INSERTION INSTRUCTIONS FOR AMENDMENT 3

Remove old pages and insert Amendment 3 pages as instructed below (amendment pages bear the amendment number and date at the foot of the page).

Vertical bars (change bars) have been placed in the outside margins of revised text pages and tables to show the location of any technical changes originating with this amendment. A few unrevised pages have been reprinted because they fall within a run of closely spaced revised pages. No change bars are used on figures or on new sections, appendices, questions and responses, etc. Change bars from previous amendments have been deleted.

Transmittal letters along with these insertion instructions should either be filed or entered in Volume I of Part I, in front of any existing letters, instructions, distribution lists, etc.

LEGEND

Remove/Insert Columns

Entries beginning with "T" or "F" designate table or figure numbers, respectively. All other entries are page numbers:

T2.3-14 = Table 2.3-14 FG5-3 = Figure G5-3

2.1-9 = Page 2.1-9 EP2-1 = Page EP2-1 vii = Page vii

Pages printed back to back are indicated by a "/":

1.2-5/6 = Page 1.2-5 backed by Page 1.2-6

T2.3-14(5 of 5)/15(1 of 3) = Table 2.3-14, sheet 5 of 5, backed by Table 2.3-15, sheet 1 of 3

Location Column

Ch = Chapter, S = Section, Ap = Appendix

Remove	Insert	Location
	VOLUME 1	
None	EP-1 through -15 (List of Ef. Pgs.)	after Volume 1 title page
2-i thru 2-xv	None	after Ch2 tab
None	2.1-i thru 2.1-v	after S2.1 tab
None	2.2-i thru 2.2-v	after S2.2 tab

None	2.3-i thru 2.3-xiv	after S2.3 tab
	VOLUME 2	
None	2.4-i thru 2.4-v	after S2.4 tab
2,4-5/-6	2.4-5/-6	
T2.4-1(1 of 1)/T2.4-2(1 of 1)	T2.4-1(1 of 1)T2.4-2(1 of 2) T2.4-2(2 of 2)/blank	after 2.4-34
F2.4-11 F2.4-12 F2.4-13	F2.4-11 F2.4-12 F2.4-13	
None	2.5-i thru 2.5-ix	after S2.5 tab
	VOLUME 3	
None	2.6-i/blank	after S2.6 tab
	VOLUME 6	
None	Volume 6 title page	
7-i thru 7-iii	7-i thru 7-iii	after Ch7 tab
7.1-1 thru 7.1-7	7.0-1 thru 7.0-7	
None	F7.1-2	
9.5-5/-6 11.2-1/-2 T11.2-1(1 of 1)/T11.2-2(1 of 3) T11.2-2(2 of 3)/T11.2-2(3 of 3)	9.5-5/-6 11.2-1/-2 T11.2-1(1 of 1)/T11.2-2(1 of 4) T11.2-2(2 of 4)/T11.2-2(3 of 4) T11.2-2(4 of 4)	after 11.2-7
T11.2-8 13.5-1 Q-i/Q-ii	T11.2-8 13.5-1 Q-i/Q-ii	after S13.5 tab after Questions and Responses tab
None	Q032.4-1	after Q032.3-1
Q442.1-1	Q442.1-1	Q441.3-1
Q442.2-1	Q442.2-1	

LIST OF EFFECTIVE PAGES
(Amendment 3, April 1979)

Page, Table (T), or Figure (F)	Amendment Number
Title Page	0
iii thru viii	3
1-i	0
1-ii	0
1.1-1	0
1.2-1 thru 1.2-2	0
1.3-1	0
1.4-1 thru 1.4-3	0
1.5-1	0
1.6-1	0
1.7-1	0
1.8-1	0
T1.8-1 (1 of 8 thru 8 of 8)	0
T1.8-2 (1 of 2 thru 2 of 2)	0
T1.8-3 (1 of 2 thru 2 of 2)	0
2.1-i	3
2.1-iii	3
2.1-v	3
2.1-1	0
2.1-2 thru 2.1-4	1
2.1-4a	1
2.1-5 through 2.1-13	0
T2.1-1 (1 of 1)	0
T2.1-2 (1 of 1)	0
T2.1-3 (1 of 1)	0
T2.1-4 (1 of 1)	0
T2.1-5 (1 of 1)	0
T2.1-6 (1 of 1)	0
T2.1-7 (1 of 1)	0
T2.1-8 (1 of 1)	0
T2.1-9 (1 of 1)	0
T2.1-10 (1 of 1)	0
T2.1-11 (1 of 1)	0
T2.1-12 (1 of 1)	0
T2.1-13 (1 of 1)	0
T2.1-14 (1 of 1)	0
T2.1-15 (1 of 1)	0
T2.1-16 (1 of 1)	0
T2.1-17 (1 of 1)	0
T2.1-18 (1 of 1)	0
T2.1-19 (1 of 1)	0
T2.1-20 (1 of 1)	0
T2.1-21 (1 of 3 thru 3 of 3)	0
T2.1-22 (1 of 1)	0
T2.1-23 (1 of 1)	0
T2.1-24 (1 of 1)	0
T2.1-25 (1 of 1)	0
T2.1-26 (1 of 1)	0
F2.1-1 thru F2.1-7	0
2.2-i	3
2.2-iii	3
2.2-v	3
2.2-1 thru 2.2-7	0
T2.2-1 (1 of 3 thru 3 of 3)	0
T2.2-2 (1 of 4 thru 4 of 4)	0
T2.2-3 (1 of 1)	0
T2.2-4 (1 of 1)	0
T2.2-5 (1 of 1)	0

418 200

Page, Table (T), or Figure (F)	Amendment Number
T2.2-6 (1 of 1)	0
F2.2-1	0
2.3-i	3
2.3-iii	3
2.3-xiv	3
2.3-1	0
2.3-2 thru 2.3-2a	1
2.3-3	0
2.3-4 thru 2.3-6b	1
2.3-7 thru 2.3-8	2
2.3-9 thru 2.3-30	1
2.3-31 thru 2.3-36b	1
2.3-37 thru 2.3-40	0
2.3-41 thru 2.3-42a	1
2.3.43 thru 2.3-44	0
T2.3-1 (1 of 1)	1
T2.3-1a (1 of 1)	1
T2.3-2 (1 of 1)	0
T2.3-3 (1 of 1)	0
T2.3-4 (1 of 1)	0
T2.3-5 (1 of 1)	0
T2.3-6 (1 of 1)	0
T2.3-7 (1 of 1)	0
T2.3-8 (1 of 1)	0
T2.3-9 (1 of 1)	0
T2.3-10 (1 of 1)	0
T2.3-11 (1 of 1)	0
T2.3-12 (1 of 1)	0
T2.3-13 (1 of 1)	0
T2.3-14 (1 of 2 thru 2 of 2)	0
T2.3-15 (1 of 1)	0
T2.3-16 (1 of 1)	0
T2.3-17 (1 of 1)	0
T2.3-18 (1 of 1)	0
T2.3-19 (1 of 1)	0
T2.3-20 (1 of 1)	0
T2.3-21 (1 of 1)	0
T2.3-22 (1 of 2 thru 2 of 2)	0
T2.3-23 (1 of 1)	0
T2.3-24 (1 of 1)	0
T2.3-25 (1 of 1)	0
T2.3-26 (1 of 1)	0
T2.3-27 (1 of 1)	0
T2.3-28 (1 of 2 thru 2 of 2)	0
T2.3-29 (1 of 1)	0
T2.3-30 (1 of 1)	0
T2.3-31 (1 of 1)	0
T2.3-32 (1 of 1)	0
T2.3-33 (1 of 1)	0
T2.3-34 (1 of 1)	0
T2.3-35 (1 of 1)	0
T2.3-36 (1 of 2 thru 2 of 2)	0
T2.3-37 (1 of 1)	0
T2.3-38 (1 of 1)	0
T2.3-39 (1 of 1)	0
T2.3-40 (1 of 13 thru 13 of 13)	0
T2.3-41 (1 of 13 thru 13 of 13)	0
T2.3-42 (1 of 2 thru 2 of 2)	0
T2.3-43 (1 of 1)	0
T2.3-44 (1 of 1)	0
T2.3-45 (1 of 1)	0
T2.3-46 (1 of 1)	0
T2.3-47 (1 of 1)	0

4/18 201

Page, Table (T), or Figure (F)	Amendment Number
T2.3-48 (1 of 1)	0
T2.3-49 (1 of 1)	0
T2.3-50 (1 of 1)	0
T2.3-51 (1 of 1)	0
T2.3-52 (1 of 91 thru 91 of 91)	0
T2.3-53 (1 of 91 thru 91 of 91)	0
T2.3-54 (1 of 1)	0
T2.3-55 (1 of 1)	0
T2.3-56 (1 of 1)	0
T2.3-57 (1 of 1)	0
T2.3-58 (1 of 1)	0
T2.3-59 (1 of 1)	0
T2.3-60 (1 of 1)	0
T2.3-61 (1 of 1)	0
T2.3-62 (1 of 1)	0
T2.3-63 (1 of 1)	0
T2.3-64 (1 of 1)	0
T2.3-65 (1 of 1)	0
T2.3-66 (1 of 1)	0
T2.3-67 (1 of 1)	0
T2.3-68 (1 of 13 thru 13 of 13)	0
T2.3-69 (1 of 13 thru 13 of 13)	0
T2.3-70 (1 of 13 thru 13 of 13)	0
T2.3-71 (1 of 1)	0
T2.3-72 (1 of 1)	0
T2.3-73 (1 of 1)	0
T2.3-74 (1 of 1)	0
T2.3-75 (1 of 1)	0
T2.3-76 (1 of 1)	0
T2.3-77 (1 of 1)	0
T2.3-78 (1 of 2 thru 2 of 2)	0
T2.3-79 (1 of 1)	0
T2.3-80 (1 of 1)	0
T2.3-81 (1 of 1)	0
T2.3-82 (1 of 1)	0
T2.3-83 (1 of 1)	0
T2.3-84 (1 of 1)	0
T2.3-85 (1 of 1)	0
T2.3-86 (1 of 1)	0
T2.3-87 (1 of 1)	0
T2.3-88 (1 of 1)	0
T2.3-89 (1 of 1)	0
T2.3-90 (1 of 1)	0
T2.3-91 (1 of 1)	0
T2.3-92 (1 of 1)	0
T2.3-93 (1 of 1)	0
T2.3-94 (1 of 1)	0
T2.3-95 (1 of 13 thru 13 of 13)	0
T2.3-96 (1 of 13 thru 13 of 13)	0
2.3-97 (1 of 13 thru 13 of 13	0
2.3-98 (1 of 1)	0
2.3-99 (1 of 1)	0
2.3-100 (1 of 1)	0
2.3-101 (1 of 1)	0
2.3-102 (1 of 1)	0
2.3-103 (1 of 1)	0
2.3-104 (1 of 1)	0
2.3-105 (1 of 13 thru 13 of 13)	0
2.3-106 (1 of 13 thru 13 of 13)	0
2.3-107 (1 of 1)	0
2.3-108 (1 of 1)	0
2.3-109 (1 of 91 thru 91 of 91)	0
2.3-110 (1 of 1)	0
2.3-111 (1 of 1)	0

