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U. S. Nuclear Regulatory Commission
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Three Mile Island Nuclear Station Unit 1
Facility Operating License No. DPR-50
NRC Docket No.50-289

Subject: Editorial Corrections to the Three Mile Island Nuclear Station Unit 1 License
Renewal Application Environmental Report

Reference: Appendix E (Environmental Report) of the Three Mile Island Nuclear Station Unit
1 License Renewal Application, Submitted 1/8/2008

AmerGen Energy Company, LLC (AmerGen) has identified minor editorial corrections related to References within Appendix E (Environmental Report) of the Three Mile Island Nuclear Station Unit 1 (TMI-1) License Renewal Application, submitted 1/8/2008. As a supplement to the TMI-1 License Renewal Application, AmerGen is providing one enclosure that tabulates the editorial corrections.

While this updated information will better allow the sources of input used for the Environmental Report to be located and reviewed, these corrections have no impact on the Environmental analyses or conclusions drawn in the report itself. These editorial corrections have been discussed with the NRC License Renewal Project Manager for the TMI-1 License Renewal Application.

If you have any questions, please contact Fred Polaski, Manager License Renewal, at 610-765-5935.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

Executed on 03-31-2008



Michael P. Gallagher
Vice President, License Renewal
AmerGen Energy Company, LLC

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LRR

Enclosure A: Tabulation of Editorial Changes to Appendix E (Environmental Report) of the Three Mile Island Nuclear Station Unit 1 License Renewal Application.

cc: Regional Administrator, USNRC Region I, w/ Enclosure
USNRC Project Manager, NRR - License Renewal, Safety, w/ Enclosure
USNRC Project Manager, NRR - License Renewal, Environmental, w/ Enclosure
USNRC Project Manager, NRR - TMI Unit 1, w/ Enclosure
USNRC Senior Resident Inspector, TMI Unit 1, w/ Enclosure
D. Allard, Director, Bureau of Radiation Protection - Pennsylvania Department of Environmental Protection, w/ Enclosure
Chairman, Board of County Commissioners of Dauphin County, PA, w/ Enclosure
Chairman, Board of Supervisors of Londonderry Township, Dauphin County, PA, w/ Enclosure

File No. 08001

ENCLOSURE A
Three Mile Island Unit 1 (TMI-1)

Tabulation of Editorial Changes to TMI-1 License Renewal Application,
Appendix E, Applicant's Environmental Report License Renewal Operating Stage

The tables in this enclosure itemize the editorial corrections by "Affected Section," "Page No." and "Affected Paragraph and Sentence." The count for affected paragraphs begins at the top of the page. For pages with 2 columns, the count for affected paragraphs begins at the top of the designated column. For each itemized correction, a brief explanation of the reason for the change is provided, followed by the text of the affected sentence(s) printed in italics with deletions in ~~strikeout~~ font and additions in underlined font. If a correction involves deleting an entire paragraph without adding any text, the deleted text is not shown.

Table A-1 contains the itemized editorial corrections for the main body of the Applicant's Environmental Report. Affected sections identified in Table A-1 are listed below.

Section 2.13	Section 4.10
Section 2.3.3	Section 7.3
Section 2.8	Section 7.2
Section 3.5	Section 7.2.1.4
Section 4.9	

Table A-2 contains the itemized editorial corrections for the Applicant's Environmental Report, Appendix E, "Severe Accident Mitigation Analysis (SAMA) Report." Affected sections identified in Table A-2 are listed below.

