SUMMARY OF CHANGES TO ITS CHAPTER 4.0

05/29/01

SUMMARY OF CHANGES TO ITS SECTION 4.0 - REVISION D

Source of Change	Summary of Change	Affected Pages
RAI 4.0-1	DOC M3 is revised. Previously, the DOC inaccurately refered to elevation 367 ft 3 inches as the minimum level to which the spent fuel storage pool could be drained with the gates **removed**. The revised DOC states that this is the minimum level to which the spent fuel storage pool could be drained inadvertently with the gates **installed**, which is the normal condition of the pool. Final ITS wording is unaffected by this change.	DOC M3 (DOCs p 2 of 4)
Format / presentation change CTS markup	The CTS markup is revised to incorporate Amendments 256 and 268. In the process of revising the markup, text items originally included in the hand written markup of CTS pages 245 and 246 have been relocated to markup insert pages for clarity. Final ITS wording is unaffected by this change.	CTS mark-up, all pages
Editorial Change DOC L2	Typographical correction to No Significant Hazards Consideration L2: "of" changed to "or". Final ITS wording is unaffected by this change.	NHSC L3 (NHSCs p 3 of 3)
Editorial Changes DOC M1	Minor editorial changes are made to DOC M1, second paragraph. The word "Authority" is replaced with "Entergy" (second sentence), and punctuation changes are made to the third sentence for clarity. Final ITS wording is unaffected by this change.	DOC M1 (DOCs p 2 of 4)
Oversight Correction	Corrections are made to an error in the original ITS submittal. Specifically, the wording of Insert 245-1 is revised to change the word "substitution" to "substitutions" and add the phrase "for fuel rods" to establish consistency with the ITS MU and final typed ITS section 4.2.1. Final ITS wording is unaffected by this change.	CTS mark-up p 2 of 7
Oversight Correction	Corrections are made to an error in the initial ITS submittal. Specifically, INSERT 245-2 (CTS markup 5.2.1 (ITS 4.2.1)) is revised to reflect wording previously addressed by DOC L2 and specifically included in the ITS markup and final typed ITS, but omitted from the CTS markup. Only the CTS markup is involved. DOC L2 and the associated No Significant Hazards Consideration were properly written in the original submittal, as were the ITS markup and final typed ITS. Final ITS wording is unaffected by this change.	CTS mark-up p 2 of 7

SUMMARY OF CHANGES TO ITS SECTION 4.0 - REVISION D

Source of Change	Summary of Change	Affected Pages
Corrections per CTS	Corrections are made to an error in the initial ITS submittal. Specifically, on ITS markup page 4.0-2, the previous ITS 4.3.2 reference to CTS 5.2.2 as the source is removed and replaced with DOC M3 since there are no corresponding CTS requirements for spent fuel pool drainage. Also, on same ITS markup page, the reference to JFD CLB5 is corrected to JFD DB5 since the referenced CTS paragraph does not address this design feature. Corresponding changes are made to JFDs where CLB5 is indicated as "not used" and what the text previously contained in CLB5 has been redesignated as JFD DB5, with the reference to CTS 5.5.2 eliminated and replaced with the words "plant design". Final ITS wording is unaffected by this change.	ITS mark-up p 4.0-2 JFDs CLB5, DB5 (JFDs p 1 of 2)
Corrections per CTS	Corrections are made to an error in the initial ITS submittal. Specifically, on ITS markup page 4.0-2, the ITS 4.3.3 reference to CTS 5.5.3 is corrected to CTS 5.5.2. Consistent with this change, CLB6 is revised from "5.5.3" to "5.5.2". Also, the number of fuel assemblies is corrected as discussed under License Amendment 256 changes.	ITS mark-up p 4.0-2 JFD CLB6 (JFDs p 1 of 2) Retyped ITS p 4.0-3
Oversight Correction	ITS Figure 4.1-1 is redrafted to include the portion of the Site Boundary beyond the railroad right-of-way south of Miner Road. This revision to the ITS Figure makes the figure consistent with the corresponding CTS Figure 5.1-1 and consistent with Emergency Plan Figure 2.5.	ITS mark-up p insert 4.0-2 Retyped ITS p 4.0-4
License Amendment 256	Amendment 256 revised the Technical Specifications to reflect the addition of racks increasing spent fuel pool storage capacity from 2797 to 3239 fuel bundles, with additional changes to assure the fuel in the pool remains in a subcritical condition. Revision D ITS changes reflect the issuance of Amendment 256 and correct an error in the original ITS submittal which incorrectly identified spent fuel pool capacity as "3247 fuel assemblies".	CTS mark-up pp 2, 4 of 7
License Amendment 268	Amendment 268 reflects the change in ownership of JAF from NYPA to Entergy. The CTS mark-up and ITS Figure 4.1-1 are revised to reflect issuance of this amendment.	CTS mark-up pp 1, 2, 6 of 7 ITS mark-up p insert 4.0-2 Retyped ITS p 4.0-4

ITS CONVERSION PACKAGE

SECTION 4.0 - DESIGN FEATURES

JAFNPP
IMPROVED TECHNICAL SPECIFICATION (ITS)

CONVERSION PACKAGE

Section 4.0 - DESIGN FEATURES

Table of Contents

The markup package for each Specification contains the following:

Markup of the current Technical Specifications (CTS);
Discussion of changes (DOCs) to the CTS;
No significant hazards consideration (NSHC) for each less restrictive change (Lx) to the CTS;
Markup of the corresponding NUREG-1433 Specification;
Justification of differences (JFDs) from the NUREG; and
Retyped proposed Improved Technical Specifications (ITS).

