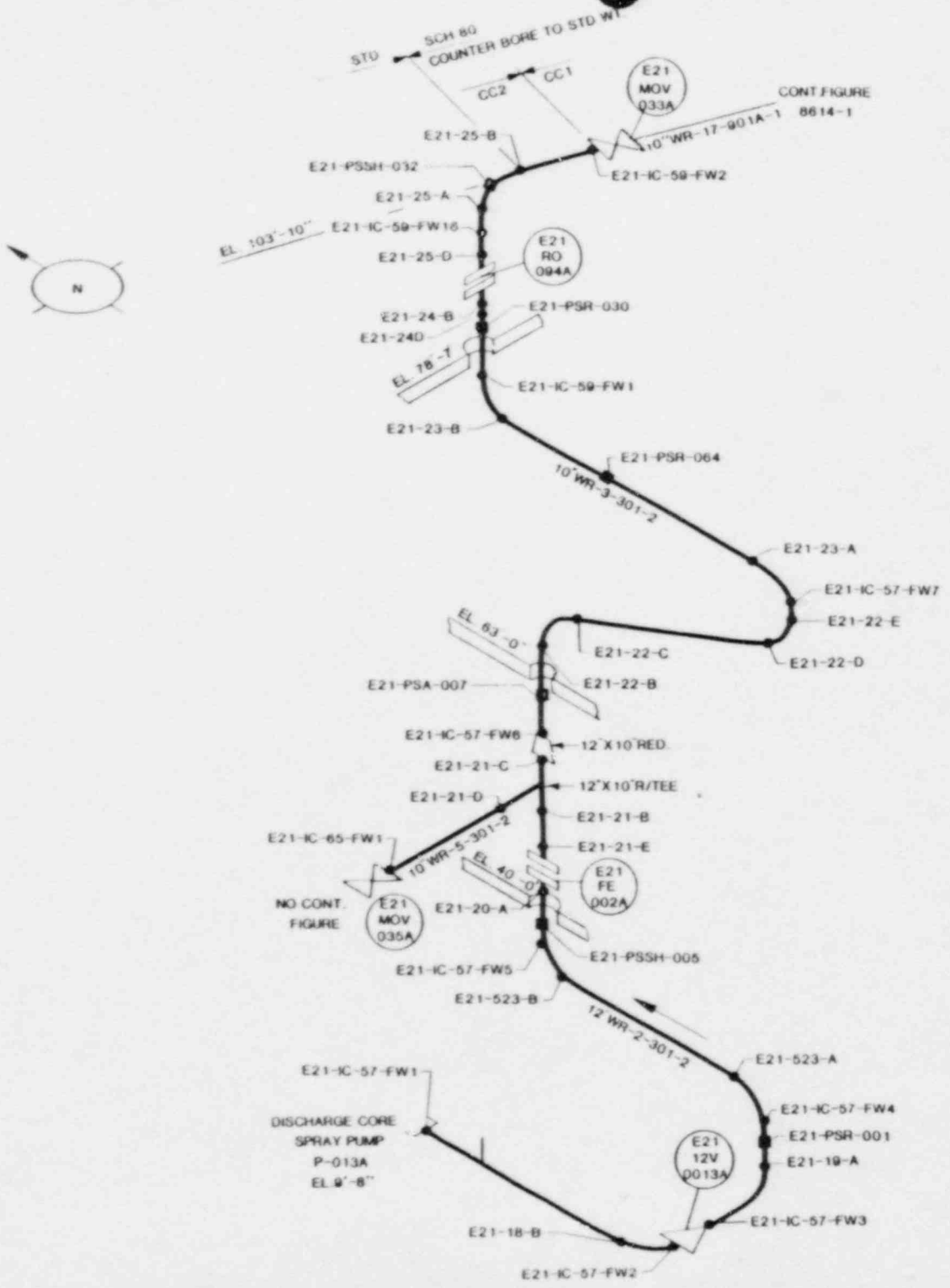
REV. 1	FIG. NO. 8814-1
BY. JEG	DATE 7-1-83
APP. AK	DATE 10/19/83
PROJECT	SHOREHAM
	NOT TO SCALE