418 201

Page, Table (T), or Figure (F)	Amendment Number
2.3-112 (1 of 1)	0
2.3-113 (1 of 1)	0
2.3-114 (1 of 1)	0
2.3-115 (1 of 1)	0
2.3-116 (1 of 1)	0
2.3-117 (1 of 13 thru 13 of 13)	0
2.3-118 (1 of 1)	0
2.3-119 (1 of 3 thru 3 of 3)	0
2.3-120 (1 of 3 thru 3 of 3)	0
2.3-121 (1 of 1)	0
2.3-122 (1 of 2 thru 2 of 2)	0
2.3-123 (1 of 1)	0
2.3-124 (1 of 1)	0
2.3-125 (1 of 1)	0
2.3-126 (1 of 1)	0
2.3-127 (1 of 1)	0
2.3-128 (1 of 1)	0
2.3-129 (1 of 13 thru 13 of 13)	0
2.3-130 (1 of 1)	0
2.3-131 (1 of 13 thru 13 of 13)	0
2.3-132 (1 of 1)	0
2.3-133 (1 of 1)	0
2.3-134 (1 of 1)	0
2.3-135 (1 of 1)	0
2.3-136 (1 of 91 thru 91 of 91)	0
2.3-137 (1 of 91 thru 91 of 91)	0
2.3-138 (1 of 1)	0
2.3-139 (1 of 1)	0
2.3-140 (1 of 1)	0
2.3-141 (1 of 1)	0
2.3-142 (1 of 1)	0
2.3-143 (1 of 1)	0
2.3-144 (1 of 1)	0
2.3-145 (1 of 1)	0
2.3-146 (1 of 1)	0
2.3-147 (1 of 1)	0
2.3-148 (1 of 1)	0
2.3-149 (1 of 1)	0
2.3-150 (1 of 1)	0
T2.3-151 (1 of 1)	1
T2.3-152 (1 of 1)	0
T2.3-153 (1 of 1)	1
F2.3-1 thru F2.3-14	0
2.4-i	3
2.4-iii	3
2.4-v	3
2.4-1 thru 2.4-34	0
2.4-5 thru 2.4-8	1
2.4-9 thru 2.4-18	0
2.4-19 thru 2.4-20b	1
2.4-21 thru 2.4-22	0
2.4-23	1
2.4-24 thru 2.4-27	0
2.4-28 thru 2.4-28a	1
2.4-29	1
2.4-30 thru 2.4-32	0
2.4-33 thru 2.4-33a	1
T2.4-1 (1 of 1)	0
T2.4-2 (1 of 1)	0
T2.4-3 (1 of 1)	0
T2.4-4 (1 of 1)	0
T2.4-5 (1 of 1)	0
T2.4-6 (1 of 1)	0

Page, Table (T), or Figure (F)	Amendment Number
T2.4-7 (1 of 1)	0
T2.4-8 (1 of 1)	0
T2.4-9 (1 of 2 thru 2 of 2)	0
T2.4-10 (1 of 16 thru 16 of 16)	1
T2.4-11 (1 of 1)	0
T2.4-12 (1 of 1)	
F2.4-1 thru F2.4-2	0
F2.4-3	1
F2.4-4 thru F2.4-13	0
F2.4-14	1
F2.4-15 thru F2.4-25	0
F2.4-26	1
2.5-i thru 2.5-iii	3
2.5-v	3
2.5-viii thru 2.5-x	3
2.5-i thru 2.5-v	1
2.5-viii thru 2.5-ix	1
2.5-6	0
2.5-17 thru 2.5-18d	1
2.5-19 thru 2.5-20	0
2.5-21	1
2.5-22 thru 2.5-24	0
2.5-25 thru 2.5-34a	1
2.5-35 thru 2.5-39	0
2.5-40 thru 2.5-46a	1
2.5-50	0
2.51	0
2.5-52	1
2.5-53 thru 2.5-74	0
2.5-75	1
2.5-105 thru 2.5-158	0
2.5-76 thru 2.5-76c	2
2.5-77 thru 2.5-104c	1
T2.5-1 (1 of 55 thru 55 of 55)	0
T2.5-2 (1 of 3 thru 3 of 4)	0
T2.5-3 (1 of 4 thru 4 of 4)	0
T2.5-4 (1 of 1)	0
T2.5-5 (1 of 1)	1
T2.5-6 (1 of 1)	1
T2.5-7 (1 of 4 thru 4 of 4)	1
T2.5-8 (1 of 1)	1
T2.5-9 (1 of 1)	1
T2.5-10 delete notice	1
T2.5-11 (1 of 1)	1
T2.5-12	2
F2.5-1 thru F2.5-6b	0
F2.5-5A thru F2.5-5B	1
F2.5-6 thru F2.5-8	0
F2.5-9	1
F2.5-10 thru F2.5-11	0
F2.5-12 thru F.25-13A	1
F2.5-14	1
F2.5-15 thru F2.5-48	0
F2.5-49 thru F2.5-62	1
F2.5-63	0
F2.5-64	1
F2.5-65 thru 2.5-66	0
F2.5-67 thru 2.5-69	2
2.6-i	3
2.6-1 thru 2.6-2	0
App 2.5A title page	0

418 204

Page, Table (T), or Figure (F)	Amendment Number
2.5A-1 thru 2.5A-17	0
F2.5A-1 thru F2.5A-33	0
App 2.5B title page	0
2.5B-1 thru 2.5B-8	0
F2.5B-1 thru 2.5B-12	0
App 2.5C title page	0
2.5C-1	1
2.5C-2 (R-Borings) title page	0
R-1 (1 of 5 thru 5 of 5)	0
R-2 (1 of 4 thru 2 of 4)	0
R-2 (3 of 4 thru 4 of 4)	1
R-3 (1 of 8 thru 8 of 8)	0
R-4 (1 of 5 thru 5 of 5)	0
R-5 (1 of 2 thru 2 of 2)	1
R-6 (1 of 3 thru 3 of 3)	1
R-7 (1 of 2 thru 2 of 2)	1
R-8 (1 of 3 thru 3 of 3)	1
R-9 (1 of 2 thru 2 of 2)	1
R-10 (1 of 3 thru 3 of 3)	1
R-11 (1 of 3 thru 3 of 3)	1
R-12 (1 of 4 thru 4 of 4)	1
R-13 (1 of 3 thru 3 of 3)	1
R-14 (1 of 4 thru 4 of 4)	1
R-15 (1 of 4 thru 4 of 4)	1
R-16 (1 of 3 thru 3 of 3)	1
R-17 (1 of 4 thru 4 of 4)	1
R-18 (1 of 3 thru 3 of 3)	1
R-19 (1 of 5 thru 5 of 5)	1
R-20 (1 of 2 thru 2 of 2)	1
R-21 (1 of 2 thru 2 of 2)	1
R-22 (1 of 3 thru 3 of 3)	1
R-23 (1 of 4 thru 4 of 4)	1
R-24 (1 of 3 thru 3 of 3)	1
R-25 (1 of 3 thru 3 of 3)	1
R-26 (1 of 2 thru 2 of 2)	1
R-27 (1 of 2 thru 2 of 2)	1
R-28 (1 of 2 thru 2 of 2)	1
R-29 (1 of 2 thru 2 of 2)	1
N/A (1 of 2 thru 2 of 2)	1
314 (1 of 1)	1
L-1 (1 of 1)	1
L-4 (1 of 1)	1
L-8 (1 of 1)	1
2.5C-3 (S-Borings) title page	0
S-1 (1 of 2 thru 2 of 2)	0
S-2 (1 of 2 thru 2 of 2)	0
S-3 (1 of 2 thru 2 of 2)	0
S-4 (1 of 2 thru 2 of 2)	0
S-5 (1 of 2 thru 2 of 2)	0
S-6 (1 of 2 thru 2 of 2)	0
S-7 (1 of 2 thru 2 of 2)	0
S-8 (1 of 2 thru 2 of 2)	0
S-9 and S-9A (1 of 2)	0
S-9A (2 of 2)	0
S-10 (1 of 2 thru 2 of 2)	0
S-11 (1 of 2 thru 2 of 2)	0
S-12 (1 of 3 thru 3 of 3)	0
S-13 (1 of 2 thru 2 of 2)	0
S-14 (1 of 2 thru 2 of 2)	0
S-15 (1 of 2 thru 2 of 2)	0
S-16 (1 of 3 thru 3 of 3)	0

418 205

Page, Table (T), or Figure (F)	Amendment Number
S-17 (1 of 2 thru 2 of 2)	0
S-18 (1 of 2 thru 2 of 2)	0
S-19 (1 of 2 thru 2 of 2)	0
S-20 (1 of 2 thru 2 of 2)	0
S-21 (1 of 2 thru 2 of 2)	0
S-22 (1 of 2 thru 2 of 2)	0
S-23 (1 of 2 thru 2 of 2)	0
S-24 (1 of 2 thru 2 of 2)	0
S-25 (1 of 2 thru 2 of 2)	0
S-26 (1 of 3 thru 3 of 3)	0
S-27 (1 of 2 thru 2 of 2)	0
S-28 (1 of 2 thru 2 of 2)	0
S-29 (1 of 2 thru 2 of 2)	0
S-30 (1 of 2 thru 2 of 2)	0
S-31 (1 of 2 thru 2 of 2)	0
S-32 (1 of 2 thru 2 of 2)	0
S-33 (1 of 2 thru 2 of 2)	0
S-34 (1 of 2 thru 2 of 2)	0
S-35 (1 of 6 thru 6 of 6)	0
2.5C-4 (G-Borings) title page	0
G-1 (1 of 2 thru 2 of 2)	0
G-2 (1 of 2 thru 2 of 2)	0
G-3 (1 of 3 thru 3 of 3)	0
G-4 (1 of 2 thru 2 of 2)	0
G-5 (1 of 4 thru 4 of 4)	0
G-6 (1 of 4 thru 4 of 4)	0
G-6 (Geologic) (1 of 4 thru 4 of 4)	0
G-7 (1 of 2 thru 2 of 2)	0
G-8 (1 of 4 thru 4 of 4)	0
G-9 (1 of 2 thru 2 of 2)	0
G-9 (1 of 2 thru 2 of 2)	0
G-10 (1 of 2 thru 2 of 2)	0
G-11 (1 of 4 thru 4 of 4)	0
G-12 (1 of 2 thru 2 of 2)	0
G-13 (1 of 1)	0
G-14 (1 of 2 thru 2 of 2)	0
G-15 (1 of 1)	0
G-16 (1 of 2 thru 2 of 2)	0
G-17 (1 of 2 thru 2 of 2)	0
G-18 (1 of 1)	0
G-19 (1 of 2 thru 2 of 2)	0
G-20 (1 of 2 thru 2 of 2)	0
G-21	0
G-22 (1 of 2 thru 2 of 2)	0
G-23 (1 of 4 thru 4 of 4)	0
G-23 (Geologic) (1 of 4 thru 4 of 4)	0
G-24 (1 of 4 thru 4 of 4)	0
G-24 (Geologic) (1 of 4 thru 4 of 4)	0
G-25 (1 of 4 thru 4 of 4)	0
G-26 (1 of 4 thru 4 of 4)	0
G-26 (Geologic) (1 of 4 thru 4 of 4)	0
G-27 (1 of 4 thru 4 of 4)	0
G-27 (Geologic) (1 of 4 thru 4 of 4)	0
G-28 (1 of 2 thru 2 of 2)	0
G-29 (1 of 4 thru 4 of 4)	0
G-30 (1 of 4 thru 4 of 4)	0
G-31 (1 of 4 thru 4 of 4)	0
G-32 (1 of 2 thru 2 of 2)	0
G-33 (1 of 4 thru 4 of 4)	0
G-34 (1 of 2 thru 2 of 2)	0
G-35 (1 of 2 thru 2 of 2)	0
G-36 (1 of 4 thru 4 of 4)	0
G-37 (1 of 2 thru 2 of 2)	0