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

DESIGN FEATURES

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

DISCUSSION OF CHANGES (DOCs) TO THE CTS

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

MARKUP OF NUREG-1433, REVISION 1, SPECIFICATION

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS)

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

Design Features

MARKUP OF CURRENT TECHNICAL SPECIFICATIONS (CTS)

See ITS: Chapter 1.0

A1

J. Process Control Program (PCP)
The PCP is a document which identifies the current formulas, sampling methods, analyses, tests, and determinations used to control the processing and packaging of solid radioactive wastes. The PCP controls these activities in such a way as to assure compliance with 10 CFR 20, 10 CFR 61, 10 CFR 71 and other applicable regulatory requirements governing the disposal of the radioactive waste.

K. Rated Thermal Power
See Rated Power, Appendix A Technical Specifications.

[4.1.1] L. Site Boundary and Exclusion Area (4) LA1
The Site Boundary is that line beyond which the land is not owned, leased or otherwise controlled by ENF, ENO or NMPC. Refer to Figure 4.1-1 for the map of the site boundary with regard to liquid and gaseous releases.

add proposed 4.1.1 M1 LA1

M. Solidification
Solidification is the conversion of wet wastes into a form that meets shipping and burial ground requirements.

N. Source Check
A Source Check is the qualification assessment of channel response when the channel sensor is exposed to a source of increased radioactivity.

O. Treatment
Any process which effectively reduces the concentration of radioactive material per unit measure released to the environment. This includes such processes as filtration, evaporation/condensation, settling/decanting, and solidification.

P. Unrestricted Area
An unrestricted area shall be any area at or beyond the site boundary access to which is not controlled by ENF or ENO for purposes of protection of individuals from exposure to radiation and radioactive material, or any area within the site boundary used for residential quarters or for industrial, commercial, institutional, and/or recreational purposes.

The definition of unrestricted area used in implementing the Radiological Effluent Technical Specifications has been expanded over that in 10 CFR 20.3(a)(17). The unrestricted area boundary may coincide with the exclusion (fenced) area boundary, as defined in 10 CFR 100.3(a), but the unrestricted area does not include areas over water bodies. The concept of unrestricted areas, established at or beyond the site boundary, is utilized in the Limiting Conditions for Operation to keep levels of radioactive materials in liquid and gaseous effluents as low as is reasonably achievable, pursuant to 10 CFR 50.36a.

AMEND #268

See ITS: Chapter 1.0

[RETS]

Chapter 4.0

A1

[4.0] ~~5.0~~ DESIGN FEATURES

[4.1] ~~5.1~~ SITE

LA1

5.1.1 The James A. FitzPatrick Nuclear Power Plant is located on the Entergy Nuclear FitzPatrick, LLC portion the Nine Mile Point site, approximately 3,000 ft. east of the Nine Mile Point Nuclear Station, Unit 1. The NPP-JAF site is on Lake Ontario in Oswego County, New York, approximately 7 miles northeast of Oswego. The plant is located at coordinates north 4,819,545.012m, east 386,968.945 m, on the Universal Transverse Mercator System.

5.1.2 The nearest point on the property line from the reactor building and any points of potential gaseous effluents, with the exception of the lake shoreline, is located at the northeast corner of the property. This distance is approximately 3,200 ft. and is the radius of the exclusion areas as defined in 10 CFR 100.3.

[4.1.1]

M1

[4.2] ~~5.2~~ REACTOR CORE or ZIRLO — L2

INSERT 245-1

A3

(4) ~~5.2.1~~ The reactor core consists of not more than 560 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy clad fuel rods with an initial composition of slightly enriched uranium dioxide (UO_2) as fuel material. Fuel assemblies shall be limited to those fuel designs approved by the NRC staff for use in BWRs.

L1

INSERT 245-2

L2

(4) ~~5.2.2~~ The reactor core contains 137 cruciform-shaped control rods as described in Section 3.4 of the FSAR.

INSERT 245-3

A4

A4

5.3 REACTOR PRESSURE VESSEL

The reactor pressure vessel is as described in Table 4.2-1 and 4.2.2 of the FSAR. The applicable design codes are described in Section 4.2 of the FSAR.

5.4 CONTAINMENT

5.4.1 The principal design parameters and characteristics for the primary containment are given in Table 5.2-1 of the FSAR.

5.4.2 The secondary containment as described in Section 5.3 and the applicable codes are as described in Section 12.4 of the FSAR.

5.4.3 Penetrations of the primary containment and piping passing through such penetrations are designed in accordance with standards set forth in Section 5.2 of the FSAR.

Amendment No. ~~30, 42, 49, 64, 66, 74, 109, 117, 162, 256~~, 268

LA1

{ ADD ITS 4.1.2 } — M2

OVERSIGHT CORRECTION

AMEND # 256, 268

Page 2 of 7

INSERT 245-1

..., and water rods. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used.

INSERT 245-2

(L2) ... that have been analyzed with NRC staff approved codes and methods and have been shown by tests or analyses to comply with all safety design bases. A limited number of lead test assemblies that have not completed (L1) representative testing may be placed in nonlimiting core regions.

OVERSIGHT CORRECTION

INSERT 245-3

The control material shall be boron carbide or hafnium metal as approved by the NRC.

