NYSE&G ER
NEW HAVEN-NUCLEAR

INSERTION INSTRUCTIONS FOR AMENDMENT 4

Remove old pages and insert Amendment 4 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. Some pages bear a new amendment designation, but no change bars, because revisions on other pages in that section caused a text shift. 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 on pages revised by this amendment.

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, V = Volume, S = Section, Ap = Appendix

Remove	Insert	Location
None	MEP-1/blank	before Summary Table of Contents
EP2-1 thru -11/blank	EP2-1 thru -11/blank	after Ch2 tab
2.1-iii thru -v/blank	2.1-iii thru -v/blank	S2.1
2.1-1 thru -4	2.1-1 thru -4a/blank	
2.1-17/-18	2.1-17 thru -18a/blank	
2.1-23/-24	2.1-23 thru -24a/blank	
2.1-31 thru -36	2.1-31 thru -36	
T2.1-1(1 of 1)/-2(1 of 1)	T2.1-1(1 of 1)/-2(1 of 1)	
T2.1-10(1 of 1)/-11(1 of 1)	T2.1-10(1 of 1)/-11(1 of 1)	
None	T2.1-30A(1 of 1)/blank	
2.6-3/-4	2.6-3/-4	S2.6
EP3-1/-2	EP3-1/-2	after Ch3 tab

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NYSE&G ER
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Remove	Insert	Location
3-ix thru -xv/blank	3-ix thru -xv/blank	
EP4-1/-2	EP4-1/-2	after Ch4 tab
4-i thru 4-iv	4-i thru 4-iv	
4.1-17/-18	4.1-17 thru 4.1-18a/blank	S4.1
EP5-1/-2	EP5-1/-2	after Ch5 tab
T5.1-1(1 of 1)/-2(1 of 1)	T5.1-1(1 of 1)/-2(1 of 1)	S5.1
EP8-1/blank	EP8-1/blank	after Ch8 tab
8.2-11/-12	8.2-11/-12	S8.2

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NYSE&G EP
NEW HAVEN-NUCLEAR

MASTER LIST OF EFFECTIVE PAGES
(Amendment 4, July 1973)

Chapter (and Pages)	Amendment Number
1 (2)	2
2 (11)	4
3 (2)	4
4 (4)	4
5 (2)	4
6 (2)	3
7 (1)	3
8 (1)	4
9 (1)	0
10 (1)	1
11 (1)	1
12 (1)	0
13 (1)	0
App 1.1A (1)	0
App 2.2A (2)	0
App 2.2B (1)	0
App 2.2C (1)	0
App 2.2D (1)	0
App 2.2E (1)	0
App 2.2F (1)	0
App 2.2G (1)	0
App 2.3A (1)	0
App 2.3B (1)	0
App 2.3C (1)	0
App 2.3D (1)	1
App 2.4A (1)	0
App 2.5A (1)	0
App 2.5B (1)	0
App 2.5C (4)	1
App 2.5D (1)	0
App 2.5E (1)	0
App 2.5F (1)	0
App 2.5G (1)	0
App 2.5H (1)	2
App 2.5I (1)	2
App 2.5J (1)	0
App 2.5K (1)	0
App 2.5L (1)	0
App 2.5M (1)	1
App 2.7A (1)	0
App 2.7B (1)	0
App 2.7C (1)	0
App 2.7D (1)	0
App 2.7E (1)	0
App 2.7F (1)	0
App 3.5A (1)	0
App 3.5B (1)	3
App 4.2A (1)	0
App 5.2A (1)	3
App 5.3A (1)	3
App 6.1A (1)	1

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LIST OF EFFECTIVE PAGES
(Amendment 4, July 1979)