418 206

Page, Table (T), or Figure (F)	Amendment Number
G-38 (1 of 4 thru 4 of 4)	0
G-39 (1 of 1)	0
G-40 (1 of 2 thru 2 of 2)	0
G-41 (1 of 2 thru 2 of 2)	0
G-42 (1 of 2 thru 2 of 2)	0
G-43 (1 of 2 thru 2 of 2)	0
G-44 (1 of 1)	0
G-45 (1 of 1)	0
G-46 (1 of 1)	0
G-47 (1 of 1)	0
G-48 (1 of 2 thru 2 of 2)	0
G-49 (1 of 1)	0
G-50 (1 of 1)	0
G-51 (1 of 1)	0
G-52 (1 of 1)	0
G-53 (1 of 1)	0
G-54 (1 of 1)	0
G-55 (1 of 2 thru 2 of 2)	0
G-56 (1 of 2 thru 2 of 2)	0
G-57 (1 of 1)	0
G-58 (1 of 1)	0
G-59 (Geologic) (1 of 3 thru 3 of 3)	0
G-60 (1 of 1)	0
G-61 (1 of 1)	1
G-62 (1 of 1)	1
G-63 (1 of 1)	1
G-64 (1 of 1)	1
G-65 (1 of 1)	1
G-66 (1 of 1)	1
G-67 (1 of 2 thru 2 of 2)	1
G-68 (1 of 2 thru 2 of 2)	1
G-69 (1 of 1)	1
G-70 (1 of 1)	1
G-71 (1 of 1)	1
G-72 (1 of 1)	1
G-73 (1 of 3 thru 3 of 3)	1
G-74 (1 of 3 thru 3 of 3)	1
G-75 (1 of 5 thru 5 of 5)	1
G-76 (1 of 4 thru 4 of 4)	1
G-77 (1 of 1)	1
G-78 (1 of 1)	1
G-79 (1 of 1)	1
G-80 (1 of 1)	1
G-81 (1 of 1)	1
G-82 (1 of 1)	1
G-83 (1 of 1)	1
2.5C-5 (B-borings) title page	0
B-1 (1 of 1)	0
B-2 and B2A (1 of 1)	0
B-3 (1 of 2 thru 2 of 2)	0
B-4 (1 of 1)	0
B-5 (Geologic) (1 of 4 thru 4 of 4)	0
B-6 (1 of 1)	0
B-7 and B-7A (1 of 1)	0
Explanation of Boring Logs	0
2.5C-6 (T-Borings)	0
T-1 (1 of 2 thru 2 of 2)	1
T-2 (1 of 2 thru 2 of 2)	1
T-3 (1 of 2 thru 2 of 2)	1
T-4 (1 of 2 thru 2 of 2)	1
T-5 (1 of 2 thru 2 of 2)	1

418 207

Page, Table (T), or Figure (F)	Amendment Number
2.5C-7 (Gamma Logs)	0
R-1 (1 of 5 thru 5 of 5)	0
R-3 (1 of 8 thru 8 of 8)	0
App 2.5D title page	0
2.5D-1 thru 2.5D-3	0
2.5D.1-1 thru 2.5D-2	0
F2.5D-1A	0
F2.5D-1 thru F2.5D-25	0
App 2.5E title page	0
2.5E-1 thru 2.5E-2	0
T2.5E-1 (1 of 1)	0
F2.5E-1 thru F2.5E-3	0
App 2.5F title page	0
2.5F-1 thru 2.5F-2	0
2.5F.1-1 thru 2.5F.1-16	0
2.5F.2-1 thru 2.5F.2-23	0
2.5F.3-1 thru 2.5F.3-17	0
2.5F.4-1 thru 2.5F.4-99	0
2.5F.5-1 thru 2.5F.5-12	0
App 2.5G title page	0
TP1 (1 of 1)	0
TP2 (1 of 1)	0
TP3 (1 of 1)	0
TP4 (1 of 1)	0
TP5 (1 of 1)	0
TP6 (1 of 1)	0
TP7 (1 of 1)	0
TP8 (1 of 1)	0
TP9 (1 of 1)	0
TP10 (1 of 1)	0
TP11 (1 of 1)	0
TP12 (1 of 1)	0
TP13 (1 of 1)	0
TP14 (1 of 1)	0
TP15 (1 of 1)	0
TP16 (1 of 1)	0
TP17 (1 of 1)	0
TP18 (1 of 1)	0
TP19 (1 of 1)	0
TP22 (1 of 1)	0
TP23 (1 of 1)	0
TP24 (1 of 1)	0
TP25 (1 of 1)	0
App 2.5H title page 2.5H1 thru 2.5H6 F2.5H-1 thru F2.5H-18	0
App 2.5I title page	1
2.5I-1 thru 2.5I-48	1
T2.5I-1 thru T2.5I-2	1
F2.5I-1 thru F2.5I-35	1
(2.5I)A1 Cover (Att 1)	1
(2.5I)A1-1 thru A1-23 (Att 1)	1
(2.5IA1 Figure Cover (Att 1)	1
(2.5I)F A1-1 thru A1-18 (Att 1)	1
2.5I)A2 Cover (Att 2)	1
(2.5I)A2 REI Report Cover (Att 2)	1
(2.5I)A2 REI Cover Description (Att 2)	1
(2.5I)A2 REI-1 thru TEI-6 (Att 2)	1

418 208

Page, Table (T), or Figure (F)	Amendment Number
(2.5I)A2 REI App A-1 (Att 2)	1
(2.5I)A2 REI T-1 (Att 2)	1
(2.5I)A2 REI F-1 (Att 2)	1
(2.5I)A2 REI App B Cover (Att 2)	1
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(2.5I)A2 REI Htg Exp #37	1
(2.5I_A2 REI Htg Exp #35	1
(2.5I)A2 REI Htg Exp #40	1
(2.5I)A2 REI Htg Exp #36	1
(2.5I)A2 REI Htg Exp #33	1
(2.5I)A2 REI Htg Exp #24	1
(2.5I)A2 REI Htg Exp #31	1
(2.5K)A2 REI Htg Exp #23	1
(2.5I)A2 REI Htg Exp #18	1
(2.5I)A2 REI Htg Exp #15	1
(2.5I)A2 REI Htg Exp #16	1
(2.5I)A2 REI Htg Exp #10	1
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(2.5I)A2 REI Htg Exp #56	1
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(2.5I)A2 REI Htg Exp #45	1
(2.5I)A2 REI Htg Exp #46	1
(2.5I)A2 REI Htg Exp #49	1
(2.5I)A2 REI Htg Exp #42	1
(2.5I)A2 REI Htg Exp #6	1
(2.5I)A2 REI Htg Exp #5	1
(2.5I)A2 REI Htg Exp #9	1
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(2.5I)A2 REI Htg Exp #4	1
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(2.5I)A4 Cover (Att 4)	1
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(2.5I)A5 Cover (Att 5)	1
(2.5I)A5 Chem Anal 1 thru 7 (Att 5)	1
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2.5J-iii	0
2.5J-1	0
2.5J-3 thru 2.5J-13	0
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1 thru 5	0
T1 (1 of 2 thru 2 of 2)	0
T2 (1 of 2 thru 2 of 2)	0
T3 (1 of 2 thru 2 of 2)	0
F1 thru F22	0
App 2.5K title page	0
2.5K-iii	0
2.5K-1	0
2.5K-3 thru 2.5K-7	0
2.5K-9 thru 2.5K-17	0
2.5K-19	0
2.5K-21 thru 2.5K-31	0
2.5K-33	0
2.5K-35 thru 2.5K-38	0

418 209

Page, Table (T), or Figure (F)	Amendment Number
App 2.5L title page	0
2.5L-1 thru 2.5L-2	0
F2.5L-1 thru F2.5L-2	0
2.5M title page	1
2.5M-i thru 2.5M-ii	1
2.5-1 thru 2.5M-13	1
T2.5M-1 (1 of 1)	1
F2.5M-1 thru F2.5M-4	1
Attach I title page	1
I2.5M-1 thru I2.5M-34	1
Attach II title page	1
II2.5M-1 thru II2.5-11	1
Attach III title page	1
III2.5M-1	1
Attach IV title page	1
IV2.5M-1 thru IV2.5M-7	1
Attach V title page	1
V2.5M-1 thru V2.5M-6	1
Attach VI title page	1
VI2.5M-1 thru VI2.5M-6	1
3-i thru 3-iii	2
3.1-1 thru 3.1-2	0
3.2-1	0
T3.2-1 (1 of 1)	0
3.3-1	0
3.4-1	1
3.5-1 thru 3.5-2	0
3.6-1	0
3.7-1	1
3.8-1	0
3.9-1	1
T3.9-1	0
3.10-1	0
3.11-1	1
App 3A title page	0
3A-i thru 3A-ii	0
3A-iii thru 3A-iv	0
3A.1-1 thru 3A.1-3	0
3A.1-4 thru 3A.1-4a	1
3A.1-5	0
4.0-1	0
5-i	0
5.0-1 thru 5.0-2	0
6-i	2
6-iii	0
6-v	0
6.0-1 thru 6.0-2	0
6.0-3 thru 6.0-4	1
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T6.2-2 (1 of 1)	0
T6.2-3 (1 of 2 thru 2 of 2)	0
T6.2-4 (1 of 1)	0
F6.2-1	1
F6.2-2	0
7-i	3
7-iii	3
7.0-1 thru 7.0-2	0

418 210

Page, Table (T), or Figure (F)	Amendment Number
F7.1-1	0
F7.1-2	3
8-i	0
8-iii	0
8.1-1 thru 8.1-2	0
8.2-1 thru 8.2-4	0
F8.2-1	0
F8.2-2	0
8.3-1	0
8.4-1 thru 8.4-2	1
9-i thru 9-iii	2
9-v	2
9-vii	0
9.1-1 thru 9.1-4	0
9.2-1 thru 9.2-4	0
9.2-5 thru 9.2-6a	2
9.2-7 thru 9.2-8	0
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T9.2-2 (1 of 1)	2
T9.2-3 (1 of 2 thru 2 of 2)	0
T9.2-4 (1 of 1)	0
T9.2-5 (1 of 2 thru 2 of 2)	2
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9.3-1	0
9.4-1 thru 9.4-3	0
F9.4-1	0
9.5-1 thru 9.5-4a	1
9.5-5 thru 9.5-6	0
9.5-7 thru 9.5-12	1
F9.5-1 thru F9.5-3	1
10-i	0
10-iii	0
10-v	0
10.1-1	0
10.2-1	0
10.3-1	0
10.4-1 thru 10.4-2	0
10.4-3 thru 10.4-4a	1
10.4-5 thru 10.4-6	0
T10.4-1	0
F10.4-1 thru F10.4-7	0
11-i	0
11-iii thru 11-v	0
11.1-1	0
11.2-1 thru 11.2-2	3
11.2-1 thru 11.2-7	0
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T11.2-2 (1 of 3 thru 3 of 3)	3
T11.2-3 (1 of 2 thru 2 of 2)	0
T11.2-4 (1 of 2 thru 2 of 2)	0
T11.2-5 (1 of 2 thru 2 of 2)	0
T11.2-6 (1 of 2 thru 2 of 2)	0
T11.2-7 (1 of 1)	0
T11.2-8 (1 of 1)	3
T11.2-9 (1 of 1)	0
F11.2-1	0
11.3-1 thru 11.3-5	0
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T11.3-3 (1 of 1)	0
T11.3-4 (1 of 1)	0