[4.3] ~~5.5.~~ FUEL STORAGE

[4.3.1] ~~5.5.1~~ Criticality

[4.3.1.1] ~~5.5.1.1~~ The spent fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum k_∞ of 1.32 in the normal reactor core configuration at cold conditions (20°C);

b. k_{eff} < 0.95 if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.3 of the FSAR; and (4)

c. A nominal 6.625 inch center to center distance between fuel assemblies placed in the storage racks ~~as described in Section 9.3 of the FSAR~~ (A6) aluminum high density (INSERT 246-1)

[4.3.1.2] ~~5.5.1.2~~ The new fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum k_∞ of 1.31 in the normal reactor core configuration at cold conditions (20°C);

b. $k_{eff} \leq 0.90$ if dry;

c. $k_{eff} \leq 0.95$ if fully flooded with unborated water; and

d. A nominal 6.625 inch center to center distance between fuel assemblies placed in storage racks.

[4.3.3] ~~5.5.2~~ Capacity

The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 3239 fuel assemblies.

5.6 SEISMIC DESIGN (LA1)

The reactor building and all engineered safeguards are designed on a basis of dynamic analysis using acceleration response spectrum curves which are normalized to a ground motion of 0.08 g for the Operating Basis Earthquake and 0.15 g for the Design Basis Earthquake.

<ADD ITS 4.3.2> (M3)

INSERT 246-1

, and a nominal 6.355 inch center to center distance between fuel assemblies placed in the stainless steel high density storage racks.

Chapter 4.0

4

FIGURE 5.1-1 IES

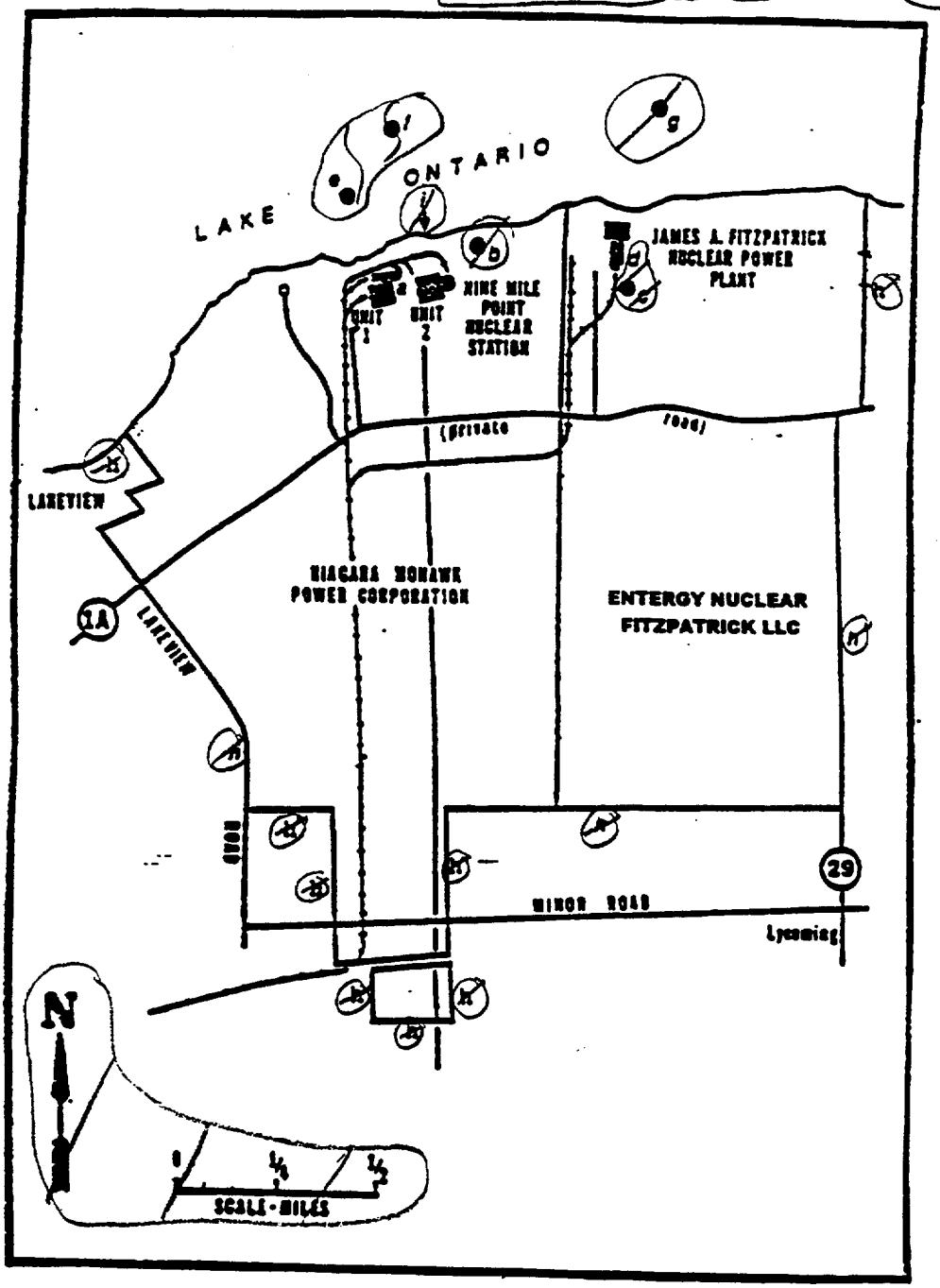
SITE BOUNDARY MAP

and Exclusion Area

A1

A1

LA1



[RETS]

AMEND # 268

Page 6 of 7

REVISION D

(A1)