Page, Table (T), or Figure (F)	Amendment Number
2.1-i thru 2.1-ii	1
2.1-iii thru 2.1-v	4
2.1-vii/-viii	3
2.1-1 thru 2.1-4a	4
2.1-5 thru 2.1-6	0
2.1-7 thru 2.1-14a	2
2.1-15 thru 2.1-16	0
2.1-17 thru 2.1-18a	4
2.1-21 thru 2.1-23	0
2.1-24 thru 2.1-24a	4
2.1-25 thru 2.1-27	0
2.1-28	1
2.1-29 thru 2.1-31	3
2.1-32 thru 2.1-36	4
T2.1-1(1 of 1)	0
T2.1-2(1 of 1)	4
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)	4
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 3 thru 3 of 3)	0
T2.1-21(1 of 1)	2
T2.1-22(1 of 1)	0
T2.1-23(1 of 2 thru 2 of 2)	1
T2.1-23A(1 of 1)	1
T2.1-24(1 of 2 thru 2 of 2)	0
T2.1-24A(1 of 2 thru 2 of 2)	1
T2.1-25(1 of 1)	0
T2.1-26(1 of 9 thru 9 of 9)	0
T2.1-27(1 of 2 thru 2 of 2)	0
T.2.1-27A(1 of 2 thru 2 of 2)	2
T2.1-28(1 of 2 thru 2 of 2)	0
T2.1-29(1 of 1)	0
T2.1-30(1 of 1)	0
2.1-32 thru 2.1-36	4
T2.1-31(1 of 4 thru 4 of 4)	0
T2.1-32(1 of 3 thru 3 of 3)	0
T2.1-33(1 of 1)	0
T2.1-34(1 of 1)	1
T2.1-35(1 of 1)	1
T2.1-36(1 of 1)	0
T2.1-37(1 of 1)	0
T2.1-38(1 of 1)	0
T2.1-39(1 of 1)	0
T2.1-40(1 of 1)	0
T2.1-41(1 of 2 thru 2 of 2)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.1-42 (1 of 1)	0
T2.1-43 (1 of 1)	0
T2.1-44 (1 of 1)	1
T2.1-45 (1 of 2 thru 2 of 2)	0
T2.1-46 (1 of 16 thru 5 of 16)	0
T2.1-46 (6 of 16 thru 16 of 16)	1
T2.1-47 (1 of 1)	3
T2.1-48 (1 of 1)	3
F2.1-1 thru 2.1-6	0
F2.1-6A	1
F2.1-7 thru 2.1-9	0
F2.1-9A	2
F2.1-16	1
F2.1-17 thru 2.1-18	0
F2.1-19 thru 2.1-26	3
2.2-i thru 2.2-iii	1
2.2-iv	2
2.2-v thru 2.2-xxix	1
2.2-1 thru 2.2-15	0
2.2-16	3
2.2-17 thru 2.2-36	0
2.2-37 thru 2.2-38	1
2.2-39 thru 2.2-84	0
2.2-85 thru 2.2-86a	1
2.2-87 thru 2.2-99	0
2.2-100 thru 2.2-100a	1
2.2-101 thru 2.2-111	0
2.2-112 thru 2.2-112a	1
2.2-113 thru 2.2-132	0
2.2-133 thru 2.2-134b	1
2.2-135 thru 2.2-150	0
2.2-151 thru 2.2-152b	1
2.2-153 thru 2.2-162	0
2.2-163 thru 2.2-164a	3
2.2-165 thru 2.2-180	0
2.2-181 thru 2.2-188	1
2.2-189	1
2.2-190 thru 2.2-190a	3
2.2-191 thru 2.2-192	1
2.2-193	0
2.2-194 thru 2.2-198	1
2.2-199 thru 2.2-200	0
2.2-201 thru 2.2-208a	1
2.2-209 thru 2.2-219	0
2.2-220 thru 2.2-220a	1
2.2-221 thru 2.2-223	0
2.2-224 thru 2.2-224a	1
2.2-225 thru 2.2-232	0
2.2-233 thru 2.2-234a	1
2.2-235 thru 2.2-236	0
2.2-237 thru 2.2-238	3
2.2-239 thru 2.2-242	0
T2.2-1 (1 of 2 thru 2 of 2)	0
T2.2-2 (1 of 5 thru 5 of 5)	0
T2.2-3 (1 of 1)	0
T2.2-4 (1 of 1)	0
T2.2-5 (1 of 1)	0
T2.2-6 (1 of 2 thru 2 of 2)	0
T2.2-7 (1 of 2 thru 2 of 2)	0
T2.2-8 (1 of 1)	0
T2.2-9 (1 of 11 thru 11 of 11)	0
T2.2-10 (1 of 1)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.2-11(1 of 1)	0
T2.2-12(1 of 1)	0
T2.2-13(1 of 1)	0
T2.2-14(1 of 1)	0
T2.2-15(1 of 1)	0
T2.2-16(1 of 1)	0
T2.2-17(1 of 1)	0
T2.2-18(1 of 1)	0
T2.2-19(1 of 1)	0
T2.2-20(1 of 1)	0
T2.2-21(1 of 1)	0
T2.2-22(1 of 1)	0
T2.2-23(1 of 1)	0
T2.2-24(1 of 1)	0
T2.2-25(1 of 1)	0
T2.2-26(1 of 1)	0
T2.2-27(1 of 1)	0
T2.2-28(1 of 1)	0
T2.2-29(1 of 1)	0
T2.2-30(1 of 1)	0
T2.2-31(1 of 1)	0
T2.2-32(1 of 1)	0
T2.2-33(1 of 1)	0
T2.2-34(1 of 1)	0
T2.2-35(1 of 1)	0
T2.2-36(1 of 1)	0
T2.2-37(1 of 1)	0
T2.2-38(1 of 1)	0
T2.2-39(1 of 1)	0
T2.2-40(1 of 1)	0
T2.2-41(1 of 1)	0
T2.2-42(1 of 1)	0
T2.2-43(1 of 1)	0
T2.2-44(1 of 1)	0
T2.2-45(1 of 1)	0
T2.2-46(1 of 1)	0
T2.2-47(1 of 1)	0
T2.2-48(1 of 1)	0
T2.2-49(1 of 1)	0
T2.2-50(1 of 1)	0
T2.2-51(1 of 1)	0
T2.2-52(1 of 1)	0
T2.2-53(1 of 1)	0
T2.2-54(1 of 1)	0
T2.2-55(1 of 1)	0
T2.2-56(1 of 1)	0
T2.2-57(1 of 1)	0
T2.2-58(1 of 1)	0
T2.2-59(1 of 1)	0
T2.2-60(1 of 1)	0
T2.2-61(1 of 1)	0
T2.2-62(1 of 1)	0
T2.2-63(1 of 1)	0
T2.2-64(1 of 1)	0
T2.2-65(1 of 1)	0
T2.2-66(1 of 1)	0
T2.2-67(1 of 1)	0
T2.2-68(1 of 1)	0
T2.2-69(1 of 1)	0
T2.2-70(1 of 1)	0
T2.2-71(1 of 1)	0
T2.2-72(1 of 1)	0
T2.2-73(1 of 1)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.2-74 (1 of 1)	0
T2.2-75 (1 of 1)	0
T2.2-76 (1 of 1)	0
T2.2-77 (1 of 1)	0
T2.2-78 (1 of 1)	0
T2.2-79 (1 of 1)	0
T2.2-80 (1 of 1)	0
T2.2-81 (1 of 1)	0
T2.2-82 (1 of 1)	0
T2.2-83 (1 of 1)	0
T2.2-84 (1 of 1)	0
T2.2-85 (1 of 1)	0
T2.2-86 (1 of 1)	0
T2.2-87 (1 of 1)	0
T2.2-88 (1 of 1)	0
T2.2-89 (1 of 1)	0
T2.2-90 (1 of 1)	0
T2.2-91 (1 of 1)	0
T2.2-92 (1 of 1)	0
T2.2-93 (1 of 1)	0
T2.2-94 (1 of 1)	0
T2.2-95 (1 of 1)	0
T2.2-96 (1 of 1)	0
T2.2-97 (1 of 1)	0
T2.2-98 (1 of 1)	0
T2.2-99 (1 of 1)	0
T2.2-100 (1 of 1)	0
T2.2-101 (1 of 1)	0
T2.2-102 (1 of 1)	0
T2.2-103 (1 of 1)	0
T2.2-104 (1 of 1)	0
T2.2-105 (1 of 1)	0
T2.2-106 (1 of 1)	0
T2.2-107 (1 of 1)	0
T2.2-108 (1 of 1)	0
T2.2-109 (1 of 1)	0
T2.2-110 (1 of 2 thru 2 of 2)	0
T2.2-111 (1 of 2 thru 2 of 2)	0
T2.2-112 (1 of 2 thru 2 of 2)	0
T2.2-113 (1 of 2 thru 2 of 2)	0
T2.2-114 (1 of 10 thru 10 of 10)	0
T2.2-115 (1 of 11 thru 11 of 11)	0
T2.2-116 (1 of 7 thru 7 of 7)	0
T2.2-117 (1 of 9 thru 9 of 9)	0
T2.2-118 (1 of 7 thru 7 of 7)	0
T2.2-119 (1 of 10 thru 10 of 10)	0
T2.2-120 (1 of 1)	0
T2.2-121 (1 of 2 thru 2 of 2)	0
T2.2-122 (1 of 1)	0
T2.2-123 (1 of 10 thru 10 of 10)	0
T2.2-124 (1 of 1)	0
T2.2-125 (1 of 1)	0
T2.2-126 (1 of 1)	0
T2.2-127 (1 of 1)	0
T2.2-128 (1 of 1)	0
T2.2-129 (1 of 1)	0
T2.2-130 (1 of 1)	0
T2.2-131 (1 of 3 thru 3 of 3)	0
T2.2-132 (1 of 1)	0
T2.2-133 (1 of 2 thru 2 of 2)	0
T2.2-134 (1 of 1)	0
T2.2-135 (1 of 3 thru 3 of 3)	0
T2.2-136 (1 of 1)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.2-137(1 of 2 thru 2 of 2)	0
T2.2-138(1 of 2 thru 2 of 2)	0
T2.2-139(1 of 3 thru 3 of 3)	0
T2.2-140(1 of 1)	0
T2.2-141(1 of 2 thru 2 of 2)	0
T2.2-142(1 of 1)	0
T2.2-143(1 of 3 thru 3 of 3)	0
T2.2-144(1 of 3 thru 3 of 3)	0
T2.2-145(1 of 2 thru 2 of 2)	0
T2.2-146(1 of 1)	0
T2.2-147(1 of 1)	0
T2.2-148(1 of 1)	0
T2.2-149(1 of 2 thru 2 of 2)	0
T2.2-150(1 of 1)	0
T2.2-151(1 of 2 thru 2 of 2)	0
T2.2-152(1 of 1)	0
T2.2-153(1 of 2 thru 2 of 2)	0
T2.2-154(1 of 1)	0
T2.2-155(1 of 1)	0
T2.2-156(1 of 1)	0
T2.2-157(1 of 1)	0
T2.2-158(1 of 1)	0
T2.2-159(1 of 1)	0
T2.2-160(1 of 1)	0
T2.2-161(1 of 1)	0
T2.2-162(1 of 1)	0
T2.2-163(1 of 1)	0
T2.2-164(1 of 1)	0
T2.2-165(1 of 1)	0
T2.2-166(1 of 1)	0
T2.2-167(1 of 1)	0
T2.2-168(1 of 1)	0
T2.2-169(1 of 1)	0
T2.2-170(1 of 1)	0
T2.2-171(1 of 1)	0
T2.2-172(1 of 1)	0
T2.2-173(1 of 1)	0
T2.2-174(1 of 1)	0
T2.2-175(1 of 1)	0
T2.2-176(1 of 1)	0
T2.2-177(1 of 1)	0
T2.2-178(1 of 1)	0
T2.2-179(1 of 1)	0
T2.2-180(1 of 1)	0
T2.2-181(1 of 1)	0
T2.2-182(1 of 1)	0
T2.2-183(1 of 1)	0
T2.2-184(1 of 1)	0
T2.2-185(1 of 1)	0
T2.2-186(1 of 1)	0
T2.2-187(1 of 1)	0
T2.2-188(1 of 1)	0
T2.2-189(1 of 1)	0
T2.2-190(1 of 1)	0
T2.2-191(1 of 6 thru 6 of 6)	0
T2.2-192(1 of 1)	0
T2.2-193(1 of 1)	0
T2.2-194(1 of 1)	0
T2.2-195(1 of 1)	0
T2.2-196(1 of 1)	0
T2.2-197(1 of 2 thru 2 of 2)	0
T2.2-198(1 of 1)	0
T2.2-199(1 of 1)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.2-200(1 of 1)	0
T2.2-201(1 of 1)	0
T2.2-202(1 of 1)	0
T2.2-203(1 of 1)	0
T2.2-204(1 of 1)	0
T2.2-205(1 of 2 thru 2 of 2)	0
T2.2-206(1 of 1)	0
T2.2-207(1 of 1)	0
T2.2-208(1 of 1)	0
T2.2-209(1 of 1)	0
T2.2-210(1 of 1)	0
T2.2-211(1 of 1)	0
T2.2-212(1 of 1)	1
T2.2-213(1 of 1)	0
T2.2-214(1 of 2 thru 2 of 2)	0
T2.2-215(1 of 4 thru 4 of 4)	0
T2.2-216(1 of 2 thru 2 of 2)	0
T2.2-217(1 of 3 thru 3 of 3)	0
T2.2-218(1 of 1)	0
T2.2-219(1 of 1)	0
T2.2-220(1 of 1)	0
T2.2-221(1 of 1)	0
T2.2-222(1 of 1)	0
T2.2-223(1 of 2 thru 2 of 2)	0
T2.2-224(1 of 2 thru 2 of 2)	0
T2.2-225(1 of 1)	0
T2.2-226(1 of 1)	0
T2.2-227(1 of 3 thru 3 of 3)	0
T2.2-228(1 of 1)	0
T2.2-229(1 of 1)	0
T2.2-230(1 of 1)	0
T2.2-231(1 of 1)	0
T2.2-232(1 of 1)	3
T2.2-233(1 of 1)	0
T2.2-234(1 of 3 thru 3 of 3)	0
T2.2-235(1 of 1)	0
T2.2-236(1 of 1)	0
T2.2-237(1 of 1)	0
T2.2-238(1 of 1)	0
T2.2-239(1 of 2 thru 2 of 2)	0
T2.2-240(1 of 1)	0
T2.2-241(1 of 1)	0
T2.2-242(1 of 1)	0
T2.2-243(1 of 1)	0
T2.2-244(1 of 1)	0
T2.2-245(1 of 1)	0
T2.2-246(1 of 1)	0
T2.2-247(1 of 1)	0
T2.2-248(1 of 1)	0
T2.2-249(1 of 1)	0
T2.2-250(1 of 1)	0
T2.2-251(1 of 1)	0
T2.2-252(1 of 1)	0
T2.2-253(1 of 1)	0
T2.2-254(1 of 4 thru 4 of 4)	0
T2.2-255(1 of 1)	0
T2.2-256(1 of 1)	0
T2.2-257(1 of 1)	0
T2.2-258(1 of 2 thru 2 of 2)	0
T2.2-259(1 of 3 thru 3 of 3)	0
T2.2-260(1 of 5 thru 5 of 5)	0
T2.2-261(1 of 2 thru 2 of 2)	0
T2.2-262(1 of 2 thru 2 of 2)	0

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Page, Table (T), or Figure (F)	Amendment Number
T2.2-263(1 of 3 thru 3 of 3)	0
T2.2-264(1 of 1)	0
T2.2-265(1 of 1)	0
T2.2-266(1 of 1)	0
T2.2-267(1 of 1)	0
T2.2-268(1 of 1)	0
T2.2-269(1 of 1)	0
T2.2-270(1 of 1)	0
T2.2-271(1 of 1)	0
T2.2-272(1 of 1)	0
T2.2-273(1 of 2 thru 2 of 2)	0
T2.2-274(1 of 1)	0
T2.2-275(1 of 1)	0
T2.2-276(1 of 1)	0
T2.2-277(1 of 7 thru 7 of 7)	0
T2.2-278(1 of 1)	0
T2.2-279(1 of 3 thru 3 of 3)	0
T2.2-280(1 of 1)	0
T2.2-281(1 of 2 thru 2 of 2)	1
T2.2-282(1 of 1)	0
T2.2-283(1 of 1)	0
T2.2-284(1 of 1)	0
T2.2-285(1 of 1)	0
T2.2-286(1 of 1)	0
F2.2-1	1
F2.2-2 thru 2.2-84	0
F2.2-85	2
F2.2-86 thru 2.2-87	0
F2.2-88	2
F2.2-89 thru 2.2-107	0
2.3-i thru 2.3-xi	1
2.3-xiii	1
2.3-1	0
2.3-2 thru 2.3-2a	1
2.3-3 thru 2.3-14	0
2.3-15	0
2.3-16 thru 2.3-16a	1
2.3-17 thru 2.3-26	0
2.3-27 thru 2.3-28	1
2.3-29 thru 2.3-34	0
T2.3-1(1 of 2 thru 2 of 2)	0
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 1)	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 1)	0

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Page, Table (T), or Figure (F)	Amendment Number
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 1)	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 1)	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 1)	0
T2.3-41(1 of 1)	0
T2.3-42(1 of 1)	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
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 1)	0
T2.3-53(1 of 1)	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 1)	0
T2.3-69(1 of 1)	0
T2.3-70(1 of 1)	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 1)	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