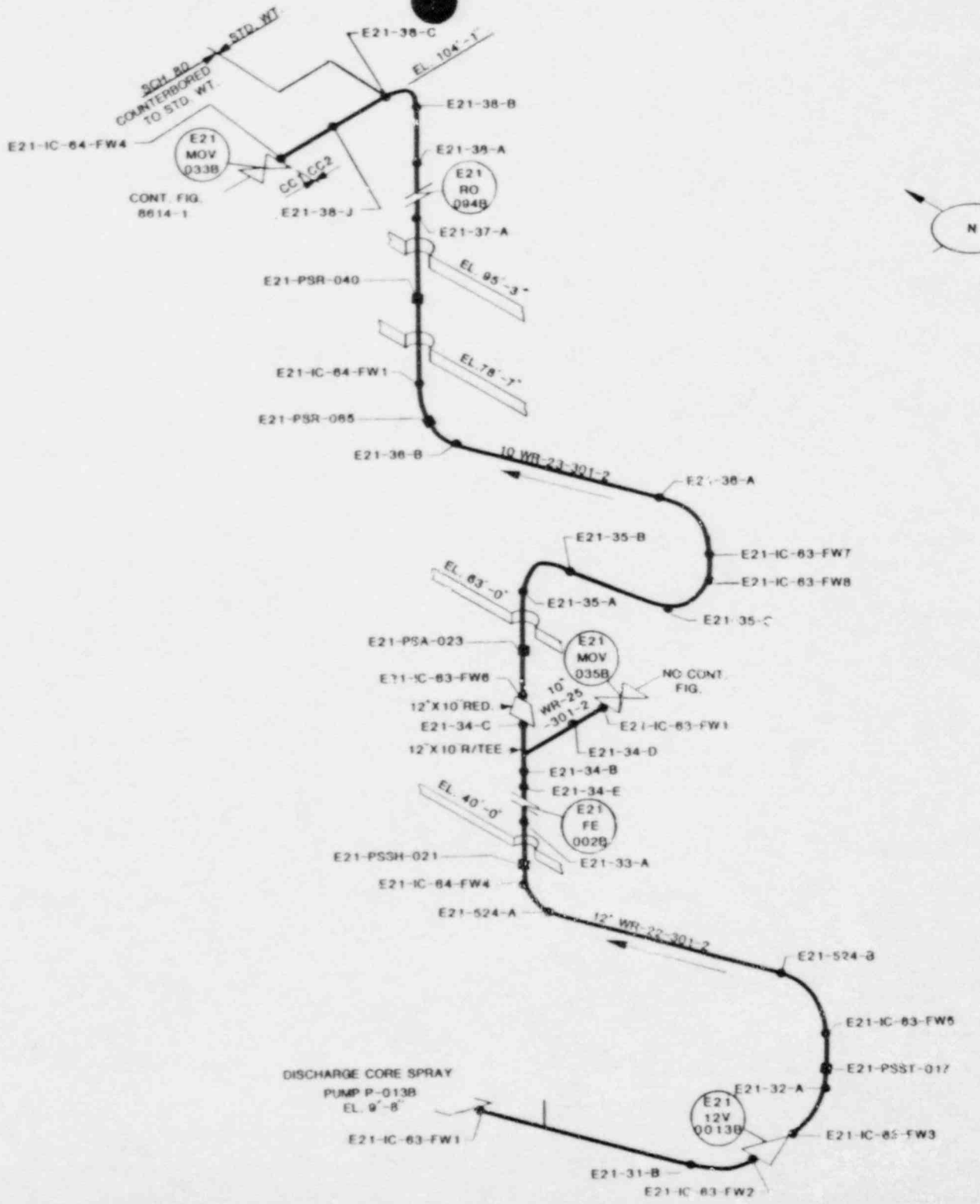