418 211

Page, Table (T), or Figure (F)	Amendment Number
T11.3-5 (1 of 1)	0
T11.3-6 (1 of 1)	0
T11.3-7 (1 of 1)	0
11.4-1	0
11.5-1	0
11.6-1 thru 11.6-3	0
T11.6-1 (1 of 3 thru 3 of 3)	0
F11.6-1	0
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12-iii	2
12.1-1 thru 12.1-2a	1
12.1-3 thru 12.1-4	1
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T12.1-2	0
T12.1-3	0
F12.1-1	1
12.2-1 thru 12.2-2	0
T12.2-1	0
12.3-1 thru 12.3-3	0
12.4-1	0
13-i thru 13-iii	2
13-v	
13-vii	
13.1-1 thru 13.1-11	2
T13.1-1	0
T13.1-2	0
T13.1-3	0
F13.1-1 thru F13.1-7	
13.2-1 thru 13.2-2	0
13.2-3 thru 13.2-4a	1
13.2-5 thru 13.2-7	0
F13.2-1	
13.3-1 thru 13.3-7	
T13.3-1	
T13.3-2	
F13.3-1 thru F13.3-3	
13.4-1	0
13.5-1	1
13.6-1	0
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15-i	0
15-iii	0
15.0-1 thru 15.0-2	0
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T15.1-2 (1 of 1)	0
16-i thru 16-ii	0
16-iii	
16-v	0
16.0-1 thru 16.0-12	0
T16.6-1 (1 of 1)	0
F16.6-1 thru F16.6-6	0
17-i thru 17-iii	2
17-v	0
17.1-1 thru 17.1-10	0
17.1-11 thru 17.1-12a	1
17.1-13 thru 17.1-30	0

418 212

Page, Table (T), or Figure (F)	Amendment Number
17.1-31 thru 17.1-32a	1
17.1-33 thru 17.1-34	0
T17.1-1	0
T17.1-2	0
T17.1-3	0
T17.1-4	0
F17.1-1	0
F17.1-2	0
F17.1-3	0
F17.1-4	0
17.2-1	0
Acceptance Review Questions and Responses	3
Q010.1 (1 p)	1
Q022.1 (1 p)	1
Q022.2 (1 p)	1
Q032.1 (1p)	2
Q032.2 (1p)	2
Q032.3 (1p)	2
Q032.4 (1p)	3
Q032.5 (1p)	2
Q032.6 (1p)	2
Q032.7 (1p)	2
Q040.1 (3 p)	1
Q040.2 (3 p)	1
Q040.3 (1 p)	1
Q040.4 (2 p)	1
Q040.5 (1 p)	1
Q040.6 (1 p)	1
Q040.7 (1 p)	1
Q040.8 (1 p)	1
Q112.1 (1 p)	1
Q130.1 (1 p)	1
Q130.2 (1 p)	1
Q130.3 (1 p)	1
Q221.1 (2 p)	1
Q231.1 (1 p)	1
Q312.1 (1 p)	1
Q321.1 (1 p)	1
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Q321.3 (1 p)	1
Q321.4 (1 p)	1
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Q331.3 (1 p)	1
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Q371.2 (1p)	1
Q371.3 (1 p)	1
Q371.4 (1 p)	1
Q371.5	1
Q371.6 (1 p)	1

418 213

Page, Table (T), or Figure (F)	Amendment Number
Q371.7 (1p)	1
Q371.8 (1p)	1
Q371.9 (1p)	1
Q371.10 (1p)	1
Q371.11 (1p)	1
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Q371.13 (1p)	1
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Q371.27 (1 p)	1
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Q372.9 (1 p)	1
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Q372.11 (1 p)	1
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Q421.2 (1 p)	1
Q421.3 (1 p)	1
Q421.4 (1 p)	1
Q423.1 (1 p)	1
Q441.1 (1 p)	1
Q441.2 (1 p)	1
Q441.3 (1 p)	1
Q442.1 (1 p)	1
Q442.2 (1 p)	1

TABLE OF CONTENTS

SECTION 2.1

NOTE: Missing section numbers will be found in SWESSAR-P1.

418 215

LIST OF TABLES

SECTION 2.1

LIST OF TABLES (Cont'd)

418 217

LIST OF FIGURES

TABLE OF CONTENTS

SECTION 2.2

NOTE: Missing section numbers will be found in SWESSAR-P1.

418 219

LIST OF TABLES

SECTION 2.2

418 220

LIST OF FIGURES

SECTION 2.2

418 221

TABLE OF CONTENTS

SECTION 2.3

NOTE: Missing section numbers will be found in SWESSAR-P1

418 222

TABLE OF CONTENTS (Cont'd)

213 223

LIST OF TABLES

SECTION 2.3

418 224

LIST OF TABLES (Cont'd)

418 225

LIST OF TABLES (Cont'd)

LIST OF TABLES (Cont'd)

418 227

LIST OF TABLES (Cont'd)

LIST OF TABLES (Cont'd)

418 229

LIST OF TABLES (Cont'd)

LIST OF TABLES (Cont'd)

418 231

LIST OF TABLES (Cont'd)

IIST OF TABLES (Cont'd)

418 233

LIST OF FIGURES

418 234

TABLE OF CONTENTS

SECTION 2.4

NOTE: Missing section numbers will be found in SWESSAR-P1.

A18 235

TABLE OF CONTENTS (Cont'd)

418 236

LIST OF TABLES

SECTION 2.4

LIST OF FIGURES

SECTION 2.4

LIST OF FIGURES (CONT'D)

418 240

water to industries in the Syracuse area and to a few users outside Onondaga County, such as the Miller Brewing Company's facility in the Town of Volney. The Oswego Water Department provides potable water to two power generating stations in Scriba. Both plants also have their own intakes on Lake Ontario to obtain water for cooling systems. The James A. FitzPatrick Nuclear Generating Station of the Power Authority of the State of New York is estimated to use an average of 259.2 mgd from Lake Ontario for "open cycle" cooling. The Niagara Mohawk Power Corporation's Nine Mile Point No. 1 power plant pumps an average of 180.0 mgd from the lake at an adjoining location[23] also for "open cycle" cooling. These intakes are located approximately 5.9 and 6.2 radial mi, respectively, west-northwest of NYSE&G 1 and 2 and approximately 3.6 and 4.1 water mi west of the intake structure.

The center of the proposed site is 2.0 mi south of Lake Ontario. NYSE&G 1 and 2 utilize lake water for cooling purposes. The average consumptive water use by the plant is 52 cfs, or 34 mgd. Lake Ontario is the major water resource in the region. The New York State Department of Environmental Conservation has classified it as a Class A - Special (International Boundary Waters), a rating which indicates its best use as water supply for drinking, culinary, or food processing, primary contact recreation, and any other use. This rating is reflected in Lake Ontario as a source of water for communities within 50 water mi of the discharge point, which have a total population of 107,700 in 1978[24]. The water taken from Lake Ontario must be filtered and chlorinated to assure a good potable water supply, but the lake remains a very large reservoir of treatable drinking water. Localized pollution results from the discharge of waste water and sewerage in the metropolitan areas which border the lake, for example Rochester and Toronto [25]. Lake Ontario also suffers from indirect pollution coming from Lake Erie and Lake Buffalo.

Table 2.4-2 presents data for all municipal and industrial water systems drawing on Lake Ontario within a distance of 50 mi from the station discharge structure. The U.S. potable water systems identified in Figure 2.4-11 serve users in Cayuga, Jefferson, Onondaga, Oswego, and Wayne Counties with a total average withdrawal of 498.9 mgd. This figure represents 59.73 mgd average municipal use, and 439.2 mgd for "open cycle" cooling by the Nine Mile Point No. 1 power plant, and the James A. FitzPatrick Nuclear Generating Station. Thus, the two existing nuclear generating stations located in the Town of Scriba account for 88 percent of present withdrawals. Canadian municipal water users are also identified on Table 2.4-2. Among the smaller towns and villages which draw upon Lake Ontario, water use fluctuates by season, with demand greater in the months June through December due to summer vacationer visitation and autumn food processing. The seasonal difference in withdrawals from the lake is estimated at 10.0 mgd and is not significant in relation to total water availability.

Except for power generation, there are no projections available regarding future withdrawals from Lake Ontario for industrial uses. The Niagara Mohawk Power Corporation's second nuclear-fueled unit at Nine Mile Point, a closed cycle cooling plant now under construction, will not require significantly greater quantities of water from the lake than other existing stations; however, consumptive use will be greater than that of presently operating "open cycle" systems on the lake. It is assumed that present industrial users

will take water at approximately the same rates of use as at present. Domestic consumptive use will increase along the 50-mi stretches of shore east and west from the proposed intake as local populations grow and per capita rates of water use increase. By 2020, residential and commercial uses within this radius will require approximately 200 mgd, an increase of 235 percent from the 59.6 mgd figure for current use. This will be chiefly due to increased development in the Syracuse Standard Metropolitan Statistical Area, which is a major user of water from Lake Ontario.

2.4.1.2.7 Onsite Streams

The onsite streams at New Haven site are Catfish Creek and Butterfly Creek (Figure 2.4-14). Section 2.4.2 discusses flooding and presents additional hydrologic information for these streams. Flow measurements of these streams were taken weekly at the locations presented in Figure 2.4-26 during the period April 1977 to March 1978 (except when measurement was prevented due to ice formation).

Catfish Creek

Current Velocity

Current velocities ranged from less than 0.02 to 1.2 m/sec with a mean of 0.09 m/sec for the April through December sampling period. Current velocities increased during periods of rainfall; and the lowest velocities were observed during dry periods, especially the summer months. The highest monthly mean current velocities of 0.16 and 0.17 m/sec were recorded in October and November, respectively. Lowest current velocities were recorded at the eastern-most tributary, upstream of the site (location 3, Figure 2.4-26), and on Catfish Creek downstream of the site (location S10, Figure 2.4-26). The highest current velocities were recorded at location S11 (Figure 2.4-26). location 1 (Figure 2.4-26), the mouth of Catfish Creek, was not taken due to the influence of the inflowing water from Lake Ontario.

Stream Flow

Stream flows ranged from less than 0.0003 to 6.0 cu m/s with a mean of 0.42 cu m/s. Stream flow was generally greatest at location S10 (Figure 2.4-26) where the creek was the widest and deepest (greater than 4 m). Stream flow measurements at upstream Location 3 and S11 (both Figure 2.4-26) usually were similar, and greater flows were measured at downstream location 2 (Figure 2.4-26). The greatest stream flows were recorded during April, October, and November and coincided with periods of rainfall. The mean stream flow was 0.61 cu m/s in April, 0.41 cu m/s in October, and 1.1 cu m/s in November.