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Page, Table (T), or Figure (F)	Amendment Number
T2.3-86 (1 of 1)	0
T2.3-87 (1 of 1)	0
T2.3-88 (1 of 1)	6
T2.3-89 (1 of 1)	0
T2.3-90 (1 of 7 thru 7 of 7)	0
T2.3-91 (1 of 7 thru 7 of 7)	0
T2.3-92 (1 of 1)	0
T2.3-93 (1 of 7 thru 7 of 7)	0
T2.3-94 (1 of 1)	0
T2.3-95 (1 of 1)	0
T2.3-96 (1 of 1)	0
T2.3-97 (1 of 1)	0
T2.3-98 (1 of 1)	0
T2.3-99 (1 of 1)	0
T2.3-100 (1 of 1)	0
T2.3-101 (1 of 1)	0
T2.3-102 (1 of 1)	0
T2.3-103 (1 of 1)	0
T2.3-104 (1 of 1)	0
T2.3-105 (1 of 1)	0
T2.3-106 (1 of 1)	0
T2.3-107 (1 of 1)	0
T2.3-108 (1 of 1)	0
T2.3-109 (1 of 1)	0
T2.3-110 (1 of 1)	0
T2.3-111 (1 of 1)	6
T2.3-112 (1 of 1)	0
T2.3-113 (1 of 1)	0
T2.3-114 (1 of 1)	0
T2.3-115 (1 of 1)	0
T2.3-116 (1 of 1)	0
T2.3-117 (1 of 1)	0
T2.3-118 (1 of 1)	0
T2.3-119 (1 of 1)	0
T2.3-120 (1 of 1)	0
T2.3-121 (1 of 1)	0
T2.3-121A (1 of 1)	1
T2.3-122 (1 of 1)	0
T2.3-123 (1 of 1)	0
T2.3-124 (1 of 1)	0
T2.3-125 (1 of 1)	0
T2.3-126 (1 of 1)	0
T2.3-127 (1 of 1)	0
T2.3-128 (1 of 1)	0
T2.3-129 (1 of 1)	0
T2.3-130 (1 of 1)	0
F2.3-1 thru 2.3-14	0
2.4-i thru 2.4-vii	1
2.4-1 thru 2.4-6	0
2.4-7	1
2.4-8 thru 2.4-30	0
2.4-31	1
2.4-32 thru 2.4-32a	3
2.4-33 thru 2.4-36	1
2.4-36a	3
2.4-37 thru 2.4-43	0
2.4-44	1
2.4-45 thru 2.4-52	0
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

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Page, Table (T), or Figure (F)	Amendment Number
T2.4-5 (1 of 6 thru 6 of 6)	0
T2.4-6 (1 of 2 thru 2 of 2)	0
T2.4-7 (1 of 8 thru 8 of 8)	0
T2.4-8 (1 of 1)	0
T2.4-9 (1 of 1)	0
T2.4-10 (1 of 1)	0
T2.4-11 (1 of 3 thru 3 of 3)	0
T2.4-12 (1 of 1)	0
T2.4-13 (1 of 1)	0
T2.4-14 (1 of 2 thru 2 of 2)	0
T2.4-15 (1 of 3 thru 3 of 3)	0
T2.4-16 (1 of 2 thru 2 of 2)	0
T2.4-17 (1 of 1)	0
T2.4-18 (1 of 1)	0
T2.4-19 (1 of 1)	0
T2.4-20 (1 of 1)	0
T2.4-21 (1 of 1)	0
T2.4-22 (1 of 4 thru 4 of 4)	0
T2.4-23 (1 of 1)	0
T2.4-24 (1 of 1)	1
T2.4-25 (1 of 1)	1
F2.4-1 thru 2.4-2	0
F2.4-3	1
F2.4-4 thru 2.4-6	0
F2.4-7	3
F2.4-8 thru 2.4-11	0
F2.4-12 thru 2.4-13	3
F2.4-14 thru 2.4-62	0
F2.4-63	1
2.5-i thru 2.5-v	1
2.5-vii thru 2.5-ix	1
2.5-0	0
2.5-1 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
2.5-47 thru 2.5-49	0
2.5-50 thru 2.5-52	1
2.5-53 thru 2.5-74	0
2.5-75	1
2.5-76 thru 2.5-76c	2
2.5-77 thru 2.5-104	1
2.5-104a	1
2.5-104b thru 2.5-104c	2
2.5-105 thru 2.5-158	0
T2.5-1 (1 of 55 thru 55 of 55)	0
T2.5-2 (1 of 3 thru 3 of 3)	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 (1 of 3 thru 3 of 3)	2
T2.5-13 (1 of 1)	2

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Page, Table (T), or Figure (F)	Amendment Number
F2.5-1 thru 2.5-5	0
F2.5-5A thru 2.5-5B	1
F2.5-6 thru 2.5-8	0
F2.5-9	1
F2.5-10 thru 2.5-11	0
F2.5-12 thru 2.5-13A	1
F2.5-14	1
F2.5-15 thru 2.5-48	0
F2.5-49 thru 2.5-62	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	2
2.6-iii	1
2.6-1 thru 2.6-2	0
2.6-3	3
2.6-4 thru 2.6-4a	4
2.6-5 thru 2.6-6	1
2.6-7 thru 2.6-10	2
F2.6-1 thru 2.6-16	0
2.7-i	1
2.7-iii	1
2.7-v	1
2.7-1 thru 2.7-5	0
T2.7-1(1 of 2 thru 2 of 2)	0
T2.7-2(1 of 2 thru 2 of 2)	0
T2.7-3(1 of 2 thru 2 of 2)	0
F2.7-1 thru 2.7-10	0
2.8-i	1
2.8-iii	1
2.8-v	1
2.8-1 thru 2.8-4	0
T2.8-1(1 of 1)	0
T2.8-2(1 of 2 thru 2 of 2)	0
T2.8-3(1 of 1)	0
T2.8-4(1 of 1)	0
T2.8-5(1 of 3 thru 3 of 3)	6
T2.8-6(1 of 1)	0
T2.8-7(1 of 1)	0
F2.8-1 thru 2.8-3	0

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LIST OF EFFECTIVE PAGES
(Amendment 4, July 1979)

Page, Table (T), or Figure (F)	Amendment Number
3-i thru 3iii	0
3-v thru 3-vii	3
3-ix thru 3-xv	4
3.1-1 thru 3.1-2	3
T3.1-1	3
T3.1-2	3
T3.1-3	3
F3.1-1	0
F3.1-2	1
F3.1-3 thru F3.1-3A	1
F3.1-4	0
F3.1-5 thru F3.1-14	0
F3.1-15 thru F3.1-15B	1
3.2-1 thru 3.2-2	0
T3.2-1(1 of 1)	0
T3.2-2(1 of 1)	0
T3.2-3(1 of 1)	0
T3.2-4(1 of 1)	0
T3.2-5(1 of 1)	0
F3.2-1 thru 3.2-3	0
3.3-1 thru 3.3-2	0
T3.3-1(1 of 2 thru 2 of 2)	0
T3.3-2(1 of 1)	0
F3.3-1	0
Title Page	0
3.4-1 thru 3.4-7	0
T3.4-1(1 of 2 thru 2 of 2)	0
T3.4-2(1 of 1)	0
T3.4-3(1 of 2)	0
T3.4-3(2 of 2)	0
T3.4-4(1 of 1)	0
T3.4-5(1 of 1)	0
T3.4-6(1 of 1)	0
F3.4-1 thru 3.4-6	0
3.5-1 thru 3.5-10	0
T3.5-1(1 of 1)	0
T3.5-2(1 of 3 thru 3 of 3)	0
T3.5-3(1 of 2)	0
T3.5-3(2 of 2)	1
T3.5-4(1 of 1)	0
T3.5-5(1 of 2 thru 2 of 2)	0
T3.5-6(1 of 1)	0
T3.5-7(1 of 2 thru 2 of 2)	0
T3.5-8(1 of 2 thru 2 of 2)	0
T3.5-9(1 of 1)	0
T3.5-10(1 of 1)	0
T3.5-11(1 of 1)	0
F3.5-1 thru 3.5-26	0
3.6-1 thru 3.6-9	3
T3.6-1(1 of 2)	3
T3.6-1(2 of 2)	0
T3.6-2(1 of 2 thru 2 of 2)	0
T3.6-3(1 of 2 thru 2 of 2)	3
T3.6-4(1 of 2 thru 2 of 2)	0

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Page, Table (T), or Figure (F)	Amendment Number
T3.6-5(1 of 2 thru 2 of 2)	0
T3.6-6(1 of 1)	3
F3.6-1 thru 3.6-2	0
F3.6-3	3
F3.6-4	0
F3.6-5	3
3.7-1	0
3.7-2	3
T3.7-1(1 of 1)	3
T3.7-2(1 of 2 thru 2 of 2)	3
T3.7-3	3
F3.7-1	0
3.8-1	0
3.9-1 thru 3.9-37	0
T3.9-1(1 of 1)	0
T3.9-2(1 of 1)	0
T3.9-3(1 of 3 thru 3 of 3)	0
T3.9-4(1 of 1)	0
T3.9-5(1 of 4 thru 4 of 4)	0
T3.9-6(1 of 2 thru 2 of 2)	0
T3.9-7(1 of 2 thru 2 of 2)	0
T3.9-8(1 of 8 thru 8 of 8)	1
T3.9-9(1 of 2 and 2 of 2)	0
T3.9-10(1 of 1)	0
T3.9-11(1 of 1)	0
F3.9-1 thru 3.9-72	0

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LIST OF EFFECTIVE PAGES
(Amendment 4, July 1979)

Page, Table (T), or Figure (F)	Amendment Number
4-i thru 4-iv	4
4-v thru 4-vi	3
4-vii	3
4.1-1	0
4.1-2	0
4.1-2a	1
4.1-3 thru 4.1-6d	3
4.1-7 thru 4.1-10	1
4.1-11 thru 4.1-12	2
4.1-12a	1
4.1-13	0
4.1-17 thru 4.1-18a	4
4.1-19	1
4.1-20 thru 4.1-30	0
4.1-31	3
4.1-32	0
4.1-33 thru 4.1-35	1
4.1-36 thru 4.1-38d	3
4.1-39 thru 4.1-61	0
4.1-62 thru 4.1-69	3
T4.1-1(1 of 1)	3
T4.1-2(1 of 1)	3
T4.1-3(1 of 1)	0
T4.1-4(1 of 2 thru 2 of 2)	0
T4.1-5(1 of 1)	0
T4.1-6(1 of 1)	0
T4.1-7(1 of 2 thru 2 of 2)	0
T4.1-8(1 of 2 thru 2 of 2)	0
T4.1-9(1 of 1)	0
T4.1-10(1 of 1)	1
T4.1-11(1 of 2 thru 2 of 2)	1
T4.1-12(1 of 1)	0
T4.1-13(1 of 2 thru 2 of 2)	0
T4.1-14(1 of 3 thru 3 of 3)	0
T4.1-15(1 of 1)	1
T4.1-16(1 of 1)	3
F4.1-1 thru F4.1-2	0
F4.1-3	1
F4.1-4 thru F4.1-10	0
F4.1-11 thru F.1-12	1
4.2-1 thru 4.2-30	0
T4.2-1(1 of 2 thru 2 of 2)	0
T4.2-2(1 of 3 thru 3 of 3)	0
T4.2-3(1 of 1)	0
F4.2-1 thru F4.2-5	0
4.3-1	0
4.3-2	1
4.3-3	0
4.4-1 thru 4.4-2	0
T4.4-1(1 of 1)	0
T4.4-2(1 of 1)	0
4.5-1 thru 4.5-4a	3
4.5-5 thru 4.5-9	1
T4.5-1(1 of 1)	1
T4.5-2(1 of 2)	0