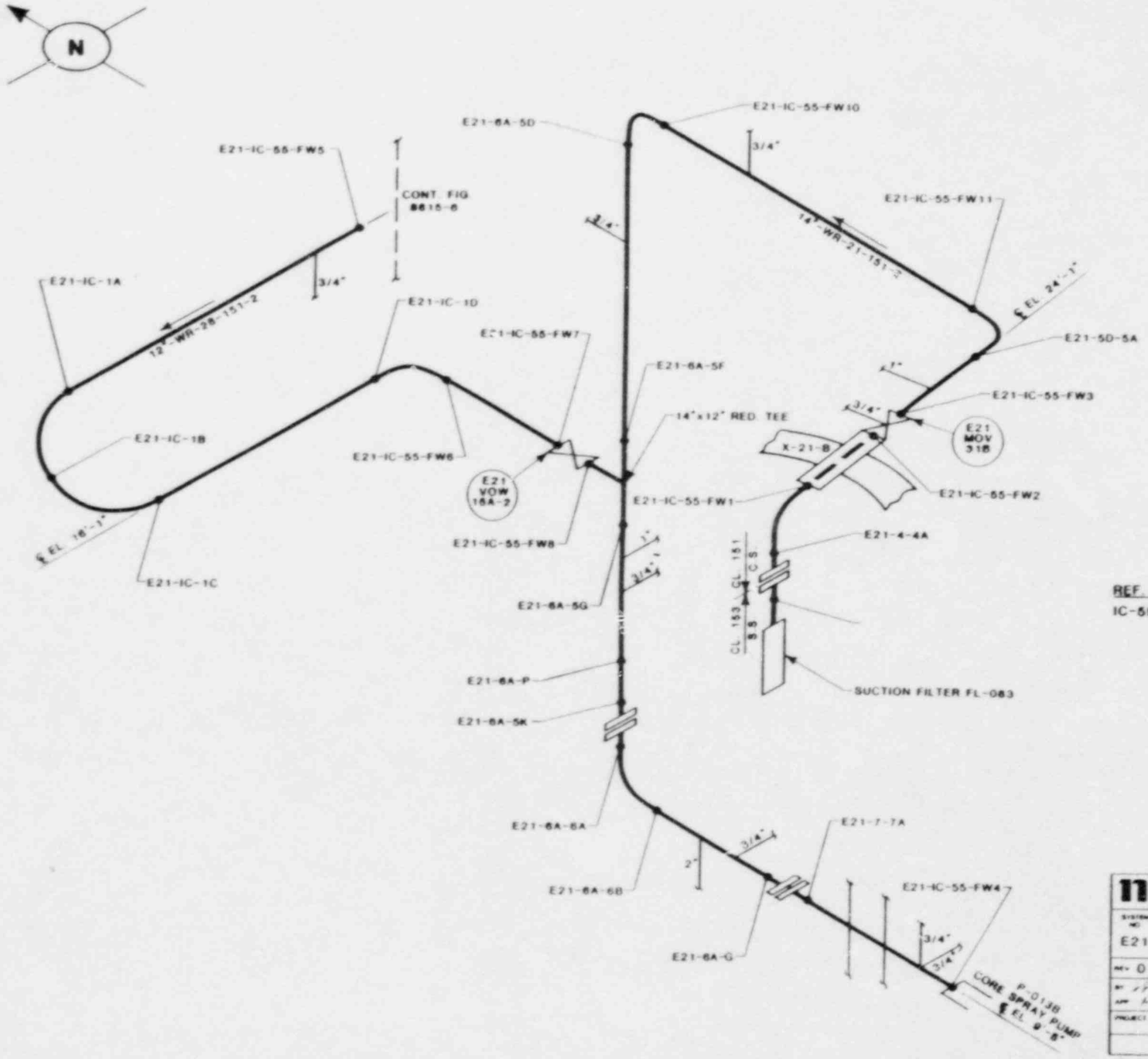
REF. DWGS.