Butterfly Creek

Current Velocity

Current velocity ranged from less than 0.02 to 2.5 m/sec with a mean of 0.16 m/sec. Current velocities were generally low throughout the year, although small increases were observed after periods of rainfall. The lowest current

418 212

TABLE 2.4-1

MONTHLY MEAN WATER LEVELS

OF LAKE ONTARIO AT OSWEGO, NEW YORK FOR YEARS 1900 TO 1976

Month	Water Level in ft above msl (IGLD 1955) Average	Maximum	Minimum
January	245.22 (244.00)	247.32 (246.10)	242.89 (241.67)
February	245.30 (244.08)	247.68 (246.46)	242.81 (241.59)
March	245.58 (244.36)	247.99 (246.77)	243.30 (242.08)
April	246.25 (245.03)	248.91 (247.69)	243.60 (242.38)
May	246.66 (245.44)	249.17 (247.95)	243.89 (242.67)
June	246.80 (245.58)	249.28 (248.06)	244.13 (242.91)
July	246.71 (245.49)	248.96 (247.74)	243.97 (242.75)
August	246.36 (245.14)	248.67 (247.45)	243.48 (242.26)
September	245.93 (244.71)	248.13 (246.91)	243.16 (241.94)
October	245.54 (244.32)	247.55 (246.33)	242.94 (241.72)
November	245.29 (244.07)	247.40 (246.18)	242.67 (241.45)
December	245.20 (243.98)	247.41 (246.19)	242.70 (241.48)

418 243

TABLE 2.4-2

IDENTIFICATION AND DESCRIPTION OF PUBLIC AND PRIVATE WATER SUPPLY SYSTEMS DRAWING FROM LAKE ONTARIO WITHIN 50 MILES ACROSS WATER FROM THE STATION DISCHARGE STRUCTURE

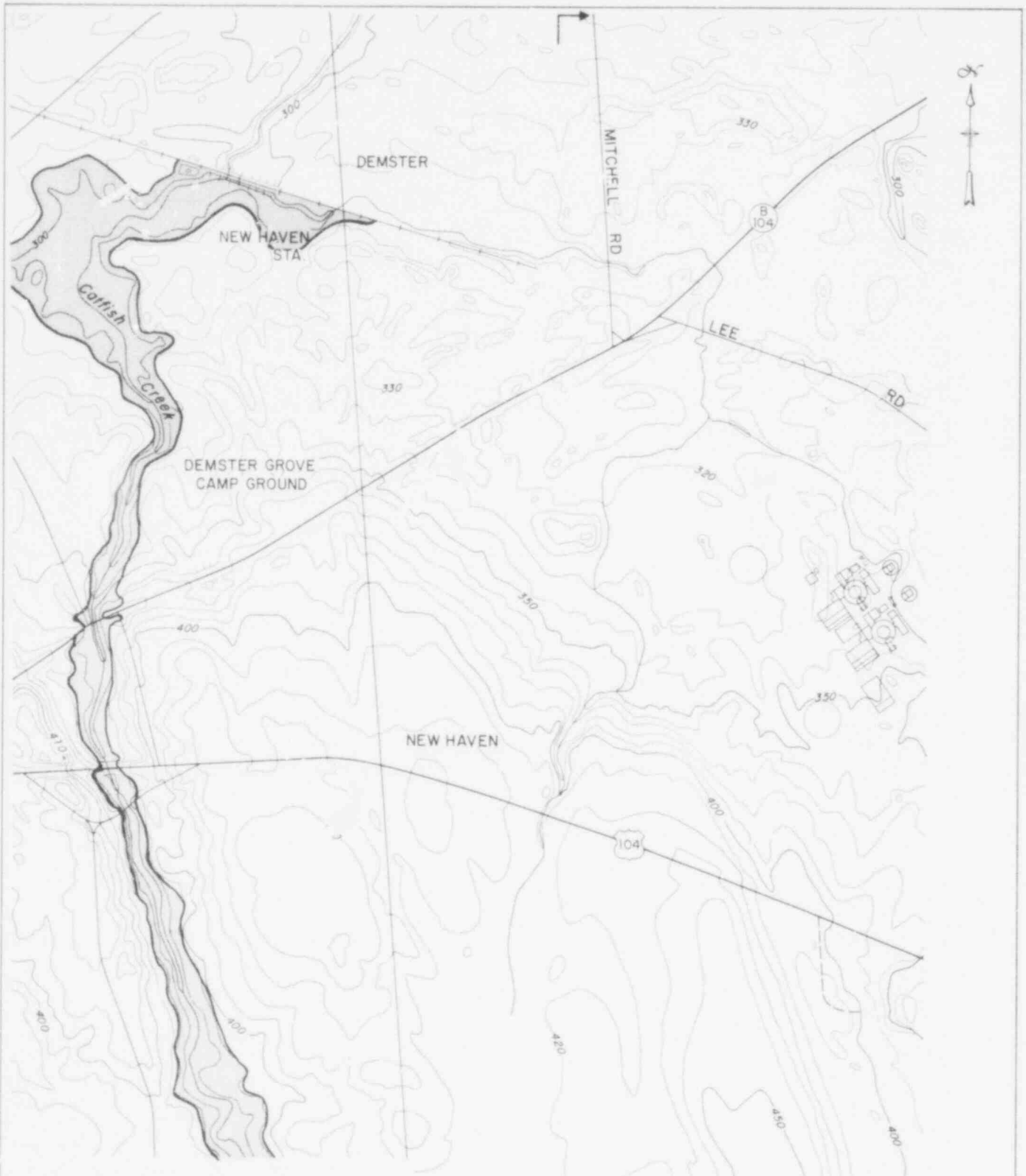
Map* Code	Name of System	Water Miles from Discharge	Direction from Site by Major Compass Point	Average Withdrawal Rate 1977 (mgd)	Type of Use
1	Williamson Water District Williamson, N.Y.	47	WSW	3.0	Domestic and Process
2	Village of Sodus Sodus, N.Y.	42	WSW	0.3	Domestic, Institutional, and Process
3	Village of Sodus Point Sodus Point, N.Y.	39	WSW	0.2	Domestic
4	Village of Wolcott Wolcott, N.Y.	32	WSW	0.1	Domestic
5	City of Oswego	11.3	W	10.0	Domestic
6	Metropolitan Water Board of Onondoga County Syracuse, N.Y.	11.3	W	35.0	Boiler Make-up, Domestic and Process
7	Niagara Mohawk Power Corp. Scriba, N.Y.	6	WNW	180.0	Cooling
8	Power Authority of the State of New York Scriba, N.Y.	6	WNW	259.2	Cooling
9	Village of Sacketts Harbor	33	NNE	0.2	Domestic
10	Chaumont Water District Chaumont, N.Y.	39	NNE	0.7	Domestic
11	Village of Cape Vincent Cape Vincent, N.Y.	43	NNE	0.2	Domestic

NOTE:
*See Figure 2.4-11

SOURCE:
Harbridge House, Inc., 1978, based on information supplied by the New York State Department of Health, Division of Sanitary Engineering and the Niagra Mohawk Power Corporation.

TABLE 2.4-2 (Cont'd)

Map* Code	Name of System	Water Miles from Discharge	Direction from Site by Major Compass Point	Average Withdrawal Rate 1977 (mgd)	Type of Use
12	Kingston Water Intake Plant Kingston, Ontario	50	N	20 (16.5 imprl)	Domestic
13	Kingston Township	50	NNW	2.4 (2.0 imprl)	Domestic



NOTE:

—— LINE ALONG CATFISH CREEK INDICATES EXTENT OF PMF.

TOPOGRAPHY BASED ON USGS TOPOGRAPHIC MAPS

0 1000 2000
SCALE - FEET

REFER TO FIG. 2.4-12 FOR SITE DETAILS.
THIS SIDE OF MATCH LINE 418

FIGURE 2.4-13

CATFISH CREEK PMF LEVELS

NEW YORK STATE ELECTRIC & GAS CORPORATION
PRELIMINARY SAFETY ANALYSIS REPORT

TABLE OF CONTENTS

SECTION 2.5

NOTE: Missing section numbers will be found in SWESSAR-P1.

418 247

TABLE OF CONTENTS (Cont'd)

TABLE OF CONTENTS (Cont'd)

418 249

LIST OF TABLES

SECTION 2.5

~~418 248~~

418 250

LIST OF FIGURES

418 251

LIST OF FIGURES

418 252

LIST OF FIGURES

418 253

TABLE OF CONTENTS

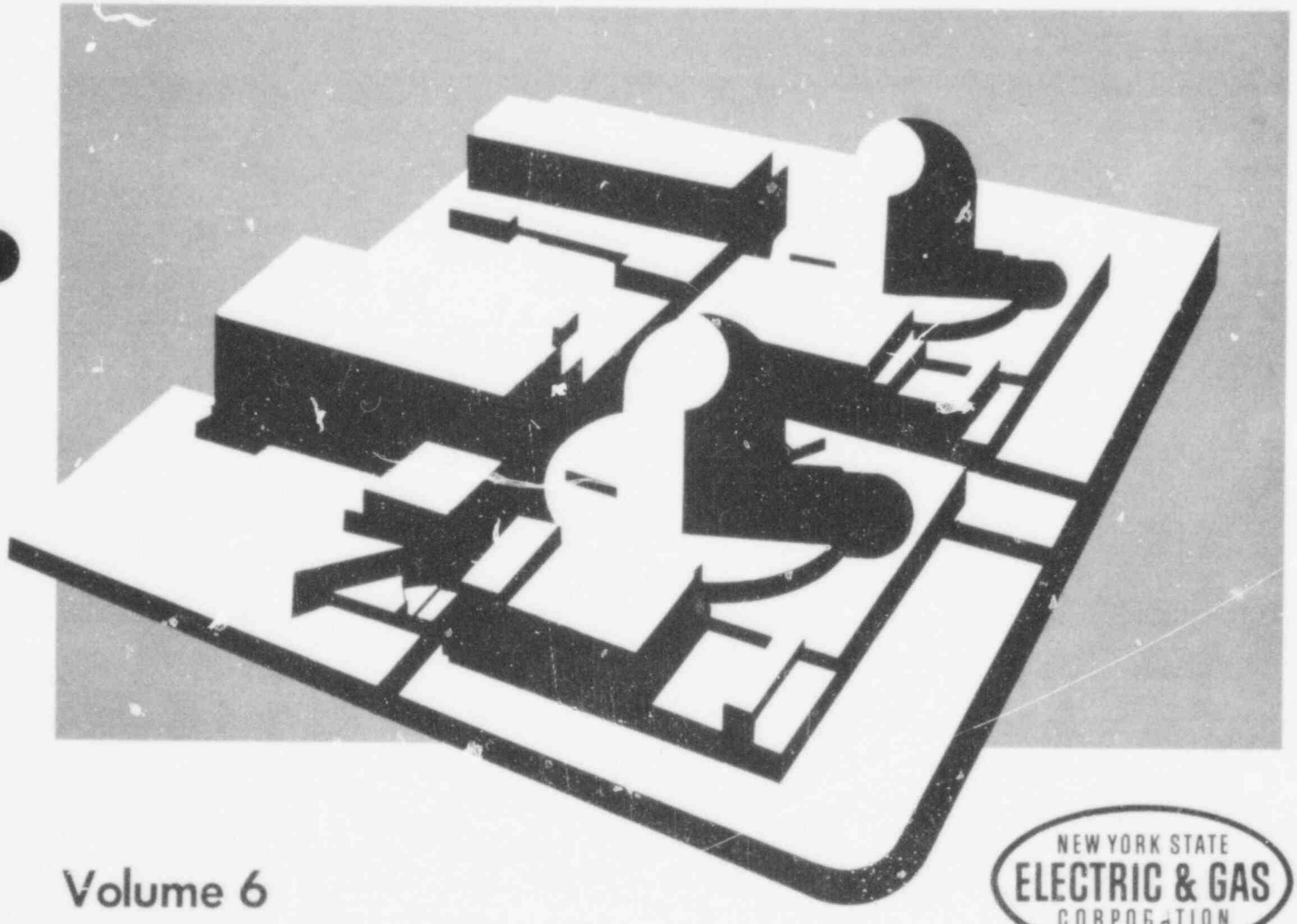
SECTION 2.6

NOTE: Missing section numbers will be found in SWESSAR-P1.

418 254

Preliminary Safety Analysis Report

NYSE&G 1 and 2



Volume 6

NEW YORK STATE
ELECTRIC & GAS
CORPORATION

TABLE OF CONTENTS

CHAPTER 7

INSTRUMENTATION AND CONTROLS

NOTE: Missing section numbers will be found in SWESSAR-P1.

418 256

LIST OF FIGURES

CHAPTER 7

418 257

CHAPTER 7

INSTRUMENTATION AND CONTROLS

7.1 INTRODUCTION

Refer to Section 7.1 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

Systems designed and supplied by Stone & Webster are as provided in SWESSAR-P1 as it relates to the NSSS described in CESSAR.