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Page, Table (T), or Figure (F)	Amendment Number
T4.5-2 (2 of 2)	1
T4.5-3 (1 of 1)	0
4.6-1	0
F4.6-1	0

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LIST OF EFFECTIVE PAGES
(Amendment 4, July 1979)

Page, Table (T), or Figure (F)	Amendment Number
Title Page	0
5-i thru 5-iv	3
5-v thru 5-ix	0
5-xi thru 5-xii	0
5.1-1 thru 5.1-26	0
5.1-27 thru 5.1-28	3
5.1-29 thru 5.1-34	0
5.1-35 thru 5.1-44a	1
5.1-45 thru 5.1-67	0
T5.1-1 (1 of 1)	4
T5.1-2 (1 of 1)	0
T5.1-3 (1 of 1)	0
T5.1-4 (1 of 1)	0
T5.1-5 (1 of 1)	0
T5.1-6 (1 of 1)	0
T5.1-7 (1 of 1)	0
T5.1-8 (1 of 1)	0
T5.1-9 (1 of 1)	0
T5.1-10 (1 of 1)	0
T5.1-11 (1 of 1)	0
T5.1-12 (1 of 6 thru 6 of 6)	0
T5.1-13 (1 of 5 thru 5 of 5)	0
T5.1-14 (1 of 4 thru 4 of 4)	0
T5.1-15 (1 of 1)	0
T5.1-16 (1 of 2 thru 2 of 2)	0
T5.1-17 (1 of 1)	0
T5.1-18 (1 of 1)	0
T5.1-19 (1 of 1)	0
T5.1-20 (1 of 1)	0
T5.1-21 (1 of 1)	0
T5.1-22 (1 of 1)	0
T5.1-23 (1 of 2 thru 2 of 2)	3
T5.1-24 (1 of 1)	0
T5.1-25 (1 of 3 thru 3 of 3)	0
T5.1-26 (1 of 4 thru 4 of 4)	0
T5.1-27 (1 of 1)	1
T5.1-28 (1 of 1)	0
T5.1-29 (1 of 2 thru 2 of 2)	0
T5.1-30 (1 of 4 thru 4 of 4)	0
T5.1-31 (1 of 3 thru 3 of 3)	0
T5.1-32 (1 of 1)	1
T5.1-33 (1 of 4 thru 4 of 4)	0
T5.1-34 (1 of 1)	0
T5.1-35 (1 of 2 thru 2 of 2)	0
T5.1-36 (1 of 3 thru 3 of 3)	0
T5.1-37 (1 of 3 thru 3 of 3)	0
T5.1-38 (1 of 1)	0
T5.1-39 (1 of 2 thru 2 of 2)	0
T5.1-40 (1 of 2 thru 2 of 2)	0
T5.1-41 (1 of 2 thru 2 of 2)	0
T5.1-42 (1 of 1)	0
T5.1-43 (1 of 2 thru 2 of 2)	0
T5.1-44 (1 of 8 thru 8 of 8)	0
F5.1-1 thru 5.1-11	0
5.2-1 thru 5.2-3	0
5.2-4	1
5.2-5 thru 5.2-16	0
5.2-17	3

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Page, Table (T), or Figure (F)	Amendment Number
5.2-18	0
T5.2-1 (1 of 1)	0
T5.2-2 (1 of 1)	0
T5.2-3 (1 of 1)	0
T5.2-4 (1 of 1)	0
T5.2-5 (1 of 1)	0
T5.2-6 (1 of 1)	0
T5.2-7 (1 of 1)	0
T5.2-8 (1 of 1)	0
T5.2-9 (1 of 1)	0
T5.2-10 (1 of 1)	0
T5.2-11 (1 of 2 thru 2 of 2)	1
T5.2-12 (1 of 1)	1
T5.2-13 (1 of 1)	1
T5.2-14 (1 of 1)	1
T5.2-15 (1 of 1)	1
T5.2-16 (1 of 2 thru 2 of 2)	1
T5.2-17 (1 of 1)	1
T5.2-18 (1 of 1)	1
T5.2-19 (1 of 1)	2
T5.2-20 (1 of 1)	1
T5.2-21 (1 of 1)	1
T5.2-22 (1 of 1)	1
T5.2-23 (1 of 1)	0
T5.2-24 (1 of 1)	1
T5.2-25 (1 of 1)	3
F5.2-1 thru 5.2-3	0
5.3-1 thru 5.3.3	0
T5.3-1 (1 of 1)	0
F5.3-1 thru 5.3-2	0
5.4-1	0
5.5-1 thru 5.5-7	0
5.5-8 thru 5.5-9	0
5.6-1 thru 5.6-8	0
5.6-9 thru 5.6-10a	1
5.6-11 thru 5.6-32	0
T5.6-1 (1 of 1)	0
T5.6-2 (1 of 1)	0
T5.6-3 (1 of 1)	0
T5.6-4 (1 of 1)	0
T5.6-5 (1 of 1)	1
T5.6-6 (1 of 1)	0
T5.6-7 (1 of 1)	0
F5.6-1 thru 5.6-9	0
5.7-1 thru 5.7-3	0
T5.7-1 (1 of 1)	0
5.8-1 thru 5.8-4	0

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LIST OF EFFECTIVE PAGES
(Amendment 4, July 1979)

Page, Table (T), or Figure (F)	Amendment Number
8-i thru 8-ii	3
8-iii thru 8-v	0
8.1-1 thru 8.1-13	0
T8.1-1(1 of 2 thru 2 of 2)	1
T8.1-2(1 of 1)	0
T8.1-3(1 of 2 thru 2 of 2)	0
T8.1-4(1 of 4 thru 4 of 4)	0
T8.1-5(1 of 2 thru 2 of 2)	0
T8.1-6(1 of 1)	0
T8.1-7(1 of 1)	0
T8.1-8(1 of 1)	0
T8.1-9(1 of 1)	0
T8.1-10(1 of 1)	0
T8.1-11(1 of 1)	0
T8.1-12(1 of 1)	0
T8.1-13(1 of 1)	0
8.2-1 thru 8.2-4	0
8.2-5	2
8.2-6	0
8.2-7 thru 8.2-8a	3
8.2-9 thru 8.2-10	0
8.2-11	4
8.2-12 thru 8.2-22	0
8.2-23 thru 8.2-24a	2
8.2-25 thru 8.2-32	0
T8.2-1(1 of 3)	2
T8.2-1(2 of 3 thru 3 of 3)	0
T8.2-2(1 of 2 thru 2 of 2)	0
T8.2-3(1 of 2 thru 2 of 2)	0
T8.2-4(1 of 1)	0
T8.2-5(1 of 1)	0
T8.2-6(1 of 1)	0
T8.2-7(1 of 1)	0
T8.2-8(1 of 2 thru 2 of 2)	0
T8.2-9(1 of 2 thru 2 of 2)	0
T8.2-10(1 of 2 thru 2 of 2)	2
T8.2-11(1 of 1)	0
T8.2-12(1 of 1)	0
T8.2-13(1 of 1)	0
T8.2-14(1 of 1)	0
T8.2-15(1 of 6)	1
T8.2-15(2 of 6 thru 6 of 6)	0
T8.2-16(1 of 1)	0
T8.2-17(1 of 1)	0
T8.2-18(1 of 1)	0
T8.2-19(1 of 1)	0
T8.2-20(1 of 1)	0
T8.2-21(1 of 1)	0
T8.2-22(1 of 1)	0
T8.2-23(1 of 1)	0
T8.2-24(1 of 1)	0

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CHAPTER 2

THE SITE AND ENVIRONMENTAL INTERFACES

2.1 GEOGRAPHY AND DEMOGRAPHY

2.1.1 Site Location and Description

2.1.1.1 Specification of Location

The site is in the Town of New Haven, Oswego County, New York, approximately 9 mi east of the City of Oswego and 30 mi north of Syracuse. Figure 2.1-1 shows the general site location. The site is located approximately 2 mi south of Lake Ontario on gently sloping terrain, approximately 340 ft above mean sea level (msl). The site is located within an area bounded by Mason Road and State Route 104B to the north and northwest, State Route 104 to the south, Tollgate Road to the east, and approximately 1,900 ft east of County Route 6 to the west.

The coordinates of the center of the containment structures for Units 1 and 2 are:

	Geographic Coordinates	Zone UTM* Grid	NYS Coordinate System-Central Zone
Unit 1	43 deg-29'-3" N Lat	N4815200m	N1269630.00
	76 deg-17'-46" W Long	E395200m	E576240.00
Unit 2	43 deg-28'-58" N Lat	N4815000m	N1269139.47
	76 deg-17'-41" W Long	E395300m	E576602.61

* Universal Transverse Mercator

2.1.1.2 Site Area

The site area map (Figure 2.1-2) is a detailed topographic map showing the identification, location, and orientation of the principal station structures. This figure also indicates the exclusion area and proposed site boundaries. All of the property within the site boundary will be owned by NYSE&G. The area within the site boundary is approximately 1,294 acres. There will be no industrial, recreational, or residential structures, railways, or navigable waterways within the site boundary. Lee Road, passing through the site area, will be owned and controlled by NYSE&G.

2.1.1.3 Boundaries for Establishing Effluent Release Limits

The restricted area coincides with the exclusion area (Figure 2.1-2) and will be posted and controlled for the purposes of protection of individuals from exposure to radiation and radioactive materials. The radiation dose to

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individuals outside of the restricted area will be within the limits defined in 10CFR20 and 10CFR50, Appendix I.

The exclusion area boundary is formed by two half circles drawn from the centerline of each containment, connected by tangent lines. The radius of each half circle is defined as the shortest distance from the centerline of Unit 2 to Route 104. Section 2.1.3.2 discusses the property within this boundary. Figure 2.1-1 shows the orientation of the restricted area boundary to the surrounding region, including lakes and rivers.