NOTES TO FIGURE 5.1-1

(a) NMP1 stack (height is 350 feet)

(b) NMP2 stack (height is 430 feet)

(c) JAFNPP stack (height is 385 feet)

(d) Building vents

(e) NMP1 radioactive liquid discharge (Lake Ontario, bottom)

(f) NMP2 radioactive liquid discharge (Lake Ontario, bottom)

(g) JAFNPP radioactive liquid discharge (Lake Ontario, bottom)

(h) Site boundary

(i) Lake Ontario shoreline

(LA1)

Additional Information:

-- NMP2 reactor building vent is located 187 feet above ground level

-- JAFNPP reactor and turbine building vents are located 173 feet above ground level

-- JAFNPP radwaste building vent is 112 feet above ground level

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

DESIGN FEATURES

DISCUSSION OF CHANGES (DOCs) TO THE CTS

DISCUSSION OF CHANGES
ITS: 4.0 - DESIGN FEATURES

ADMINISTRATIVE CHANGES

A1 In the conversion of the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Current Technical Specification (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes. Editorial changes, reformatting, and revised numbering are adopted to make the ITS consistent with the conventions in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 Not Used.

A3 CTS 5.2.1 allows use of fuel assemblies of designs that are approved by the NRC. ITS 4.2.1 provides additional description of the various types of fuel designs (fuel assemblies with water rods, zirconium filler rods or stainless steel filler rods) allowed to be loaded in the core. The addition of clarifying information regarding the additional types of fuel designs allowed to be loaded in the core is considered to be an administrative change.

A4 CTS 5.2.2 has been revised to include the description of the types of metal used in the control rods consistent with the referenced description in UFSAR Section 3.4.5.2. ITS 4.2.2 states that the control material shall be boron carbide or hafnium as approved by the NRC. This change provides clarifying information regarding the types of metal used in control rods, is a presentation preference consistent with NUREG-1433, Revision 1, and is considered an administrative change.

A5 Not Used.

A6 CTS 5.5.1.1.c states that the nominal center to center distance between fuel assemblies placed in the storage racks are in accordance with the requirements of UFSAR Section 9.3. ITS 4.3.1.1.c provides the additional information referenced in UFSAR Section 9.3 for the two different storage rack types and dimensions. The addition of clarifying information regarding the type and dimensions of the storage racks is a presentation preference consistent with NUREG-1433, Revision 1, and is considered to be an administrative change.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 CTS 5.1.2 definition of the exclusion area boundary, to be approximately a 3,200 ft. radius corresponding to the closest distance from the reactor building, with the exception of the lake shoreline, to the exclusion area boundary consistent with 10 CFR 100.3, is being revised.

ITS 4.1.1 specifies that the Site and the Exclusion Area Boundaries are as shown in Figure 4.1-1, which expands the dimensions of the Exclusion Area. The area shown in ITS Figure 4.1-1 is consistent with: CTS RETS

Definition 1.0.L, of the Site Boundary, which refers to CTS RETS Figure 5.1-1 for a map of the Site Boundary; UFSAR Section 2.1.1 which states that exclusion distances for the NMP-JAF site are approximately 3000 ft to the east, over a mile to the west, and about one and one-half miles to the southern site boundary; and the James A. FitzPatrick Emergency Plan which explicitly identifies the Exclusion Area as the Entergy and NMPC property surrounding the Protected Area in which the licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area, all of which correspond to the combined site boundary for the James A. FitzPatrick-Nine Mile Point site. This change (to graphically identify the Exclusion Area over which the licensee has control required by 10 CFR 100.3 to coincide with the Site Area Boundary) increases the physical area considered to be part of the Exclusion Area, more explicitly identifies these boundaries, imposes more specific operational requirements (although consistent with current practice), is consistent with NUREG-1433 Revision 1, and is considered more restrictive. This change has no adverse impact on safety. edit edit

M2 CTS 5.1, for site design features, is being supplemented. ITS 4.1.2 adds the Specification for the Low Population Zone (LPZ). The LPZ is identified as a 4 mile radius around the Nine Mile Point Nuclear Station Unit 1 stack. This description provides information pertinent to 10 CFR 100. This change adds a new Specification, imposes an additional operational requirement, is consistent with NUREG-1433, Revision 1, and is considered more restrictive. This change has no adverse impact on plant safety.

M3 CTS 5.0, Design Features, is being supplemented. ITS 4.3.2, Drainage, adds a Specification identifying the elevation, for the minimum water level, to which the spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining. The proposed elevation, 367 feet 3 inches, is the minimum design elevation to which the spent fuel storage pool can be drained with the gates installed (which is the normal condition of the spent fuel pool). At the minimum design elevation, the fuel will remain covered as required by Regulatory Guide 1.13, Revision 1. This change adds a new Specification, imposes an additional operational requirement, is consistent with NUREG-1433, Revision 1, and is considered more restrictive. This change has no adverse impact on plant safety. RAI-4.0-1