Except as indicated herein, systems designed and supplied by Combustion Engineering are as provided in the Yellow Creek Nuclear Power Plants (Docket Nos. 50-566 and 50-567 which incorporates topical report CENPD 172A). References to the Yellow Creek PSAR are for Chapter 7 only, i.e., references in Chapter 7 of the Yellow Creek PSAR to other sections of the Yellow Creek PSAR are not included.

The Instrumentation and Control Introduction Section is as provided in the Yellow Creek Nuclear Power Plant Section 7.1, with the following exceptions:

1. Section 7.1.1.3 Engineered Safety Features Systems (ESF Systems)

These systems are listed below:

ESF SYSTEM:	RESPONSIBILITY		
	Signal Generation	Actuated Components	ESF Signal
a) Containment Isolation System	CE	S&W	CIAS
b) Containment Spray System	CE	S&W	CSAS
c) Iodine Removal System	CE	S&W	CSAS
d) Main Steam Isolation System	CE	S&W	MSIS
e) Safety Injection System	CE	CE	SIAS
f) Emergency (Auxiliary) Feedwater System	S&W	S&W	EFAS
g) Supplementary Leak Collection and Release System	CE	S&W	CIAS
h) Containment Atmosphere Recirculation System	CE	S&W	SIAS
i) Combustible Gas Control System	None	S&W	Manual

2. Section 7.1.1.4 Safe Shutdown Systems	RESPONSIBILITY
a) Standby Diesel Generator	S&W
b) Standby Diesel Generator Fuel Oil System	S&W
c) Emergency Power Distribution System	S&W
d) Reactor Plant Service Water System	S&W
e) Reactor Plant Component Cooling Water System	S&W
f) Emergency (Auxiliary) Feedwater System	S&W
g) Atmospheric Dump System	S&W
h) Shutdown Cooling System	CE
i) Chemical & Volume Control System (Boron Addition Portion)	S&W
j) Safety Related HVAC Systems	S&W

In addition, equipment and systems are provided to allow emergency shutdown from outside the control room.

Note: For Section 7.1.2.20 (Interface Requirements) - Refer to SWESSAR Section 7.8.

3. Sections 7.1.1.3 and 7.1.1.4 define the scope responsibility for ESF systems and Safe Shutdown Systems respectively.

The following systems/components, although not directly related in PSAR Sections 7.1.1.3 and 7.1.1.4, are in CE scope and will be provided as described in either the Yellow Creek PSAR or NYSE&G PSAR as indicated:

System/Component	Reference
Solid State Component Control System (SSCCS)	Yellow Creek PSAR - Section 7.3
Solid State Plant Protection System (SSPPS) CE Topical Report-CENPD-172A	Yellow Creek PSAR - Section 7.2

418 259

Compartmented Plant Protection System (CPPS) (Repackaging of SSPPS)	NYSE&G PSAR - Section 7.2
Reactor Trip Switchgear Revisions	NYSE&G PSAR - Section 7.2
Plant Monitoring System	Yellow Creek PSAR - Section 7.7

7.2 REACTOR PLANT PROTECTION SYSTEM

Refer to Section 7.2 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The reactor plant protection system is as provided in the Yellow Creek Nuclear Power Plant (Docket Nos. 50-566 and 50-567) Section 7.2 with the following exceptions:

1. Protection system electronics as supplied for Yellow Creek are contained in cabinets which incorporate mechanical and thermal barriers between four redundant channels(i.e., Solid State Plant Protection System Cabinet and Auxiliary Protective Cabinet). For NYSE&G, the Compartmented Plant Protection System (CPPS) provides four separate enclosures, one for each channel of electronics. This approach allows redundant protection system equipment to be located in separate plant areas on a channel basis. The isolated CPPS inter-cabinet interfaces are provided by means of fiber optics.

2. The Reactor Trip Switchgear, as defined in the Yellow Creek Nuclear Plant Preliminary Safety Analysis Report, consists of a single enclosure containing nine trip circuit breakers. The NYSE&G design includes four separate enclosures for the trip circuit breakers; circuit breaker configuration and bus work have been modified for compatibility with the repackaging as shown in Figure 7.1-1.

3. For Sections 7.2.1.1.9.c and 7.2.2.3.1 refer to CESSAR. Note: For Section 7.2.3 (Interface Requirements) - Refer to SWESSAR Section 7.8.

The NYSE&G design incorporates the following additional changes to CESSAR:

1. Solid State Plant Protection System as identified in CE Topical Report CENPD-172A

2. Revisions to the Reactor Trip Switchgear

3. Compartmented Plant Protection System (CPPS)

7.2.4 CPPS Fiber Optics Communication System

All four Compartmented Plant Protection System cabinets are interconnected by means of a fiber optic communication system, (as shown in Figure 7.1-2) which

consists of transmitters, receivers, and fiber optic cables. These cables provide inherent interchannel isolation and independence consistent with that achieved through the use of independent enclosures for each channel equipment.

The design bases and criteria for the CPPS are the same as those specified for the SSPPS previously reviewed and approved in CE Topical Report CENPD-172A. (Refer to Sections 9.0, 9.1, and Question 223.1)

The design bases and criteria for the fiber optic communication systems are the same as those specified for the SSPPS interconnection design (including interchannel isolation and ESFAS initiation signal to actuation train isolation) previously reviewed and approved in CE Topical Report CENPD-172A. (Refer to Question 223.9)

Each transmitter is located in the channel which generates the signal. The transmitter circuitry converts the analog or digital signal to a signal which can be readily transmitted over the optical cable. Each receiver is located in the channel which receives the signal. The receiver circuitry reconstructs the transmitted signal to the original intelligence. Each optical path transmits signals in one direction only.

The purpose of providing the protection system in this physical arrangement is to allow the cabinets associated with each channel to be located in the red, green, yellow, and blue essential relay and instrument areas of the Control Room (refer to SWESSAR-P1, Figure 1.2-5, sheet 3) so that maximum physical independence of safety channels can be achieved.

The fiber optic communications system performs the same functions between CPPS cabinets as the interconnection design for the SSPPS described and reviewed in CE Topical Report CENPD-172A. These functions are reiterated here for descriptive purposes.

1. Transmit the bistable trip signals, bistable trip bypass signals, initiation test interlock signals, selective 2/4 interlock signals, automatic test system signals, and several miscellaneous signals such as the manual test system interlocks.

2. Transmit analog CEA position information from CPPS cabinets A and B to cabinets B and C respectively.

   Test circuitry is provided such that the transfer accuracy of each analog signal may be ascertained without disrupting the supplied input signal, and to provide a means of periodically testing each analog interface from its associated CPPS cabinet.

   The test circuitry is electrically interlocked by means of an external test enable signal to ensure that the appropriate test conditions exist prior to the test commencing.

3. Transmit digital CEA calculator output information from CPPS cabinets B and C to the four CPC inputs.

418 261

Also, digital ESFAS initiation signals and selective 2/4 status signals are transmitted between the CPPS cabinets and the Solid State Component Control System (SSCCS) cabinets.

7.3 ENGINEERED SAFETY FEATURES SYSTEMS

Refer to Section 7.3 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The Engineered Safety Features Systems for CE scope are as provided in the Yellow Creek Nuclear Power Plant, (Docket Nos. 50-566 and 50-567) Section 7.3, with the following exception:

1. For Section 7.3.1.2 refer to CESSAR

Note: For Section 7.3.3 (Interface Requirements) - Refer to SWESSAR Section 7.8.

The NYSE&G design incorporates the following changes to CESSAR:

1. A Solid State Component Control System (SSCCS) will use solid state logic assemblies to interface with the solid state plant protection system as described in CENPD-172A. The SSCCS performs the system level actuation, test and indication of the engineered safety features, and provides the control and indication for engineered safety features system components.

Interface requirements follow:

7.3.3.12.1 Protection Functions which Are Only Partially Tested during Power Operation

Section 7.3.3.12.1 of SWESSAR-P1 lists those protection functions which are only partially tested during power operation since complete testing is not compatible with continued online unit operation.

A program for safety related system and sensor response time testing of these protection functions will be provided in the application for an operating license.

7.4 SYSTEMS REQUIRED FOR SAFE SHUTDOWN

Refer to Section 7.4 of SWESSAR-P1 as it relates to the NSSS described in CESSAR (for CE Scope refer to CESSAR, not Yellow Creek).

7.5 SAFETY RELATED DISPLAY INSTRUMENTATION

Refer to Section 7.5 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. (For CE Scope refer to CESSAR, not Yellow Creek).

7.6 ALL OTHER INSTRUMENTATION SYSTEMS REQUIRED FOR SAFETY

Refer to Section 7.6 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. (For CE Scope refer to CESSAR, not Yellow Creek).

7.7 CONTROL SYSTEMS NOT REQUIRED FOR SAFETY

Refer to Section 7.7 of SWESSAR-P1 as it relates to the NSSS described in CESSAR.

The Control Systems not required for safety for CE scope are as provided in the Yellow Creek Nuclear Power Plant (Docket Nos. 50-566 and 50-567) Section 7.7.

The NYSE&G design incorporates the following change to CESSAR:

1. A Plant Monitoring System (PMS) provides additional status monitoring and display information for safety systems. The PMS is provided by CE.

7.7.1.1.10 Loose Parts Monitoring System (LPMS)

A Loose Parts Monitoring System (LPMS) will be installed on each of the NYSE&G units. The LPMS is designed to detect and record signals resulting from impacts occurring within the Reactor Coolant System. The capabilities of this system have been demonstrated by a similar system installed on Calvert Cliffs, Unit 1 (Docket 50-317). During initial pump operation, the system detected the presence of a 5-ounce piece of inconel tubing in the number two steam generator of Calvert Cliffs.

Eight transducers will be located in the areas where loose parts are most likely to become entrapped. These are:

1. Two on the reactor vessel lower head, diametrically opposed
2. Two on the reactor vessel upper head, diametrically opposed
3. Two on the lower head of each steam generator, diametrically opposed

Experience has shown that the exact location of these accelerometers is not critical since the acoustic wave that results from an impact propagates throughout the entire head.

The transducers will be special piezoelectric accelerometers, manufactured to specifications for reactor service. These accelerometers will be magnetically attached to the reactor vessel and steam generators using Alinco V magnets. This is the same mounting arrangement that was successfully used on both the Port Calhoun (Docket 50-285) and Maine Yankee (Docket 50-309) Precritical Vibration Monitoring Programs are also installed as an LPMS on Calvert Cliffs (Docket 50-317).

A high temperature cable will connect the accelerometer to a preamplifier box located in containment containing charge amplifiers, and a "No. 1g"

418 243

calibration oscillator. From this preamplifier, the signals are sent via suitable wires such as a twisted shielded pair to the data acquisition panel in the control room.

An impact calibration is performed during system installation. This calibration establishes the relationship between the output signal strength and impact energy. It also determines the frequency of the damped ringing signal that is characteristic of all large steel structures when struck. To perform the impact calibration, the LPMS is activated and the reactor vessel and steam generators are then struck with a known impact energy as signal records are being made. The locations for the impacts are selected at the time of impact calibration. Selection is based primarily upon accessibility.

A data acquisition panel, located in the control room, contains alarm modules that continually monitor the incoming signals from the preamplifier for the presence of impacting. The alarm level for each accelerometer is determined by a set point adjustment on the module. The occurrence of a loose part impacting on the inside of the structure causes bursts of signals that exceed the alarm set point and trigger the alarm.

The data acquisition panel includes a recording device which records the impact signals for reference and for comparisons with those taken during the impact calibration. The comparison confirms the identification of an impact event. The particular channel showing the significantly higher signal reveals the location of the loose part. This impacting location is further confirmed by noting on which channel the impact signal occurred first.