The only potentially radioactive gaseous effluent release point is the ventilation vent (Figure 2.1-2). Table 2.1-1 gives the distance from the ventilation vent to the restricted area boundary (as a function of direction) for each unit.

2.1.2 Population and Population Distribution

U.S. Census Data from 1970 and projected future populations of sectors defined by distance and direction from the proposed site are presented in the sections and tables that follow. Mileage and radii have been measured from the site center, the midpoint of the line drawn between the two containment structures of the station.

Population projections for all sectors are identified by compass direction and distance from the site. The area within 50 mi was divided by concentric circles to the site at distances of 1, 2, 3, 4, 5, 10, 20, 30, 40, and 50 mi from the site center, and these annular rings were, in turn, divided into 22.5-deg sectors corresponding to the 16 points of the compass and oriented to true north. The geographic relationship of these sectors to counties, towns, and villages in the area is shown in Figures 2.1-3 and 2.1-4.

The methodologies used to project population growth by sector are discussed in Section 6.1.4.2.1.

2.1.2.1 Population Within 10 Mi of the Site

Average population densities within the 10-mi radius surrounding the site are low. The area is principally classified as rural-residential in the state inventory of land uses[1]. In 1970, this area had an estimated 105 persons per sq mi, about 28 percent of the average for the state of New York[2]. Portions of one city and all or part of nine townships in Oswego County lie within a 10-mi radius of the site: The City of Oswego, the Towns of Albion, Palermo, Hastings, Mexico, New Haven, Parish, Richland, Scriba, and Volney. Only three of these communities were estimated to have more than 5,000 inhabitants in 1976, which is the most recent population estimate. These communities included the City of Oswego, which had a population of 21,445, the Town of Hastings with 7,061 residents; and the Town of Richland, which had 5,847 residents. The largest settlement in Richland is Pulaski, about 10 percent of whose population is within the 10-mi radius. The 1976 population of Pulaski was 2,615. Population concentrations within 10 mi of the site are shown in Figure 2.1-3 and in Table 2.1-2[3,4,4a, and 4b].

The settlements nearest to the proposed facility are the town center of New Haven, which was estimated to have 402 inhabitants in 1970[3], and the Hamlet of Texas, which had an estimated 1970 population of 392[3]. The center of New Haven is approximately 0.9 mi west-southwest of the site; and Texas is located 3 mi northeast. The closest community of more than 500 persons is Mexico. The town center of Mexico, which is 4 mi east-southeast of the proposed site, had an estimated 1,555 residents in 1970[3].

The largest community within 10 mi is the City of Oswego, which is just under 10 mi west and southwest of the site. About 20 percent of the built-up area of the city falls within the 10-mi radius. The only other significant settlements within 10 mi, as shown in Table 2.1-2, are the Villages of Mexico and Pulaski, as noted above. Both had less than 2,500 people in 1970[4].

The population of the 314 sq mi area within 10 mi of the proposed site is projected to the first year of each unit's commercial operation and to each subsequent census decade through 2030 in Tables 2.1-4 through 2.1-9. Projected population densities are also shown. About one-quarter of the 314 sq mi is covered by Lake Ontario.

The total 1970 population of the area within 10 mi was 24,397, as shown in Table 2.1-3. The rural and lightly settled character of the area within 10 mi is evidenced by the scattered nature and small size of most settlements. Most of these settlements are unincorporated areas, and have less than 200 people. Their locations can be seen in Table 2.1-3 by noting the higher density sectors. They tend to be east and west, or northwest of the site. To the south, the land tends to be marshy and lightly settled. To the north is Lake Ontario. A population "corridor" extends from Fulton, 12 mi south-southwest, along the Oswego River north through Minetto to the City of Oswego. Population densities within 10 mi, as shown in Table 2.1-3, are generally in the 50 to 150 people per sq mi range. Higher concentrations are localized in the scattered, small communities in the area.

Population and land use projections do not suggest any significant change in existing settlement patterns[5]. The 10-mi area is generally outside the economic influence of Syracuse, a fairly vigorous middle-sized city 30 mi south southeast of the site. The long term population growth rate for all of Oswego County is about 1.5 percent annually[6]. Between 1970 and 1991 the population within a 10-mi radius is projected to increase by about 10,000 people, from 24,397 to 34,225, as shown in Tables 2.1-3 and 2.1-4. This is about a 40 percent increase over the 21 year period. Projected increases to 2030, as shown in Tables 2.1-5 through 2.1-9, are at approximately the same rate, with the total increasing to 56,362.

The age distribution of the population within 10 mi for the years of station mid-life (2011 to 2014) is presented in Table 2.1-10. The age cohorts shown are those used by New York State in projecting population[7]. The New York State projections are the basis for the population projections in this document.

2.1.2.2 Population Between 10 and 50 Mi of Site

The area beyond 10 mi but within 50 mi of the proposed site comprises approximately 7,536 sq mi in New York State and Canada. Eleven counties in the State of New York and three counties in the Province of Ontario, Canada lie wholly or partially inside 50 mi. The area in this range includes all or parts of Cayuga, Cortland, Jefferson, Lewis, Madison, Oneida, Onondaga, Ontario, Oswego, Seneca, and Wayne Counties, New York; and parts of Frontenac, Lennox and Addington, and Prince Edward Counties, Ontario. About one-quarter of the area within 50 mi of the site is occupied by Lake Ontario, to the north, northeast, and northwest. The parts of Canada lying in the 50 mi range are either islands (Amherst, Wolfe) or peninsulas (Picton) in the lake.

The two largest cities in this 7,536 sq mi area are the City of Syracuse, approximately 30 mi south-southeast of the site, and the City of Rome, about 44 mi east-southeast. In 1976, Syracuse had a population of 181,105; and Rome had a population of 48,343. Both cities are centers of standard metropolitan statistical areas (SMSAs), as defined by the United States Bureau of the Census. The Syracuse SMSA includes Oswego, Madison, and Onondaga Counties, which in part lie within 50 mi of the proposed site. The Utica-Rome SMSA includes Oneida County, parts of which are within the 50-mi radius. In 1976, the population of the Syracuse SMSA was 652,100, an increase of approximately 15,000 since 1970. The Utica-Rome SMSA in 1976 was 332,500, a decline of approximately 8,000 since 1970. Table 2.1-11(4,4a, and 4b) presents 1970 and 1976 populations for the two communities of approximately 50,000 persons within 50 mi of the site.

Population projections for Oswego County, which includes the area roughly 20 mi around the site, do not predict any significant changes in existing settlement patterns(5). The principal areas of population growth within the county are along the Fulton-Minetto-Oswego Corridor, 10 to 12 mi west and southwest of the site, and along the southern edge of the county in the Townships of Shroeppel and Hastings around the Villages of Phoenix and Central Square, respectively, 15 to 20 mi south and southeast of the site. Central Square and Phoenix are adjacent to the northern suburbs of Syracuse, and experience population pressures in relation to the continuing growth of the Syracuse SMSA.

Tables 2.1-12 through 2.1-18 give estimated populations and population densities from 1970 through 2030 for each of 64 sectors in the area between 10 and 50 mi from the site. The population between 10 and 50 mi is expected to grow about 1 percent annually from 819,797 in 1970 to 1,023,299 in the first year of commercial operation, and to 1,289,499 by 2030.

Table 2.1-19 projects age distributions of the population between 10 and 50 mi from the site for the midpoint of the operational life of the proposed facility, based on the age cohorts used by the New York Economic Development Board. The 1970 age distributions of the 11 counties in the State of New York were similar to those of the three counties in the Province of Ontario, and in the absence of comparable age cohort distributions for Canada, it was assumed

that this relationship would continue. A discussion of age projection methodologies is in Section 6.1.4.2.

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Private marinas, public launching ramps, and summer cottages contribute to the substantial recreational boating in eastern Lake Ontario and Mexico Bay. Recreational boaters passing by the site may originate from locations beyond the 5-mi radius. Over 230 pier and anchorage moorings are located at marinas within 15 mi of the site and several public launching ramps exist in the area[25]. The locations and capacities of pier and anchorage moorings are given in Table 2.1-30A[19,25,51]. In addition, there are boats at many of the over 570 cottages located within 10 mi of the site along the shores of Lake Ontario. The launching area nearest to the site is the privately owned Catfish Creek Marina. An average of 25 small fishing boats are kept there. The only other harbor in the area is the Mexico Point Harbor, at the mouth of the Little Salmon River, 2.8 mi from the site. Here, the previously mentioned state-maintained launching ramp at Mexico Point provides public access to the small harbor and to Lake Ontario.

Recreational fishing is popular on Lake Ontario. Fishing activity is described in Section 2.1.3.4.2.

The Leatherstocking Club, a private hunting club, is located 2.75 mi west of the site center[21]. Members hunt primarily for partridge, rabbits, and red squirrel. Hunting of ducks by club members also occurs along Lake Ontario. A detailed description of hunting in the area is found in Section 2.1.3.5.3.

There are three special wildlife-use areas within 5 mi of the site. They consist of two Onondaga Audobon Society sanctuaries (Noyes Woods and Derby Hill), and one privately owned waterfowl hunting area (Butterfly Swamp).

The Noyes Woods Sanctuary is located on the east side of Nine Mile Point near the intersection of Nine Mile Point Road and Lake Road. This tract consists of about 50 acres of beech-maple-hemlock forest bordered by abandoned apple orchards and pine plantations[22].

The Derby Hill Sanctuary is located about one quarter of a mile off the southeast corner of the Lake Ontario shoreline along Sage Creek Road. This strategic point on the Lake Ontario shore has become famous in recent years for the diurnal raptor observations which are made there, particularly during spring migration. When warm southerly winds carry migrating birds to the lake shore, many individual birds funnel eastward past Derby Hill before resuming their northward flight.

Butterfly Swamp is located along the Lake Ontario shoreline to the north of the site. It is currently under private ownership and being leased for hunting by the Butterfly Swamp Waterfowl Association. It is also being considered by the state as a future wildlife preserve.

Bird watching areas are located at the ends of many roads which lead to the Lake Ontario shoreline. Shore Oaks and Demster Beach are two such areas.

In addition to the recreational activities described, three playing fields and/or playgrounds provide local public recreational activities within 5 mi of

the site[26]. The nearest of these is the New Haven Town Park, located less than 1 mi west of the site, and described in Section 2.1.3.2.1.4.

Hotchkiss Field provides court and field games 4.5 mi east-southeast of the site and a commercial picnic area and playground is found 5 mi northwest at the Nine Mile Point Nuclear Station.

Table 2.1-30 lists the recreational facilities within 5 mi of the site.