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 Details of the Site features in CTS RETS 1.0.L, CTS 5.1.1, CTS 5.1.2, and Figure 5.1-1, the details of the Reactor Pressure Vessel described in CTS 5.3, the details of the Containment described in CTS 5.4 and the details of the Seismic Design in CTS 5.6 are proposed to be relocated to the UFSAR. The Site Features remain described in UFSAR Section 2.1.1. Design parameters of the Reactor Vessel and Containment remain detailed

in UFSAR Chapter 3, Section 4.2 and Tables 4.2-1 and 4.2-2 for the Reactor Vessel and UFSAR Chapter 5 and Section 12.4 for the Containment. The Seismic Design requirements remain detailed in UFSAR Section 2.6. Any changes to these site features, design parameters, or seismic design requirements must conform to the requirements of 10 CFR 50.59. Furthermore, sufficient detail relating to the Reactor Vessel and Containment exists in LCOs to ensure any changes which may affect safety would require prior NRC review and approval. Since the features with a potential to affect safety are sufficiently addressed by LCOs, and other features, if altered in accordance with 10 CFR 50.59, would not result in a significant effect on safety, the criteria of 10 CFR 50.36(c)(4) for including as a Design Feature are not met. Therefore, removing these details from Technical Specifications, while maintaining the detail in the UFSAR, is not required to provide adequate protection of public health and safety and will not impact safe operation of the facility. Changes to the UFSAR will be controlled by the provisions of 10 CFR 50.59.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 An allowance is provided, in ITS 4.2 (CTS 5.2.1), for a limited number of lead test assemblies that have not completed representative testing to be placed in non-limiting core regions. This allowance provides recognition of a specific kind of special test with lead test assemblies that may be performed. This is intended to avoid confusion regarding whether a Technical Specification change is required to conduct the test. The requirements of 10 CFR 50.59 regarding special tests remains applicable, and are sufficient to ensure that a limited number of lead test assemblies placed in nonlimiting core regions will not have a significant effect on safety (which is the criteria of 10 CFR 50.36(c)(4) for inclusion as a Design Feature). This change is in conformance with Supplement 1 of Generic Letter 90-02.

L2 CTS 5.2.1 requires that each fuel assembly consist of Zircaloy clad fuel rods. ITS 4.2.1 also allows the use of either Zircaloy or ZIRLO clad fuel rods. The allowance to use either Zircaloy or ZIRLO clad fuel rods has been generically approved by the NRC. 10 CFR 50.44, Standards for combustible gas control system in light-water-cooled power reactors, and 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, allow the use of either Zircaloy or ZIRLO clad fuel rods as acceptable designs. The Statements of Consideration for changes to 10 CFR 50.44 and 10 CFR 50.46, published in 57 FR 39353 dated 8/31/92, state that including ZIRLO as an acceptable zirconium based fuel cladding material will not reduce the protection of the public health and safety. In addition, prior to use of ZIRLO fuel clad, ITS 4.2.1 will require that JAFNPP analyze the fuel design using NRC approved codes and methods and also ensure that the fuel design complies with all safety design bases. Therefore, the proposed change has no impact on plant safety.

DISCUSSION OF CHANGES
ITS: 4.0 - DESIGN FEATURES

TECHNICAL CHANGES - RELOCATIONS

None

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

DESIGN FEATURES

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC) FOR LESS RESTRICTIVE CHANGES

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 4.0 - DESIGN FEATURES

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L1 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Fuel assemblies are not considered accident initiators for any previously analyzed accident, and therefore, the addition of a design feature requirement that allows a limited number of lead test assemblies to be placed in nonlimiting core regions does not involve a significant increase in the probability of an accident previously evaluated. Since the revised requirement will only allow the lead test assemblies to be placed in nonlimiting core regions and previously analyzed accidents do not result in fuel failures in these regions, the change does not result in a significant increase in the consequences of an accident previously evaluated. Therefore, this change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Operation with fuel assemblies that have not completed representative testing does not create the possibility of a new or different kind of accident from any accident previously evaluated, since individual minor fuel failures have been considered. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does this change involve a significant reduction in a margin of safety?

   Allowing limited use of lead test assemblies that have not completed representative testing does not involve a significant reduction in a margin of safety, since the assemblies will be restricted to nonlimiting core regions. Therefore, this change does not involve a significant reduction in a margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS: 4.0 - DESIGN FEATURES

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

New York Power Authority has evaluated the proposed Technical Specification change identified as "Technical Changes - Less Restrictive" and has determined that it does not involve a significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92. The bases for the determination that the proposed change does not involve a significant hazards consideration are discussed below.

1. Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

   This proposed change provides the allowance to use either Zircaloy or ZIRLO clad fuel rods. The type of zirconium based cladding material used in fuel rods is not considered in the initiation of any previously analyzed accident. Therefore, this change does not significantly increase the frequency of such accidents. The allowance to use either Zircaloy or ZIRLO clad fuel rods has been generically approved by the NRC. 10 CFR 50.44, Standards for combustible gas control system in light-water-cooled power reactors, and 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, allow the use of either Zircaloy of ZIRLO clad fuel rods as acceptable designs. The Statements of Consideration for changes to 10 CFR 50.44 and 10 CFR 50.46, published in 57 FR 39353 dated 8/31/92, state that including ZIRLO as an acceptable zirconium based fuel cladding material will not reduce the protection of the public health and safety. In addition, prior to use of ZIRLO fuel clad, ITS 4.2.1 will require that JAFNPP analyze the fuel design using NRC approved codes and methods and also ensure that the fuel design complies with all safety design bases. Therefore, ITS 4.2.1 provides adequate controls to assure the potential consequences associated with the use of ZIRLO clad fuel are not significantly increased. Therefore, this change does not significantly increase the consequences of any previously analyzed accident.

2. Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

   This proposed change provides the allowance to use either Zircaloy or ZIRLO clad fuel rods. ITS 4.2.1 will require that JAFNPP analyze the fuel design using NRC approved codes and methods and also ensure that the fuel design complies with all safety design bases. Therefore, ITS 4.2.1 provides adequate controls to assure the possibility for a new or

TECHNICAL CHANGE - LESS RESTRICTIVE (SPECIFIC)

L2 CHANGE

2. (continued)

different kind of accident are not created. Therefore, this change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

3. Does this change involve a significant reduction in a margin of safety?

This proposed change provides the allowance to use either Zircaloy or ZIRLO clad fuel rods. The allowance to use either Zircaloy or ZIRLO clad fuel rods has been generically approved by the NRC. 10 CFR 50.44, Standards for combustible gas control system in light-water-cooled power reactors, and 10 CFR 50.46, Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors, allow the use of either Zircaloy or ZIRLO clad fuel rods as acceptable designs. The Statements of Consideration for changes to 10 CFR 50.44 and 10 CFR 50.46, published in 57 FR 39353 dated 8/31/92, state that including ZIRLO as an acceptable zirconium based fuel cladding material will not reduce the protection of the public health and safety. In addition, prior to use of ZIRLO fuel clad, ITS 4.2.1 will require that JAFNPP analyze the fuel design using NRC approved codes and methods and also ensure that the fuel design complies with all safety design bases. Therefore, this change does not involve a significant reduction in the margin of safety.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

DESIGN FEATURES

MARKUP OF NUREG-1433, REVISION 1 SPECIFICATION

4.0 DESIGN FEATURES

4.1 Site Location [Text description of site location.]

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain [560] fuel assemblies. Each assembly shall consist of a matrix of [Zircaloy or ZIRLO] fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material [], and water rods[]. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with NRC staff approved codes and methods and have been shown by tests or analyses to comply with all safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain [137] cruciform shaped control rod assemblies. The control material shall be [boron carbide, hafnium metal] as approved by the NRC.

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum [k-infinity of [1.31] in the normal reactor core configuration at cold conditions] [average U-235 enrichment of [4.5] weight percent];

b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in [Section 9.2 of the FSAR]; and

(continued)

INSERT 4.0-1

DB2

4.1.1 Site and Exclusion Area Boundaries

The Site and Exclusion Area Boundaries coincide with each other and shall be as shown on Figure 4.1-1.

4.1.2 Low Population Zone (LPZ)

The LPZ shall be a 4 mile radius around the Nine Mile Point Nuclear Station Unit 1 stack.

4.0 DESIGN FEATURES

4.3 Fuel Storage (continued)

c. A nominal [6.5] inch center to center distance between fuel assemblies placed in the storage racks.

4.3.1.2 The new fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum [k-infinity of [1.31]] in the normal reactor core configuration at cold conditions [average U-235 enrichment of [4.5] weight percent];

b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR]; and

c. $k_{eff} \leq 0.98$ if moderated by aqueous foam, which includes an allowance for uncertainties as described in [Section 9.1 of the FSAR]; and

d. A nominal [6.50] inch center to center distance between fuel assemblies placed in storage racks.

[M3] 4.3.2 Drainage

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation [185 ft].

[5.5.2] 4.3.3 Capacity

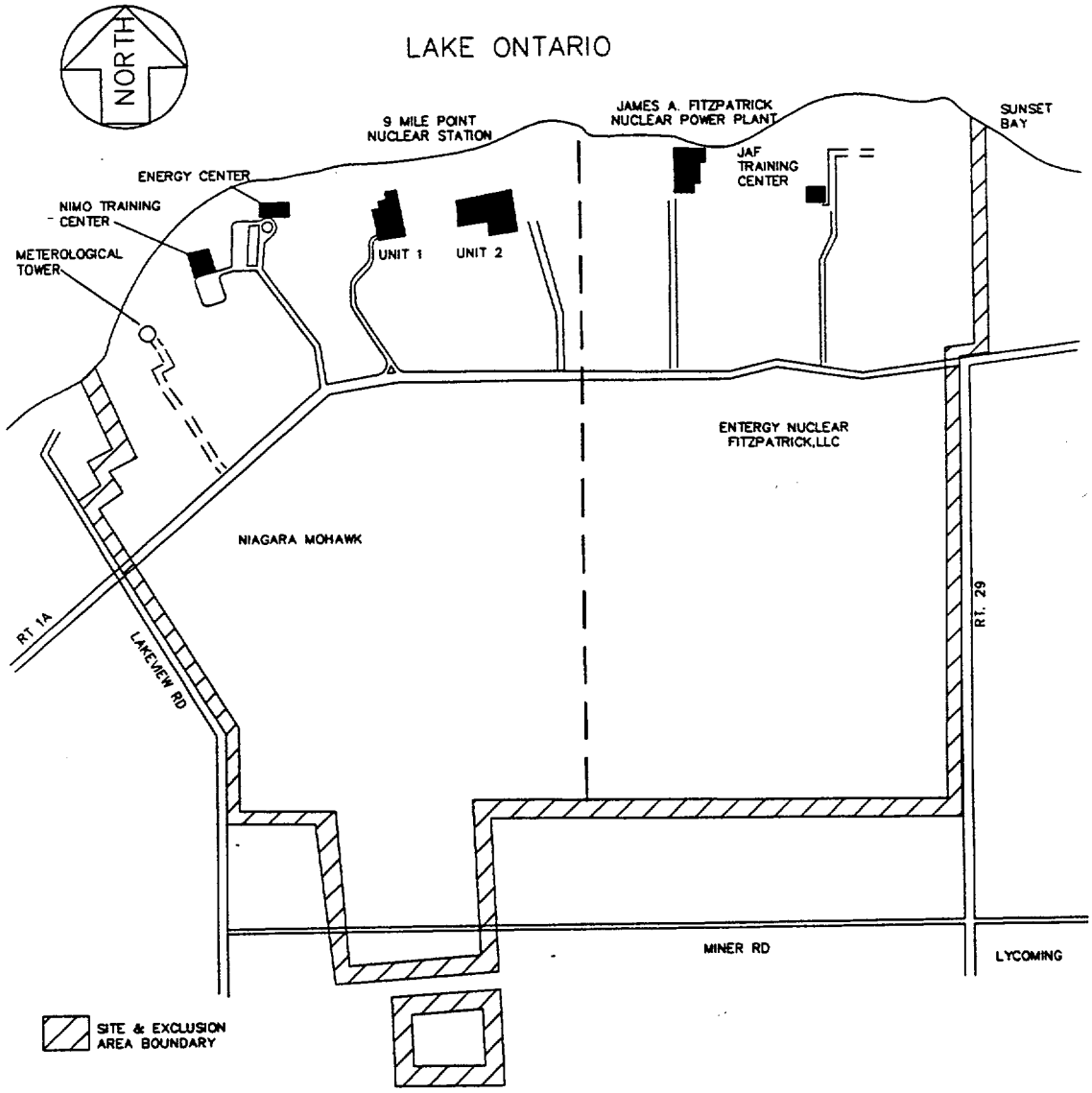
The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than [2845] fuel assemblies.