IC-57/7AB

IC-59/11AB

nes NUCLEAR ENERGY SERVICES	
SYSTEM NO. E21	TITLE CORE SPRAY LOOP A CLASS 2
REV. 1	FIG. NO. 8614-2
BY PSB DATE 01/12/84	
APP AK DATE 10/25/84	
PROJECT SHOREHAM	
NOT TO SCALE	


SCH. 80 COUNTERBORED TO STD. WT.
STD. WT.
E21-38-C
EL. 104'-1"
E21-38-B
E21-38-A
E21-IC-64-FW4
E21 MOV 033B
CONT. FIG. 8614-1
CC FCC2
E21-38-J
E21 RO 094B
E21-37-A
E21-PSR-040
EL. 95'-3"
E21-IC-64-FW1
EL. 78'-7"
E21-PSR-065
E21-36-B
10 WR-23-301-2
E21-36-A
E21-35-B
E21-IC-63-FW7
E21-IC-63-FW8
EL. 63'-0"
E21-35-A
E21-35-C
E21-PSA-023
E21 MOV 035B
E21-IC-63-FW6
NO CONT. FIG.
10" WR-25-301-2
12"X10" RED.
E21-IC-63-FW1
E21-34-C
12"X10" R/TEE
E21-34-D
E21-34-B
E21-34-E
EL. 40'-0"
E21 FE 002B
E21-PSSH-021
E21-33-A
E21-IC-64-FW4
E21-524-A
12" WR-22-301-2
E21-524-B
E21-IC-63-FW5
E21-PSST-017
DISCHARGE CORE SPRAY PUMP P-013B EL. 9'-8"
E21-32-A
E21 12V 001B
E21-IC-63-FW1
E21-IC-65-FW3
E21-31-B
E21-IC-63-FW2
N
REF. DWGS.
IC-63/11AB
IC-64/13AB
nes
SYSTEM NO. E21
TITLE CORE SPRAY LOOP B CLASS 2