7.8 INTERFACE REQUIREMENTS

Sections 7.1.2.20, 7.2.3, and 7.3.3 of CESSAR define the interface requirements applicable to balance of plant equipment and systems interfacing with the NSSS systems. The interface requirements stated in these sections do not change for the CE Instrumentation and Control design scope incorporated in this application by either reference to the Yellow Creek Nuclear Power Plant (Docket Nos 50-566 and 50-567) or changes in Instrumentation and Control design unique to NYSE&G. Methods of satisfying these interface requirements by the BOP are indicated in SWESSAR Section 7.8, Heading 7.1.2.20, 7.2.3, and 7.3.3. There are no changes to these methods of satisfying the interface requirements.

418 264

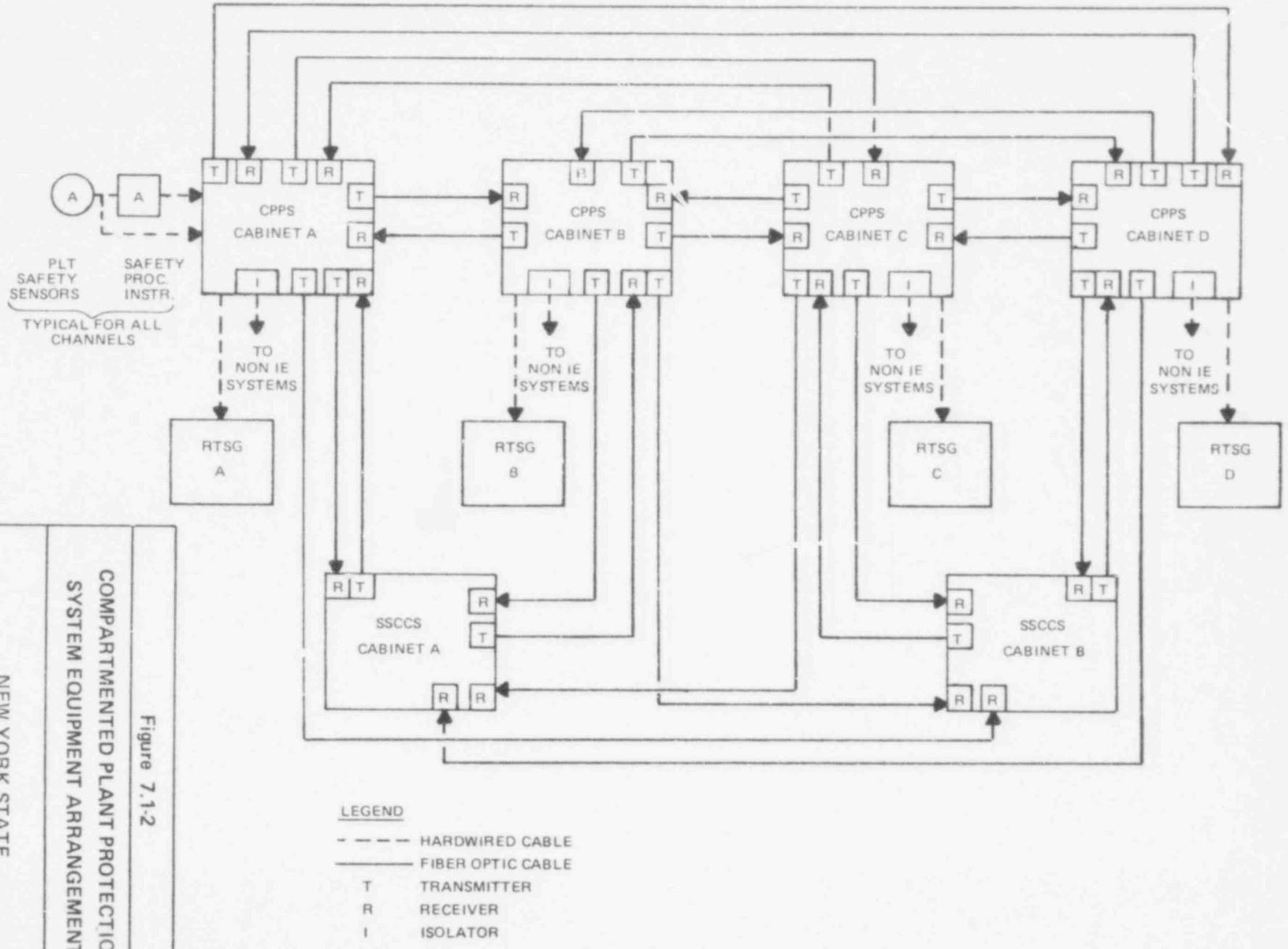


Figure 7.1-2

COMPARTMENTED PLANT PROTECTION SYSTEM EQUIPMENT ARRANGEMENT

NEW YORK STATE ELECTRIC & GAS CORPORATION

Preliminary Safety Analysis Report

AMENDMENT 7, APRIL 1979

418 265

The fire protection program for each reactor unit will be fully operational prior to initial fuel loading in that reactor unit.

9.5.1.7.7 Structures not Included in SWESSAR

Service Water Pumphouse

The service water pumphouse are of noncombustible construction and are within reach of the yard hydrant loop. The safety related pumps are separated from each other by 3-hr minimum fire barriers. Hose stations and portable extinguishers are provided.

Cooling Towers

All cooling towers are of noncombustible construction and are within reach of the yard hydrant loop.

Remainder of Plant

All other plant structures and areas (normal switchgear building, warehouse, service building, administration building, security building, circulating water pumphouse, machine shop, health physics and chemical laboratories, fire pumphouse, water treatment area) are not essential to safe shutdown and contain no radioactive material. A fire in any one of these areas would not spread to or affect safety related equipment due to detection and suppression systems in each area and physical separation and 3-hr minimum fire barriers.

9.5.1.7.8 Additional Fire Stops and Seals

After review of plant structures not included in SWESSAR-P1, it has been determined that no additional fire stops and seals are required. Fire stops and seals will be provided as identified in SWESSAR-P1 Table 9.5.1-5.

9.5.1.7.9 Special Protection Requirements

Storage of Acetylene-Oxygen Fuel Gases

Gas cylinder storage is out of doors, under cover, in a secured area to prevent adverse effects to safety related equipment or the fire protection systems that serve safety related areas. An administrative permit system regulates the use of this equipment in safety related areas of the plant.

Storage Areas for Ion Exchange Resins

New or spent ion exchange resins are normally stored in the warehouse area to preclude adverse effects to safety related equipment.

Hazardous Chemicals

Hazardous chemicals, such as acids, caustics, or hypochlorites, are stored in the water treatment area to preclude adverse effects to safety related equipment.

Materials Containing Radioactivity

Materials that collect and contain radioactivity, such as spent ion exchange resins, charcoal filters, and HEPA filters, are stored in closed metal tanks or containers located in the solid waste and decontamination building. These materials are protected by appropriate barriers from exposure to fires in adjacent areas. Consideration will be given to requirements for removal of decay heat from entrained radioactive materials.

9.5.2 Communications Systems

Refer to Section 9.5.2 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. Interface requirements follow.

9.5.2.2 System Description

The plant to offsite communication systems consist of;

1. Offsite telephone circuits - local telephone company central office
2. Offsite telephone tie line circuits - NYSE&G General Office building
3. Offsite telephone circuits - NYSE&G's Central Dispatch
4. Radio communications - Normal
5. Radio communications - Emergency

Each of these systems is further discussed below:

Offsite Telephone Circuits - Local Telephone Company

Offsite telephone trunks connect the plant PBX with the local telephone company central office. In addition, unlisted lines connect the control room, station superintendent, and central alarm station with the local telephone company central office. These lines are independent of the plant PBX. Both types of circuits allow access to the nationwide telephone network system for communication with law enforcement agencies, other emergency agencies, as well as the outside community. Circuit entrance to the plant follows two diverse routes so that onsite failure of one route will not affect the other. The PBX design details are covered under Intraplant Communications.

11.2 RADIOACTIVE LIQUID WASTE SYSTEM

Refer to Section 11.2 of SWESSAR-P1 as it relates to the NSSS described in CESSAR. Interface requirements follow.

11.2.2.1 Laundry Waste Provisions

Unit 1 incorporates the laundry waste processing system as described in topical report SWECO 7701A(1).

Figure 11.2-1 identifies the interface points for the laundry waste processing system; Table 11.2-1 lists the interface information for each point. The initial activity, decontamination factor, decay times, and expected release rates for this system are included in Table 11.2-30 of SWESSAR-P1.

11.2.7 Release Points

The radioactive liquid waste system discharges all liquid effluent releases to the blowdown line from the circulating water system cooling tower. Figure 2.1-2 shows the discharge of this blowdown line.

11.2.8 Dilution Factors

Dilution factors for the far field dispersion of liquid discharge were determined as discussed in Section 2.4.12. The dilution factors used in the analysis of the impact of radionuclide releases are presented in Table 11.2-2.

11.2.9 Dose Rate Estimates - Liquid Pathways

For the liquid releases, it was assumed the maximum individual obtains drinking water from the closest downstream public water supply which is Oswego, located 11 mi west or 17.7 km from the facility. The maximum individual was assumed to consume fish, invertebrates, and ducks caught at the edge of the initial mixing zone. This location was also used in calculating doses from swimming and boating. Food products assumed to be irrigated were irrigated with water taken from the closest accessible shoreline. The calculated doses from shoreline recreation also were performed at this location.

The maximum calculated dose to the maximum individual from liquid pathways was 4.0 mrem/yr to an infant thyroid. This dose was primarily a result of the consumption of goats milk. It was assumed the goat grazed on irrigated pasture for 6 months of the year.

Tables 11.2-3 through 11.2-6 present the calculated doses to the maximum individual from liquid pathways. The tables present the calculated total body and organ doses for the four age groups - adult, teen, child, and infant.

Table 11.2-7 presents a comparison of the maximum individual calculated doses from liquid effluents to the design objectives of 10CFR50 Appendix I limits.

Table 11.2-8 gives the calculated annual doses for the population residing within a 50-mi radius of the site. For the liquid effluents, the calculated total body and thyroid doses are 7.3E+00 and 9.5E+00 man-rem/year, respectively.

These doses were calculated for a projected population, in the year 2010, of about 1.2E+06 people within 50 mi of the site.

The doses from liquid pathways were calculated using the equations recommended in Regulatory Guide 1.109, Revision 1; Table 11.2-9 presents the parameters and assumptions used in equations for estimating doses to man.

The generalized equation for calculating radiation doses to humans via liquid pathways is:

$$R_{aipj} = (C_{ip})(U_{ap})(D_{aipj}) \qquad (11.2\text{-}1)$$

where:

R_{aipj} = the annual dose to organ j of an individual of age group a from nuclide i via pathway p, in mrem/yr

C_{ip} = the concentration of nuclide i in the media of pathway p, in pCi/l, pCi/kg, or pCi/sq m

U_{ap} = the exposure time or intake rate (usage) associated with pathway p for age group a, in hr/yr, l/yr, or kg/yr (as appropriate)

D_{aipj} = the dose factor, specific to age group a, radionuclide i, pathway p, and organ j, in mrem/pCi injested or mrem per hr/pCi per sq m from exposure to deposited activity in sediment or on the ground

1. Potable Water

$$R_{apj} = 1{,}110 \frac{M_p U_{ap}}{F} \sum_i Q_i D_{aipj} \exp(-\lambda_i t_p) \qquad (11.2\text{-}2)$$

418 269

TABLE 11.2-1

PROCESSING LAUNDRY WASTE SYSTEM

INTERFACE INFORMATION

Interface Point	System	Flow Rate or Batch Volume	Operating Pressure (psig)	Operating Temperature (°F)	Purpose
1	Primary grade water system	25 gpm	100	Ambient	Flushing lines
2	Aerated drain system	NA*	0	Ambient	Tank overflow
3	Radioactive liquid waste system	25 gpm	50	Ambient	To Low Level waste drain tanks
4	Aerated drain system	NA	0	Ambient	Tank overflow
5	Radioactive gaseous waste system	NA	25	212	Overpressure protection
6	Auxiliary steam system	1,167 lb/hr	150	358	Heating for evaporator
7	Auxiliary condensate system	1,167 lb/hr	150	212	Remove condensed steam
8	Reactor plant component cooling water system	160 gpm	100	105 max	Condenser cooling water
9	Aerated vent system	5 cfm	Atmospheric	120	Condenser vent
10	Aerated drain system	NA	Atmospheric	120	Tank overflow
11	Radioactive solid waste system	15 gpm	50	212	Forwarded for solidification
12	Radioactive liquid waste system	20 gpm	50	120	Forwarded for discharge

* NA - Not applicable since only used on irregular basis.