Corrections per CTS

add Figure 4.1-1

DB2

Insert Figure 4.1-1



AMEND # 268

OVERSIGHT CORRECTION

FIGURE 4.1-1 (PAGE 1 OF 1)
SITE AND EXCLUSION AREA BOUNDARIES

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

DESIGN FEATURES

JUSTIFICATION FOR DIFFERENCES (JFDs) FROM NUREG-1433, REVISION 1

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 4.0 - DESIGN FEATURES

RETENTION OF EXISTING REQUIREMENT (CLB)

CLB1 The requirement in ITS 4.3.1.1.a is revised to be consistent with the current licensing basis reflected in CTS 5.5.1.1.a.

CLB2 The requirements in ITS 4.3.1.2 have been revised to be consistent with the current licensing basis reflected in CTS 5.5.1.2.

CLB3 The brackets have been removed in ITS 4.2.1 and the number of fuel assemblies has been retained consistent with CTS 5.2.1.

CLB4 The brackets have been removed from the number of control rods in ITS 4.2.2 and the number retained consistent with CTS 5.2.2.

CTS Corrections

CLB5 Not used.

CLB6 The brackets have been removed from the capacity of the spent fuel storage pool in ITS 4.3.3 and the number revised consistent with CTS 5.5.2.

PLANT-SPECIFIC WORDING PREFERENCE OR MINOR EDITORIAL IMPROVEMENT (PA)

PA1 Editorial changes have been made for enhanced clarity or to correct a grammatical/typographical error.

PLANT-SPECIFIC DIFFERENCE IN THE DESIGN (DB)

DB1 ITS 4.3.1.1.b has been revised to reflect the specific JAFNPP reference requirements of, UFSAR, Section 9.3, Spent Fuel Storage.

DB2 The text description of the site location of ITS 4.1 has been included as required. In addition, Figure 4.1-1 has been added for clarity.

DB3 Changes have been made to ITS 4.3.1.1.c to reflect the actual requirements in UFSAR, Section 9.3.

DB4 The brackets have been removed from "water rods" in ITS 4.2.1 and retained since the JAFNPP design includes them.

CTS corrections

DB5 The brackets have been removed from the designed drainage level of the spent fuel storage pool in ITS 4.3.2 and revised consistent with plant design.

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1433, REVISION 1
ITS: 4.0 - DESIGN FEATURES

DIFFERENCE BASED ON AN APPROVED TRAVELER (TA)

None

DIFFERENCE BASED ON A SUBMITTED, BUT PENDING TRAVELER (TP)

None

DIFFERENCE FOR ANY REASON OTHER THAN THE ABOVE (X)

X1 ITS 4.2.1, has been revised to reflect the allowance (L2) for the use of ZIRLO fuel rods as an alternative to Zircaloy fuel rods only.

JAFNPP

IMPROVED STANDARD TECHNICAL SPECIFICATIONS (ISTS) CONVERSION

ITS: 4.0

~~Inservice Leak and Hydrostatic Testing Operation~~

DESIGN FEATURES

RETYPED PROPOSED IMPROVED TECHNICAL SPECIFICATIONS (ITS)

4.0 DESIGN FEATURES

4.1 Site Location

4.1.1 Site and Exclusion Area Boundaries

The Site and Exclusion Area Boundaries coincide with each other and shall be as shown on Figure 4.1-1.

4.1.2 Low Population Zone (LPZ)

The LPZ shall be a 4 mile radius around the Nine Mile Point Nuclear Station Unit 1 stack.

4.2 Reactor Core

4.2.1 Fuel Assemblies

The reactor shall contain 560 fuel assemblies. Each assembly shall consist of a matrix of Zircaloy or ZIRLO fuel rods with an initial composition of natural or slightly enriched uranium dioxide (UO_2) as fuel material, and water rods. Limited substitutions of zirconium alloy or stainless steel filler rods for fuel rods, in accordance with approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with NRC staff approved codes and methods and have been shown by tests or analyses to comply with all safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in nonlimiting core regions.