REV. 1
FIG. NO. 8614-3
SHOREHAM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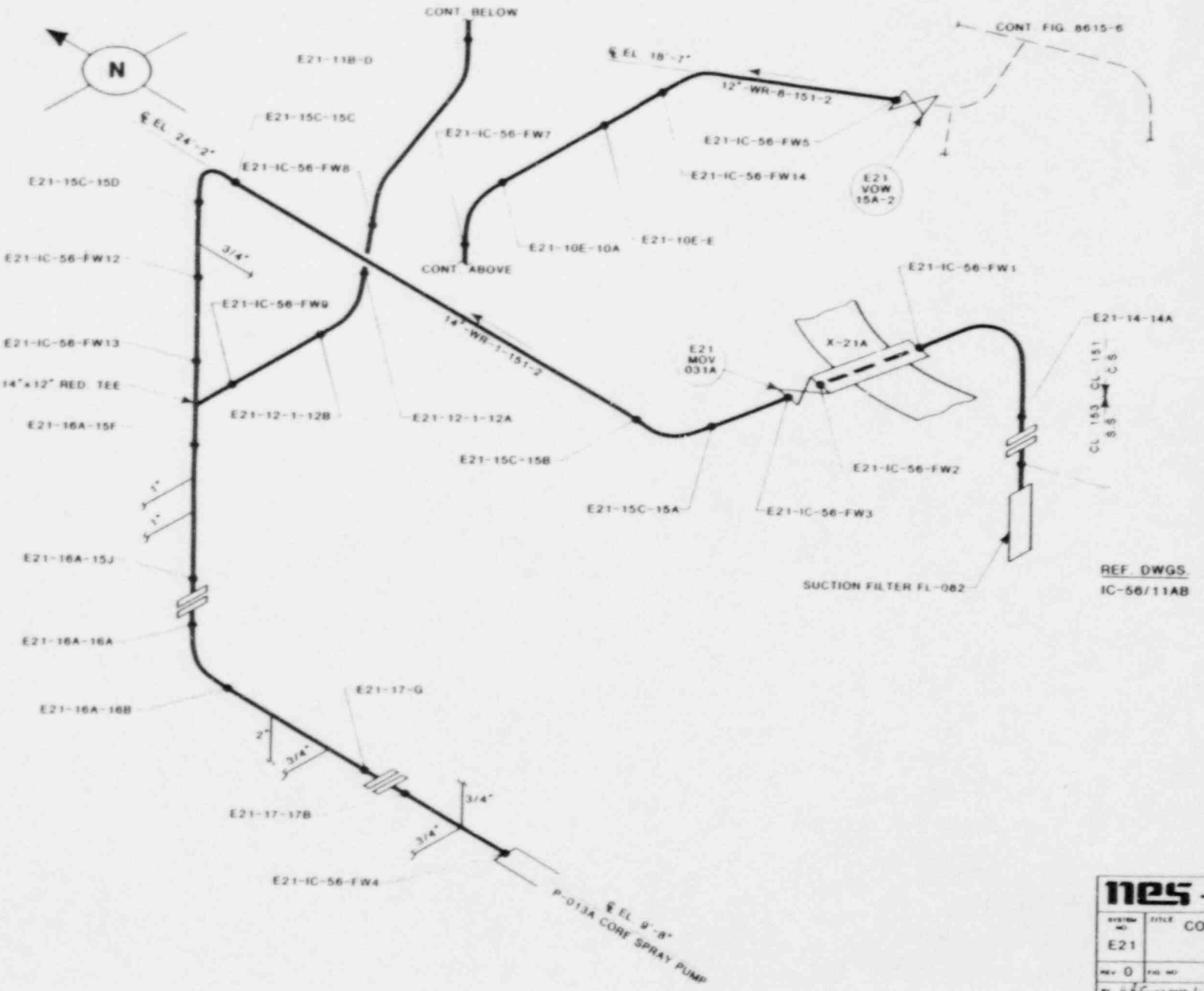
E21-IC-55-FW5
CONT. FIG. 8615-6
E21-IC-1A
12"-WR-28-151-2
3/4"
E21-IC-1D
E21-IC-55-FW7
E21-6A-5F
E21-IC-1B
E21-IC-55-FW6
14"x12" RED. TEE
E21 MOV 15A-2
E21-IC-55-FW8
E21-IC-1C
E21-6A-5G
E21-6A-5D
E21-IC-55-FW10
3/4"
14"-WR-21-151-2
E21-IC-55-FW11
EL 24'-1"
E21-5D-5A
1"
E21-IC-55-FW3
3/4"
E21 MOV 31B
X-21-B
E21-IC-55-FW2
E21-IC-55-FW1
E21-4-4A
CL 151 CS
CL 153 SS
SUCTION FILTER FL-083
E21-6A-P
E21-6A-5K
E21-6A-6A
E21-6A-6B
E21-6A-G
2"
3/4"
E21-7-7A
E21-IC-55-FW4
3/4"
3/4"
P-013B CORE SPRAY PUMP
EL 9'-8"
REF. DWGS.
IC-55/17AB
nes
SYSTEM NO. E21
TITLE CORE SPRAY
REV. 0
FIG. NO. 8614-4
CLASS 2
PROJECT SHOREHAM
NOT TO SCALE



nes	
SYSTEM NO. E21	TITLE CORE SPRAY
REV. 0	FIG. NO. 8614-5
BY [illegible] DATE 1-7-88	CLASS 2
APP. [illegible] DATE [illegible]	
PROJECT SHOREHAM	
NOT TO SCALE	

SYSTEM
BOUNDARY DIAGRAMS

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