2.1.3.2.3.9 Transportation

Numerous two-lane state and country roads are found within 5 mi of the site. Principal regional routes are State Route 104, running east-west adjacent to the southern site boundary, State Route 104B, an east-west road adjacent to the northern site boundary, and State Route 3, which passes through the village of Mexico in a north-south direction. Access to communities on the shores of Lake Ontario is provided by spur roads from County Route 1, and various other county roads cross the area within 5 mi of the site, including County Routes 6 and 29, which are important north-south routes. Table 2.1-31 describes the major roads providing access to the site.

There are no active rail lines within 5 mi of the site[27]. However, there is a line just outside the 5-mi radius, which, at its closest point, passes 5.75 mi west of the site. This line runs from the City of Oswego past the Alcan Aluminum, Ltd. facility to the two power-generation facilities located on Lake Ontario at Nine Mile Point. The line is traveled by 10 freight trains weekly, averaging 20 cars each and is used by Alcan and Nine Mile Point Nuclear Station. There is also a line about 8 mi east of the site, from Syracuse to Massena, which carries 32 trains weekly of about 100 cars each. Another 12 local trains per week with 20 cars each run on this line from Messena as far as Pulaski, which is about 10 mi northeast of the site. At present, no passenger rail service is available in Oswego County.

Shipping channels into and out of the port of Oswego extend due north of that port for 25 mi into Lake Ontario. They do not come closer than 10 mi to the location of the station intake structures. There are no locks and no commercial docks or anchorages within 5 mi of the site[28].

No commercial airports, landing strips, or seaplane bases are located within 5 mi of the site. The nearest commercial airport, located 10 mi southwest of the site, is the Oswego County airport near Fulton. A private landing strip is located north of State Route 104 on the site; a second strip is located in the Village of Mexico, 3.25 mi east-southeast of the site center.

2.1.3.2.3.10 Zoning and Land Use Regulations

Within 5 mi of the site, zoning occurs in both the Town and Village of Mexico. The Town of New Haven has no zoning ordinance. The zoning ordinance of the town of Mexico would not affect the proposed use of the New Haven site but would regulate potential secondary development including residential and commercial uses resulting from the construction of the station[19]. As

discussed in Section 2.1.3.2.2.2, residential uses including mobile homes in Agriculture A Districts and mobile home parks by special permit are permitted

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Grazing practices for cattle and other livestock are shown by sector in Table 2.1-39. The grazing season for cattle and other livestock runs approximately 5 months a year from May to October. Slight variations occur from county to county, as indicated in Table 2.1-40. The average density of pasture grass per square meter for a 50-mi radius around the proposed site is displayed in Table 2.1-38.

2.1.3.4 Fishing Within 50 Mi

2.1.3.4.1 Commercial Fishing

The only commercially fished body of water receiving station discharge from the proposed site is Lake Ontario. The principal fishing area and the chief port of landing, within 50 mi of the station, is Chaumont Bay, lying about 20 mi south-southeast of the source of the St. Lawrence River, and approximately 40 mi north of the site. Primary species landed at Chaumont Bay are bullheads, eels, rock bass, sunfish, and perch. Principal species of the open lake fished by U.S. fishermen are smelts, yellow and white perch, and eels. Principal species harvested in Canadian waters are perch, carp, bullhead, sunfish, eels, and white perch.

The total catch reported for 1977 on Lake Ontario (Canadian side) was 1,116,085 kg, and 93,957 kg for the United States (on the United States side) for a total of 1,210,042 kg for the entire lake[31]. Table 2.1-41 displays the levels of commercial fish harvest for both shores of Lake Ontario from 1974 through 1977. However, official estimates of future harvests have not been made.

The decline in the U.S. catch between 1974 and 1977 can be explained by two factors: a low price level for lake fish in general has resulted in reduced catches of sunfish and white perch in particular. Also, partial restrictions on the taking of eels and on the fishing season for bullheads in the Chaumont Bay area account for reductions in catches of these species.

Because of contamination caused by Mirex, a ban was instituted on commercial and recreational fishing of certain species by United States fishermen. The ban was established through a directive issued by the New York State Department of Environmental Conservation affecting Sections 11-0305 and 11-0317 of the New York Environmental Conservation Law. The directive specifically affected salmon, trout and other lakefish such as pike, bass, and eels. Since there is no commercial fishery in salmon and trout, the principal commercial fish species affected was eel. The ban on eel has been partially rescinded recently so that eels can be taken commercially for export only. Other principal commercial species such as smelt, perch, and bullheads were not affected by the ban and are still being fished commercially.

Fishing activity for these latter species is occurring in the vicinity of the Nine Mile Point area and Oswego Harbor. There is also gillnetting activity at Stoney Point and Southwick Beach for yellow perch, and open water trawling for smelt and alewives. There may be an increase in trawling activity for smelt and herring to make up for the reduction necessitated by the ban on eel. Even

with the partial ban in effect, experimental commercial fishing for eels with electro-fishing equipment is occurring and white perch and white bass are being harvested with power lift netting methods. Less intense commercial fishing is occurring at Henderson Harbor and the mouth of Catfish Creek. The current feeling of fisheries experts is that future catches should stabilize or increase slightly as the fishing ban is removed further[32].

The steady increase in Canadian catches are due to several factors. The salmon stocking that occurred in 1971 and 1972 produced a harvestable crop by 1975 and 1976. Canadians were allowed to set gillnets for white perch and take unrestricted incidental catches of salmon. These incidental catches have been quite large. Also, in recent years gillnet sizes for perch have been reduced so that additional amounts of smaller perch can be caught. Therefore an increased tonnage of larger perch has been realized. In addition to these regulatory changes, the Canadian industry has been heavily subsidized by the government in recent years. As a result, the overall Canadian catch has increased steadily and is expected to remain at relatively high levels in the future.

Still, New York State officials do not characterize Lake Ontario as a significant commercial fishery[33].

Discussions with industry experts[34] suggest that approximately 50 percent of the commercial catches are consumed in local markets and approximately 10 percent are consumed in nonlocal markets. The remainder is not consumed by humans.

There is no known harvest of seaweed or other aquatic vegetation being conducted in waters affected by the proposed power station's discharge. For a discussion of fish farms or hatcheries, which have some affect on the commercial fishing, refer to Section 2.1.3.4.3.

2.1.3.4.2 Sport Fishing

Statistics on the level of recreational fishing on Lake Ontario from U.S. and Canadian sources are unavailable because of the vastness of the lake and its shoreline, the numerous jurisdictions and access points involved, and the wide area from which users of the lake are drawn. However, a survey was taken in connection with the Rochester-Lake Ontario Trout and Salmon Derby held April 28 to 31, 1978. It was established that during the 3-day period, approximately 4,641 anglers fished on the lake - 85 percent in boats, 15 percent on shore. On the peak day of the derby, approximately 4,265 fishermen were on the lake in a region from the Four Mile Creek area near the Canadian border to Sandy Creek, which includes approximately 150 miles of shoreline[34a].

The Coast Guard at the Oswego Station estimated that in 1978 on a spring day good for fishing, there would be approximately 100 boats out of Oswego Harbor, 300 to 500 out of Mexico Bay, and 300 out of Sodus Point. In addition, the Coast Guard estimated that in spring and fall, fishing boats comprise

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approximately 70 percent of the recreation boats on the lake, while in summer, their share drops to approximately 40 percent[34].

Table 2.1-42 presents information on the level of catches attributable to recreational fishermen from New York State on Lake Ontario. In 1973, the only year for which data are available, New York sport fishermen landed a total of 1,709,200 kg of fish as shown in Table 2.1-42. To arrive at the estimated figure of 3,418,400 kg of fish for the total lake's recreational catch the New York State total was doubled. This approximation is based on the fact that, although New York has less shoreline than Canada, it has a denser shoreline population, resulting in a larger number of people involved in sport fishing. Doubling the New York catch, figures would tend, if anything, to overstate the sport fish catch and the amount of food potentially affected by the proposed station.

No official projections of future landings exist for this body of water, but three trends suggest increases in future recreational catches. First, fishing is becoming a more popular sport as a result of an increased emphasis on leisure time activities. Second, area population and regional tourism are

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channel has a trapezoidal cross section and is designed for flow greater than the 100-year flood flow. Approximately the first 1,700 ft to the north of State Route 104 drop quickly to below site grade with a slope averaging approximately 28 ft per 1,000. This section is excavated in bedrock or lined with riprap, where necessary, and has a 20-ft bottom width for the first 1,500 ft, and 2:1 side slopes.

After a 200 ft transition section, the next approximately 2,300 ft are lined with riprap with a 50-ft bottom width sloping 1.8 ft per 1,000 ft a 5:1 side slopes. The remainder of the channel, before it rejoins the existing stream bed at the northwest corner of the site, is grassed with a 60-ft bottom width and a 5:1 side slope. The bottom slope of this channel segment is 2.7 ft per 1,000. The channel diversion facilitates the development of the site by removing the source of flooding. There is no net area saved from flooding since the area gained by relocating the stream approximately equals that required for the diversion channel.

Table 2.1-47 gives the 50- and 100-year recurrence interval flood flows. These were obtained from runoff predictions of 50- and 100-year precipitation events through the use of the HEC-1 computer program[75]. The Clark unit hydrograph procedure[76] was used with the time of concentration and storage coefficients presented in Table 2.1-48. These values were obtained using regression equations presented in USGS water supply paper, "Model Hydrographs"[77]. Rainfall amounts were not reduced to account for initial loss or infiltration. Unit hydrographs for the Catfish Creek Tributary FE, FW, F, and Butterfly Creek are shown in Figures 2.1-23, -24, -25, and -26, respectively.

The 50- and 100-yr floods produced nearly the same degree of flooding on these streams. Figure 2.1-19 shows the water levels for the 100-yr flood. Figures 2.1-20, 2.1-21, and 2.1-22 show the water surface profiles for these streams.

The water levels and water surface profiles were computed by using HEC-2[78]. Representative cross-sections for the natural stream portions within the drainage basins were determined from Figures 3.1-1 and 3.1-2 and from USGS topographical maps[79]. The Mannings "n" values used in the HEC-2 analysis were conservatively selected to be 0.06 for the natural stream sections, 0.033 for the diverted stream sections that will be lined with riprap, and 0.1 for those sections of the diverted stream that will be seeded with grass.