4.2.2 Control Rod Assemblies

The reactor core shall contain 137 cruciform shaped control rod assemblies. The control material shall be boron carbide or hafnium metal as approved by the NRC.

(continued)

4.0 DESIGN FEATURES (continued)

4.3 Fuel Storage

4.3.1 Criticality

4.3.1.1 The spent fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum k-infinity of 1.32 in the normal reactor core configuration at cold conditions (20°C);

b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.3 of the UFSAR; and

c. A nominal 6.625 inch center to center distance between fuel assemblies placed in the aluminum high density storage racks, and a nominal 6.355 inch center to center distance between fuel assemblies placed in the stainless steel high density storage racks.

4.3.1.2 The new fuel storage racks are designed and shall be maintained with:

a. Fuel assemblies having a maximum k-infinity of 1.31 in the normal reactor core configuration at cold conditions (20°C);

b. $k_{eff} \leq 0.90$ if dry;

c. $k_{eff} \leq 0.95$ if fully flooded with unborated water; and

d. A nominal 6.625 inch center to center distance between fuel assemblies placed in storage racks.

4.3.2 Drainage

The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 367 ft 3 inches.

(continued)

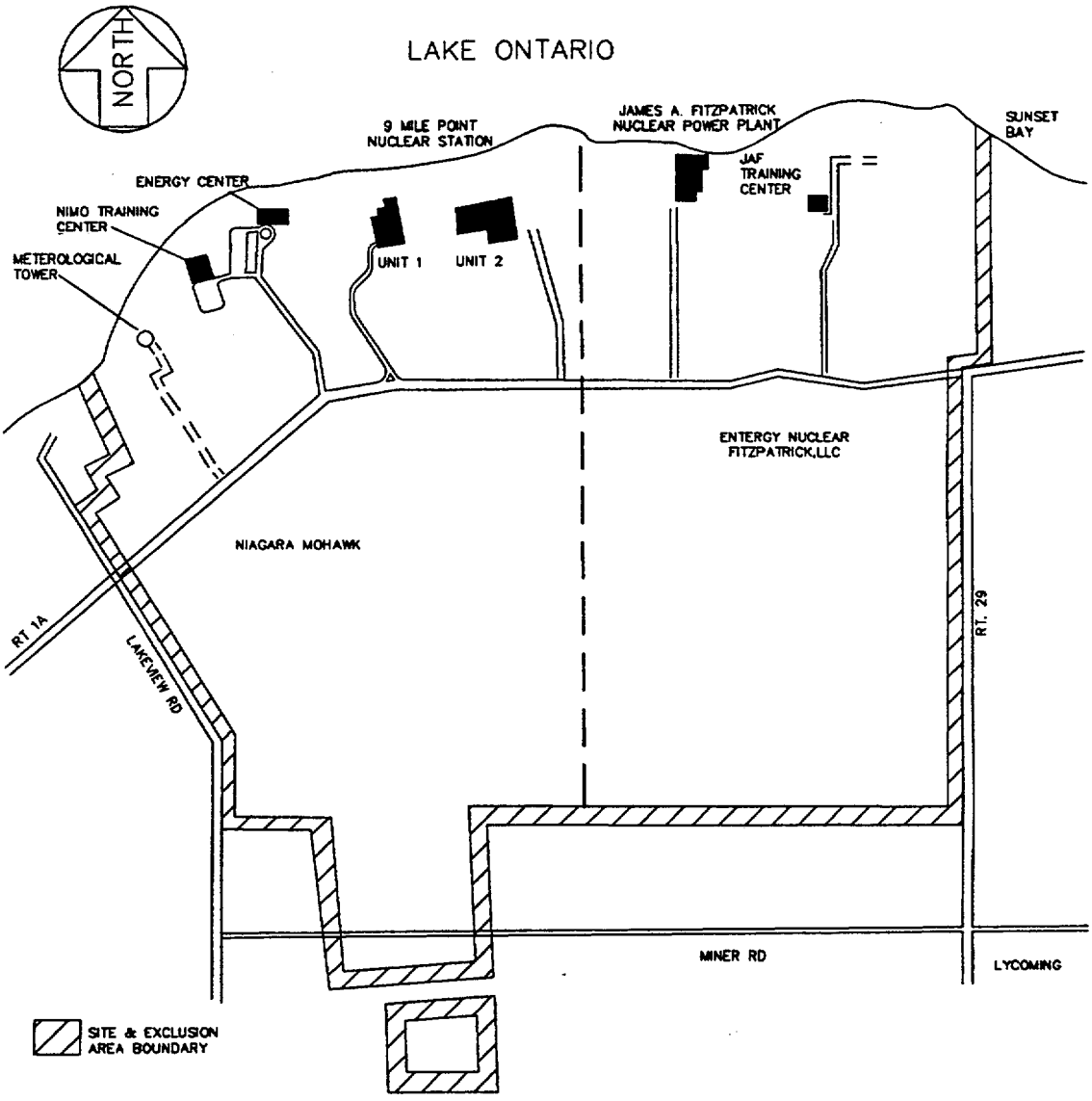
4.0 DESIGN FEATURES

4.3 Fuel Storage (continued)

4.3.3 Capacity

The spent fuel storage pool is designed and shall be maintained with a storage capacity limited to no more than 3239 fuel assemblies.

CRS correction



AMEND #268

OVERSIGHT CORRECTION

FIGURE 4.1–1 (PAGE 1 OF 1)
SITE AND EXCLUSION AREA BOUNDARIES