TABLE 11.2-2

DILUTION FACTORS, POPULATION SERVED AND TRAVEL TIMES FROM THE NEW HAVEN SITE

Public Water Systems*	Approximate Distance from Site to Point of Intake (mi)	Dilution Factor	Population Served (people/yr)	Transit Time To Intake (hr)
Oswego City**	11 W	258	26,000	75
Metropolitan Water Board	11 W(Same intake as Oswego)	258	67,000	75
Wolcott Village	32 WSW	428	2,500	213
Sackets Harbor Village	33 NNE	290	1,200	194
Sodus Point Village	39 WSW	472	2,000;4,000 (Summer)	260
Chaumont Village	39 NNE	3.5	550	229
Sodus Village	42 WSW	490	1,800	280
Cape Vincent Village	43 NNE	330	750	252
Williamson Water District	47 WSW	518	5,900	313
Kingston Water Intake Plant, Kingston, Ontario	50 N	366	74,000	272
Kingston Township	50 NNN	366	19,000	272

413 271

TABLE 11.2-2 (Cont'd)

Incremental Regions***	Approximate Distance from Site to Point of Intake (mi)	Dilution Factor	Population Usage (people/yr.) Boating	Shoreline Recreation	Transit Time to Point of Analysis (hr)
0 to 10	5	117	3.07E+04	2.4E+05	29
10 to 20	15	197	3.7E+04	2.4E+05	88
20 to 30	25	253	3.7E+04	2.4E+05	147
30 to 40	35	298	3.7E+04	2.4E+05	205
40 to 50	45	338	3.7E+04	2.4E+05	264

TABLE 11.2-2 (Cont'd)

Public Beaches*****	Approximate Distance from Site to Point of Analysis (mi)	Dilution Factor	Population Usage Annual Attendance	Transit Time to Point of Analysis (hr)
Green Point	11	169	6,510	65
Sandy Pond Beach	10.5	165	26,215	62
Sand Pond Beach Inc.	10	162	7,245	59
Dowie Dale Beach	2	78	6,510	12
Brennan Beach	7.5	141	7,455	44
Rainbow Shores	9	154	7,560	53
Chedmardo Farms	5	117	8,085	29
White Sands Beach	9	154	10,675	53
Chedmardo Trailer Camp	5.5	122	10,675	32
Selkirk Shores State Park	6	127	10,675	35
Fairhaven Beach State Park	23	364	21,035	153
C. Phil Haven Trailer Park	24.5	375	8,575	163
Fairhaven Boat House	25	379	6,510	167
Idlewood on the Lake	40.5	481	8,050	270
Association Island	28	267	3,535	164
Wescott Beach St. Park	34	294	17,045	200
Dels Bayside Marina	37	307	4,095	217
Shangri-la	34	294	3,710	200
Isthmus Marina	34	294	13,090	200
Willow Shores Trailer Park	46	341	3,815	270
Warrens Cottages	47.5	347	3,815	279
Sunset Trailer Park	47	345	3,535	276
Sunny Bank Cottages	48	349	3,535	282
Slycks Camp	45.5	339	3,535	267
Ponds Cottages	37	307	3,535	217
Lazy Acres	48	349	5,215	282
Harbor Light Cottages	44	334	3,535	258
Green Cedars	47.5	347	3,535	279
Edgewater Cottages	50	356	3,535	293
Gladys Docteur	45.5	339	3,815	267
Glenn Docteur	44.5	336	3,815	261
Burkes Chula Vista	48	349	3,535	282
Cape Vincent Barrachs Club Camp	37.5	309	3,535	220
Wilson Bay Town Dock	39.5	317	3,045	232
Cape Vincent Boathouse	43	330	4,095	252
Cape Vincent Beach	43	330	3,535	252
Cape Vincent Park	43	330	6,335	252
Jefferson Park Camp	19	221	3,535	112
Southwick Beach St. Park	17.5	212	19,815	103

TABLE 11.2-2 (Cont'd)

NOTES:

*Public water supply systems used to calculate 50-mi radius population doses from ingestion of potable water
**Public water supply system used to calculate the dose to the maximum offsite individual from the ingestion of potable water
***The regions used to calculate 50-mile radius population doses from ingestion of fish, boating, and shoreline recreation (assumed 1/5 of fish caught in each region)
****Locations used to calculate population doses from swimming

TABLE 11.2-8

CALCULATED ANNUAL DOSES

FOR

POPULATION WITHIN 50-MILE RADIUS

Liquid Effluents	Population man-rem	
	Total Body	Thyroid
Ingestion of Potable Water	1.8E+00	7.0E+00
Ingestion of Fish	5.4E+00	2.4E+00
Shoreline Recreation	1.2E-01	1.2E-01
Swimming	6.2E-05	6.2E-05
Boating	8.6E-04	8.6E-04
TOTAL	7.3E+00	9.5E+00

13.5 PLANT PROCEDURES

Detailed written procedures will be prepared for the conduct of operations involving nuclear safety. The Station Operating Manual, will be prepared by the station staff, the NYSE&G Project Engineering Staff, CE, and S&W and will be available prior to Unit 1 fuel loading. All procedures will be updated and revised as required to ensure their effectiveness and completeness.

All safety related operations will be conducted in accordance with written and approved procedures.

Procedures will be based on good nuclear power plant practice and will enhance station safety. ANSI N18.7-1976, "Administrative Controls for Nuclear Power Plants" and Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," will be used as a guide for the writing and implementation of these procedures. The procedures will be reviewed periodically and, when necessary, improved and updated.

The FSAR will include a list of titles of procedures, and a description of the review, change, and approval procedures for station operating, maintenance, and testing procedures.

It is anticipated that the approved procedures will be issued in accordance with the following preliminary schedule:

Procedure	Time Before Fuel Loading
Administrative	12 months
Operating	6 months
Maintenance	6 months
Surveillance	6 months
Off-manual and Emergency	6 months
Preoperation Testing	24 to 6 months
Fire Protection	6 months

418 276

ACCEPTANCE REVIEW QUESTIONS AND RESPONSES

Question No.	Subject	Amendment No.
010.1 (10.4.5)	Expansion Joint Failure at Main Condenser	1
022.1 (9.4.5.2.6)	Containment Purging during Normal Plant Operation	1
022.2 (6.2.1, 6.2.5.7.1)	Clarification of Fig. 6.2-1 NYSE&G PSAR and Table 6.2.5-1 SWESSAR-P1	1
032.1 (3.11)	Environmental Qualification	2
032.2 (7.1)	NYSE&G Chapter 7 Plant Protection System Design	2
032.3 (7.2)	NYSE&G Chapter 7 CPPS and Reactor Trip Switchgear Design	2
032.4 (7.2)	CPPS Fiber Optics Communication System	3
032.5 (7.3)	Solid State Component Control System vs CPPS	2
032.6 (7.7)	Plant Monitoring System	2
032.7 (7.8)	Instrumentation and Control Design Interface Requirements	2
040.1 (3.11)	Environmental Qualification Program	1
040.2 (8.2) (RSP)	Protection from High or Low Grid Voltage	1
040.3 (Appendix A)	Regulatory Guides 1.41 and 1.108	1
040.4 (8.3)	Diesel Generator Alarms in Control Room	1
040.5 (8.4)	Fire Stops and Seals for Cable Systems	1
040.6 (9.55, 9.5.6, 9.5.7) (RSP)	Diesel Engine Auxiliaries	1
040.7 (9.5.X)	Diesel Generator Combustion Air Intake and Exhaust System	1

Question No.	Subject	Amendment No.
040.8 (10.2, 10.3, 10.4)	Selection of Turbine Generator	1
112.1 (3.9.A.1)	Piping Preoperational Testing Program	1
130.1 (3.7.1)	Confirmatory Dynamic Analysis	1
130.2 (2.7.1.2)	"Amplified Response Spectra" Methods	1
130.3 (3.7.2.6)	Shear Modulus Values Range	1
221.1 (4.4)	Loose Parts Monitoring	1
231.1	Fuel and CEA Surveillance Program	1
312.1 (2.1)	Acquisition of Site Property	1
321.1 (11.3, 9.4)	Regulatory Guide 1.140	1
321.2 (10.4.2)	Main Condenser Evacuation System	1
321.3 (11.2, 11.3)	Cost-Benefit Analysis of Liquid and Gaseous Radwaste Management Systems	1
321.4 (15.7.3)	Release Potential of Radioactive Liquids to Surface Water	1
331.1 (12.1)	Radiation Protection (ALARA) Review	1
331.2 (12 1.7.1)	Dose Assessment (Regulatory Guide 8.19)	1
331.3 (12.1.7.3)	Health Physics Area	1
372.1 (2.3.1)	Probability of Lightning Strike to Safety Related Structures	1
372.2 (2.3.1)	Probability of Tornado Occurrence	1
372.3 (2.3.1)	Snowpack for Safety Related Structures	1
372.4 (2.3.1)	Extreme Snow Loads and 100 year Fastest Mile Wind Speed	1
372.5 (2.3.2)	Variable Wind Direction Category	1
372.6 (2.3.3)	Justification for Meteorological	

QUESTION 032.4(7.2) NRC LETTER FEBRUARY 16, 1979

For the fiber optic inter-cabinet interfaces of the Compartmented Plant Protection System (CPPS), provide the following information:

1. Provide a complete description of the design in conformance with R.G. 1.70.

2. Provide the specific design bases and design criteria and address the "Acceptance Criteria for Controls" of Table 7-1 of the Standard Review Plan.

3. Specify whether this area is in the scope of design of CE or S&W or others.

4. For this area of design, identify any changes to the interface requirements evaluated by the staff during the PDA reviews of CESSAR and/or SWESSAR or the review of CENPD-172.

RESPONSE

1 and 2 Refer to Section 7.2.4, Amendment 3, for the response to this question.

3. The CPPS and fiber-optic communication system is in CE's design scope.

4. Interface requirements previously reviewed and evaluated by the NRC during the reviews of CESSAR (PDA-2), SWESSAR (PDA-6), and CE Topical Report (CENPD-172A) do not change and need not be re-reviewed due to design changes introduced by the NYSE&G CPPS.

413 279

QUESTION 442.1(13.5) NRC LETTER December 27, 1978

Provide a commitment to conduct all safety related operations by detailed written and approved procedures.

RESPONSE

Refer to Section 13.5, Amendment 3, for the response to this question.

418 280

QUESTION 442.2(13.5) NRC LETTER Decem 27, 1978

Provide a commitment to provide written and approved fire protection procedures and include them on the preliminary schedule for completion.

RESPONSE

Refer to Section 13.5, Amendment 3, for the response to this question.

418 281