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TABLE 2.1-1

DISTANCES FROM THE RELEASE POINTS TO
THE RESTRICTED AREA BOUNDARY

Direction*	Unit 1 Ventilation Vent (ft)	Unit 2 Ventilation Vent (ft)
N	2,790	3,180
NNE	2,790	3,060
NE	2,790	2,820
ENE	2,880	2,790
E	3,110	2,790
ESE	3,300	2,790
SE	3,390	2,790
SSE	3,380	2,790
S	3,260	2,790
SSW	3,060	2,790
SW	2,820	2,790
WSW	2,790	3,380
W	2,790	3,110
WNW	2,790	3,300
NW	2,790	3,380
NNW	2,790	3,380

NOTE:

* With respect to true north

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TABLE 2.1-2

POPULATION OF SETTLEMENTS WITHIN 10 MILES OF THE SITE*
(1970 AND 1975/1976 ESTIMATES)

Settlement*	County	Mileage from Site	Direction from Site	1970 Population	1975/1976 Population Estimates
New Haven (Hamlet)	Oswego	0.9	W, WSW, WNW	402	Not Available
New Haven (Town)	Oswego	0.9	W, WSW, WNW	1,845	1,928***
Texas (Hamlet)	Oswego	3.0	NE	392	Not Available
Mexico (Village)	Oswego	4.0	ESE	1,555	1,937**
Oswego (City)	Oswego	8.6	W	20,923	21,445***
Parish (Village)	Oswego	10.0	ESE	634	814**
Pulaski (Village)	Oswego	9.9	NE	2,480	2,615***
Richland (Town)	Oswego	4.5	NE, ENE	5,324	5,847***
Hastings (Town)	Oswego	8.6	SE, SSE	6,042	7,063***

NOTES:

* City, town or village center or hamlet with more than 400 inhabitants in 1970.

** 1975 estimate

*** 1976 estimate

SOURCES:

References 3, 4, 4a, and 4b

TABLE 2.1-10

AGE DISTRIBUTION OF THE POPULATION WITHIN 10 MILES
FOR STATION MIDLIFE

	Year			
Age	2011	2012	2013	2014
0-9	6,770	6,788	6,806	6,826
10-19	7,822	7,883	7,944	8,006
20+	29,856	30,387	30,928	31,478
Total	44,448	45,058	45,678	46,310

SOURCE:

Reference 6

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TABLE 2.1-11

1970 AND 1976 POPULATION OF CITIES AND TOWNS
OF APPROXIMATELY 50,000 PERSONS
BETWEEN 10 AND 50 MILES OF THE SITE

City or Town	County	Mileage from Site	Direction from Site	1970 Population	1976 Estimates
Rome (Rome - Utica SMSA)*	Oneida	44	ESE	50,148 (340,670)	48,343 (332,500)
Syracuse (Syracuse SMSA)*	Onondaga	30	SSE	197,297 (636,507)	181,105 (652,100)

SOURCE

References 4, 4a, and 4c

NOTE:

*SMSA - Standard Metropolitan Statistical Area

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TABLE 2.1-30A

PIER AND ANCHORAGE MOORINGS WITHIN 15 MILES IN 1976

Facility	Location	Number of Pier Moorings	Number of Anchorage Moorings
1. Lock F Marina	Oswego City	1	0
2. Oswego Marina	Oswego City	66	0
3. Catfish Creek Marina*	New Haven	25	0
4. Dowie Dale Beach	New Haven	68	0
5. Kenny's Boat Livery	Richland	0	15
6. Lighthouse Hotel	Richland	1	0
7. Freeman's Marina	Sandy Creek	10	0
8. Reiter's Marina	Sandy Creek	10	0
9. Jones Marina	Sandy Creek	36	0
10. Bartlett's Bait Shop	Sandy Creek	1	0
11. Greene Point	Sandy Creek	0	1
		218	16

NOTES:

* 1978 data

References 9, 26a, and 61

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The field investigation located 14 archaeological sites within the limits of construction. A group of six of these sites (Site numbers 1, 2, 4, 5, and 6 in the northwest quadrant and Site number 14 in the southwest quadrant of the construction area) consist of modern (less than 50 years old) refuse dumps. These sites can be dismissed since they are too recent and without sufficient cultural importance to meet the criteria for nomination to the National Register of Historic Places and are of limited archaeological significance.

The remaining eight sites have potential archaeological significance. Two sites (Site numbers 3 and 12) are located within the northwest quadrant. Site number 3 consists of a 19- early 20th century barn foundation and covers an area 58 x 132 ft. Site number 12 is the Rome-Oswego Railroad, completed through New Haven in 1865. The line later became part of the Rome, Watertown, and Oswego Railroad and, still later, part of the New York Central system. The rail line was abandoned in 1959.

Two sites (Site numbers 10 and 13) are located within the northeast quadrant of the limits of construction. Site number 10, foundations of a 19th century farm, covers an area 200 x 200 ft and includes a barn, toolshed, ice house, milkshed, and house. A modern dump lies just behind the house and covers an area approximately 200 ft in diameter, including parts of the habitation site. Site number 13 consists of a small refuse scatter covering an area 30 x 37 ft. The material seems to date to the early 20th century.

The southeast quadrant contains two sites - Site numbers 7 and 11. Site number 7 covers an area approximately 40 x 30 ft and consists of a scatter of refuse and large stones which suggest the presence of a 19th century house foundation. Site number 11 consists of a house foundation, wells, and refuse area which has dated to the late 19- early 20th century. The site covers an area 200 x 150 ft.

Two sites (Site numbers 8 and 9) fall within the southwest quadrant. Site number 8, a barn and silo foundation, covers an area approximately 70 x 60 ft. Both were built in the late 19th century. Site number 9 consists of the foundations of a late 19- early 20th century farm complex. Included in the complex are a house, granary, ice house, milkshed, and barn.

A fieldstone obelisk found on the site is of undetermined age and significance and was partially destroyed during the 1977 hunting season.

2.6.3 Resources within 5 Miles

No structures listed on either the National Registry of National Landmarks are located within 5 mi of the site. The nearest property listed as eligible for the National Register of Historic Places is the Gustin-Earle Factory located in a 19th century industrial area, along the Little Salmon River in the Village of Mexico. This factory, located approximately 2 mi east of the site, manufactured butter dishes, animal polks, pails, and caskets in the 1870's. This site was excavated prior to construction of a sewage treatment plant and is probably no longer eligible for the National Register.

One building which is included in the state inventory of historic places, at the recommendation of the St. Lawrence-Eastern Ontario Commission, is the Shepherd-Timbello House in the Town of New Haven. Located on the northeast corner of State Route 104 and County Route 6, the house is a large rambling structure with an observation tower built in the latter half of the nineteenth century. It is, however, in a dilapidated condition. At the death of the last Shepherd family owner, the building was sold to a local philanthropist while most of the surrounding property was given to the State University Foundation Inc. After the closing of a special school housed in the structure, the interior furnishings of the building were sold at auction and the house itself is now for sale. Visitors to the location are negligible(2).

Upon request, town historians identified a few other places of local historical interest including three churches in the Town of Scriba, the grave site of Silas Towre (a revolutionary war spy for George Washington) at Mexico Point, and several residences in the Village of Mexico(3). All of these places are of uncertain historic value and all would be between 4 and 5 mi from the proposed station. A formal opinion regarding the present condition of, and potential station impacts on, these and other historic places near the site has been requested from the New York State Division of Historic Preservation. A reply from Mr. Frederick L. Rath, Deputy Commissioner of the New York State Department of Parks and Recreation, is expected.

2.6.4 Visually Sensitive and Intensive Land Uses - Inventory

Visually sensitive and intensive land use areas within a 5-mi radius of the proposed station site are presented in Figure 2.6-1. These areas, include residential concentrations, recreational and conservation areas, historic sites and scenic areas as well as highways and roadways or rail lines through the area. The significant visually sensitive or intensive locations that exist in the area involve permanent and seasonal residences and recreational usage along Lake Ontario. There are no historic sites, national parks, or major public recreational areas and no major highway or rail corridors within 5 mi of the site.

Selkirk Shores State Park is the chief recreational attraction in the area, although it is beyond the 5-mi radius from the station. Another visually sensitive location within 5 mi, the Derby Hill Sanctuary, is a bird observation point on the shore of Lake Ontario at a distance of 4 mi from the site. Views of the site are possible from the hilltop. Other conservation areas within 5 mi, Noyes Woods and Butterfly Swamp, do not have views to the site. The representative photo locations chosen are described below. A limited number of photo locations were identified because of the low residential concentrations and limited number of public facilities within 5 mi.

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Selected photo locations from representative visually sensitive and intensive areas are also shown in Figure 2.6-1. These photo locations were selected to portray the views generally afforded of the station from various locations within a 5-mi radius.

LIST OF FIGURES

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LIST OF FIGURES (Cont'd)

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LIST OF FIGURES (Cont'd)

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LIST OF FIGURES (Cont'd)

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LIST OF FIGURES (Cont'd)

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LIST OF FIGURES (Cont'd)

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CHAPTER 4

ENVIRONMENTAL EFFECTS OF SITE PREPARATION,
PLANT CONSTRUCTION, AND TRANSMISSION
FACILITIES CONSTRUCTION

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Traffic Impacts and Mitigation

It is important to recognize that these preliminary traffic analyses identify order-of-magnitude traffic impacts which will have an effect on the area access and commutation patterns based upon an accepted Level "D" Service standard utilized by the New York State Department of Transportation.

On the basis of the projected V/C estimates combining normal growth with workforce average and peak traffic volume it appears likely that there would be significant impacts to area roads from station construction. During the peak periods, lasting for a limited and short duration, roadway segments would be affected by increased congestion and reduced access upon area roads. In most cases, these increases do not exceed acceptable service levels relative to area traffic flows and normal growth conditions. In several cases, however, over-capacity levels are projected which would not have resulted from normal growth alone. These exceeded capacities are in some instances significantly higher than the base level and exceed acceptable area traffic standards.

These peak traffic conditions would occur during the period corresponding to the peak construction season. Thus, while traffic impacts would be greatest during peak periods of construction, they would have the lowest duration. These construction traffic impacts would overlap with the peak recreational season so that some disruption of area recreational use may occur during the peak construction period.

By comparison, the average workforce traffic levels would have less impact upon local roads. This reduced level of impact upon local roads during average conditions reflects the generally more moderate impacts that would result over the course of construction. These average construction traffic conditions would be experienced over a 5-year period.

Measures to improve traffic flows and access could involve alternatives including car pooling, busing, and new traffic regulations such as parking limitation or directional routing.

4.1.2.10 Aesthetics

Site construction activities will not be visually compatible with the current rural character of the area. Construction impacts, primarily due to view alterations, will be felt most directly by residents of the hamlet of New Haven. Other area residents who pass by the site may also see the construction activities. However, as discussed in Section 2.1.2.1, population densities in the vicinity of the site are low.

Recreational activities along Lake Ontario would also be subjected to temporary visual disruptions from construction activities associated with intake, discharge, and pumphouse structures. These impacts will occur mostly on land and will be felt for approximately 1 to 2 years, corresponding to the construction schedule for this work, with only minimal impacts of brief

duration along the lake shoreline and on water. The limited recreational facilities and usage within 5 mi are discussed in Section 2.1.3.2.3.8.

The disturbances produced by construction activities will have moderate impacts. The construction activities most visible to area residents and passing motorists at the outset would be those associated with the switchyard along Route 104. During construction, landforms will be constructed on west, south, and southeast sides of the switchyard (Figures 3.1-15, 3.1-15a, and 3.1-15b). Those on the southeast will be built in Phase I of construction, those on the west and south in Phase II. The landforms will be planted with trees as discussed in Section 4.5.3.4. Residents and passing motorists would also be aware of other construction activity along the site perimeter, notably the spoils area along Route 104 and the parking lot and cement batch plant along Lee Road.

For the major station structures, such as the cooling towers, turbine building, annulus building, and containment, temporary impacts from construction activities would occur through much of the 8-year construction period. The greatest impact upon aesthetic values would occur during the scheduled periods of major structural work. This work will be phased for each of the separate Unit 1 and Unit 2 structures throughout the construction period. As completion of this structural work is accomplished, impacts would subside, becoming negligible at completion. At the time of peak manloading, much of the work onsite would involve interior finishing, such as pipefitting, not readily perceived by viewers.

To some extent, existing mixed vegetation and natural variations in topography will screen the site from middle- and far-ground viewers in all directions. Mixed deciduous and coniferous trees, averaging 70 ft in height, provide much of this screening year round. Due to the major site structures which are larger than the vegetation and topographic features, disturbance of the site's aesthetic character would still be perceived by persons passing the site and would also be felt by some as far away as Mexico.

Construction impacts will be most significant for permanent area residents, involving major alterations of their daily perceptions and views of the area, and will be felt for most of the construction period. Travelers in the region would be subject to the same visual disturbances. However, the more transient nature of their stay would lessen the magnitude of these impacts.

In summary, the aesthetic impacts of the plant during site preparation and construction are judged to be moderate due to the temporary nature of these activities, and low population density of the area within a mile of the site, and the limited recreational resources and usage in the vicinity of the site.

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4.1.3 Terrestrial Environmental Impacts

A terrestrial biological community or ecosystem possesses both structural and functional attributes[8]. Structural characteristics include the composition of the biological community (e.g., species and their numbers), the species' life histories, and the distribution of species populations in time and space.

Functional attributes include rates of biological energy flow, rates of material or nutrient cycling, and biological regulation. The impact of facility construction on terrestrial ecology is approached on a site specific basis; consequently, impacts on the functional aspects of ecosystems can be addressed only in general terms.

4.1.3.1 Construction Activities

During site preparation and facility construction, the terrestrial community will be affected by:

1. Clearing and grubbing
2. Excavation, overburden deposition, and dewatering
3. Creation of roads and placement of pipelines, rail spurs, transmission line rights-of-way, and fences
4. Operation of motor vehicles and power generating machinery
5. Human activity associated with site preparation and facility construction activities
6. Construction of cooling towers

These activities will result in ecological impacts on the terrestrial ecology of the site and on the terrestrial communities surrounding the site. These impacts are primarily structural and include:

1. The alteration of existing vegetation, which will cause changes in the wildlife populations onsite and within the terrestrial communities surrounding the site
2. The introduction of open areas and barriers to wildlife movement
3. The potential for bird collision with cooling towers

4.1.3.2 Acreage Altered

The site encompasses approximately 1,294 acres. During the construction phase, approximately 476 acres will be altered. The station will be located in the central to southwest portion of the site (Figure 4.1-3) and most site preparation and construction activities will be conducted in these areas. Permanent structures and facilities will occupy about 136 acres of this total, leaving 340 acres to be only temporarily disturbed.

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TABLE 5.1-1

PREDICTED MONTHLY AVERAGE AND EXTREME* DISCHARGE TEMPERATURES, FLOWS, AND HEAT REJECTION RATES FOR TWO UNIT OPERATION AT MAXIMUM LOAD

	Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Average
Average discharge temperature (°F)	61.0	61.0	62.0	66.5	72.0	77.0	79.5	79.0	75.0	69.5	64.5	61.0	69.0
Averate rate of heat rejection to Lake Ontario (10^9 Btu/hr)	16.9	16.9	16.2	15.3	13.9	10.9	7.4	5.2	5.5	6.8	9.6	12.9	11.4
Average discharge flow (gpm)	14,400	14,400	14,000	12,500	10,900	9,700	9,200	9,500	10,400	11,800	13,300	14,300	12,000
Extreme discharge temperature (°F)	74.0	73.5	76.5	83.5	87.5	91.0	89.5	89.5	87.5	83.5	81.0	73.5	-
Associated** rate of heat rejection to Lake Ontario (10^9 Btu/hr)	23.1	20.2	19.6	17.4	15.3	14.0	14.4	13.5	14.7	15.2	15.4	19.0	-
Associated discharge flow** (gpm)	11,000	9,700	8,800	7,100	6,300	6,000	5,900	6,000	6,300	7,300	7,900	9,600	-

NOTES:

* Based on record high 1-hr wet bulb temperature and associated humidity at Syracuse (period of record, 1955 through 1964)

** Heat rejection rates and discharge flow occurring simultaneously with extreme discharge temperature

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TABLE 5.1-2

PREDICTED MONTHLY AVERAGE AND EXTREME* TEMPERATURE INCREASE (°F) NEAR THE SURFACE OF LAKE ONTARIO

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Average Conditions: (Two units - maximum load)												
Discharge temperature	61.0	61.0	62.0	66.5	72.0	77.0	79.5	79.0	75.0	69.5	64.5	61.0
Average lake temperature	37.5	37.5	38.5	42.0	46.5	54.5	63.5	68.0	64.5	58.0	50.0	43.0
Maximum ΔT near surface	0.6	0.6	0.6	0.9	1.0	1.0	0.7	0.4	0.4	0.3	0.4	0.5
Dilution near surface	39	39	38	28	25	23	23	26	27	37	37	39
Extreme Conditions: (Two units - maximum load)												
Discharge temperature	74.0	73.5	76.5	83.5	87.5	91.0	89.5	89.5	87.5	83.5	81.0	73.5
Minimum lake temperature	32.0	32.0	32.0	34.5	39.0	44.5	41.0	44.5	41.0	42.0	42.0	34.0
Maximum ΔT near surface	1.7	1.8	2.0	2.6	2.7	2.6	2.8	2.6	2.6	2.2	1.9	1.7
Dilution near surface	24	23	22	19	18	18	18	18	18	19	20	23
Average Conditions: (One unit** - maximum load)												
Discharge temperature	61.0	61.0	62.0	66.5	72.0	77.0	79.5	79.0	75.0	69.5	64.5	61.0
Average lake temperature	37.5	37.5	38.5	42.0	46.5	54.5	63.5	68.0	64.5	58.0	50.0	43.0
Maximum ΔT near surface	1.0	1.0	1.0	1.1	1.3	1.2	0.9	0.5	0.5	0.5	0.7	0.7
Dilution near surface	25	25	24	22	20	18	19	20	21	22	23	24
Extreme Conditions: (One unit** - maximum load)												
Discharge temperature	74.0	73.5	76.5	83.5	87.5	91.0	89.5	89.5	87.5	83.5	81.0	73.5
Minimum lake temperature	32.0	32.0	32.0	34.5	39.0	44.5	41.0	44.5	41.0	42.0	42.0	34.0
Maximum ΔT near surface	2.2	2.2	2.5	3.0	3.0	3.0	3.0	2.8	2.9	2.5	2.3	2.2
Dilution near surface	19	19	18	16	16	16	16	16	16	17	17	18

NOTES:

* Based on record high 1-hr wet bulb temperature and associated relative humidity at Syracuse (period of record, 1955 through 1964)

** Assuming one unit intake flow rate

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8.2.2.3 Noise

As discussed in Section 4.1.5, continuous noise levels during construction will not interfere with speech and physical activity. Intermittent noises may be higher, but only for short periods of time and will not exceed the hearing impairment level.

8.2.2.4 Aesthetic Disturbances

Construction activities may temporarily disturb some residents and recreationists in the immediate vicinity of the site. Station construction will involve alteration and development of onsite and offsite areas, as discussed in Section 4.1.2, changing the character and visual quality of the land at the site.

The number of people potentially affected and their location are addressed in Section 2.6. However, because of the subjective nature of individual perceptions relative to the proposed station, precise quantification of attitudes is not possible.

The aesthetic impacts of the plant during site preparation and construction are judged to be moderate due to the temporary nature of these activities, the low population density of the area within a mile of the site, and the limited recreational resources and usage in the vicinity of the site.

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8.2.2.5 Municipal Services Summary

Area Services

The existing municipal services have excess capacities facilities or plans to expand independent of station construction. Therefore, the impact of the plant's construction workforce even during the peak year on municipal services (water, sewerage, and solid waste systems) in Oswego and Onondaga should be insignificant.

The existing water and sewerage systems of every community can support the population projected for 1989 plus several multiples of the expected inmigrating workforce. The exceptions are the Village of Phoenix's public sewer system and the municipal water and sewer systems serving the Village of Pulaski. The Village of Phoenix is planning expansion to offset expected shortages not connected with station construction. The Village of Pulaski has no expansion plans for either systems, though current use of both exceeds design capacity (Sections 8.2.2.5.1 and 8.2.2.5.2).

Many existing disposal areas are also reaching capacity, and the counties have not yet made formalized plans for providing new capacity. Nonetheless, the required regional solid waste disposal capacity must be established, regardless of station construction. The load on this new capacity resulting from the inmigrating workforce will be small, as the increase of solid waste will be less than 0.4 percent of projected 1989 tonnage.

Onsite Services

With respect to use of municipal services required by the actual construction, there will be no impact. NYSE&G will provide potable water, sewage disposal, and its own other services for onsite activities.

8.2.2.5.1 Water Systems

The public in Oswego and Onondaga Counties receives water from three basic suppliers. There are two major water sources: an intake from Lake Ontario, and ground water. The major water intake from Lake Ontario supplies water to the City of Oswego which supplies the surrounding water districts in the Towns of Minetto, Oswego, and Scriba. The next largest public supplier is the Onondaga County Water District, which serves several communities in southern Oswego County. The Onondaga water system also obtains its water from the Ontario intake. The third major supply comes from ground water.

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Generally, suburban and urban areas within Oswego and Onondaga Counties are served by municipal water supply systems, whereas rural residents obtain their water from individual ground water sources. Available data indicates that ground water sources are generally good throughout Oswego and Onondaga Counties. Individual wells are, however, occasionally susceptible to pollution, due to failures in nearby septic tanks and cesspools. This problem is particularly prevalent in mobile home parks.