Section E.2.2.3.1	Section E.4.5
Section E.2.2.3.1.1.1	Section E.5.1
Section E.2.2.3.1.1.2.1	Section E.5.1.3.5
Section E.4.1	Section E.10, Table E.2-1
Section E.4.3	Section E.11

TABLE A-1
Editorial Changes in Main Body of TMI Unit 1 Applicant's Environmental Report

<u>Environmental Report (Main Body)</u> <u>Affected Section</u>	<u>Environmental Report (Main Body)</u> <u>Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section 2.13	2-64	12th paragraph The reference, Exelon 2007, contains a typographical error. Revise the 12 th paragraph (Exelon 2007) to read as follows: <i>Exelon. 2007. TMI Radiological Groundwater Protection Program (RGPP) Sample Point Data and Standard Control Limits. CY-TM-170-41604480, Revision 1. October 9.</i>
Section 2.13	2-66	10th paragraph The reference in the 10 th paragraph, NRC 2005, was dated inaccurately. Revise the 10 th paragraph (NRC 2005) to read as follows: <i>NRC (U.S. Nuclear Regulatory Commission). 20042005. Fact Sheet on the Accident at Three Mile Island, March. Available at: http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/3mileisle.pdf. Accessed September 28, 2006.</i> To implement this revision, also change textual references from "(NRC 2005)" to "(NRC 2004)" in Section 2.12 (page 2-36, Column 1, 2 nd paragraph, last sentence and Column 2, 1 st partial paragraph, 1 st partial sentence).
Section 2.13	2-67	1st paragraph The reference in the 1 st paragraph, PENNDOT 2004, contains a transcription error. Revise the 1 st paragraph (PENNDOT 2004) to read as follows: <i>PENNDOT (Pennsylvania Department of Transportation). 2004. PENNDOT Traffic Count Maps (various). Available online at http://www.dot.state.pa.us/Internet/Bureaus/pdPlanRes.nsf/infoBPRTrafficInfoTrafficVolumeMap. Accessed July 27, 2006.</i>
Section 2.13	2-67	2nd paragraph The reference in the 2 nd paragraph, Pennsylvania Fish & Boat Commission Undated, contains a transcription error. Revise the 2 nd paragraph (Pennsylvania Fish & Boat Commission Undated) to read as follows: <i>Pennsylvania Fish & Boat Commission. Undated. Smallmouth Bass, and Walleye and Other Fish Passage at Susquehanna River Dams 1997-20062005. Available online at http://www.fish.state.pa.us/shad01/reports/2005/fish2005.htm. http://www.fish.state.pa.us/pafish/shad/reports technical/2006/smb we others2006.htm.</i>
Section 2.13	2-67	4th paragraph The reference in the 4 th paragraph, PGA Undated, contains a transcription error. Revise the 4 th paragraph (PGA Undated) to read as follows: <i>PGA (Pennsylvania General Assembly). Undated. "Pennsylvania History." <u>"The Era of Industrial Ascendancy: 1861-1945."</u> Available online at http://www.legis.state.pa.us/WU01/VC/visitor_info/pa_history/pa_history.htm. Accessed August 19, 2004.</i>

<u>Environmental Report (Main Body)</u> <u>Affected Section</u>	<u>Environmental Report (Main Body)</u> <u>Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section 2.13	2-68	7th paragraph The reference in the 7 th paragraph, USCB 2005, is a duplicate of the reference in the 8 th paragraph, USCB 2006. Delete the 7 th paragraph (USCB 2005).
Section 2.8	2-25	Column 2, 1st paragraph, 1st sentence The reference in the 1 st paragraph of the 2 nd column, USCB 2005, should be redesignated as USCB 2006 because the two references are the same document, and USCB 2005 is being deleted. Revise the 1 st sentence in the 1 st paragraph in the 2 nd column to read as follows: <i>Dauphin County is approximately 525 square miles in size and has 40 municipalities including the Pennsylvania state capital in Harrisburg (USCB <u>20062005</u>).</i>
Section 3.5	3-20	New 6th paragraph (after 5th paragraph) On page 3-5, in Section 3.1.2.2 (Column 2, 1 st partial paragraph, last sentence), a textual citation to reference AmerGen 2007 appears, but the corresponding bibliographic information was inadvertently omitted from the list of references in Section 3.5 (page 3-20). Add a new 6 th paragraph on page 3-20 (after the existing 5 th paragraph [AmerGen 2006c]) to read as follows: <u><i>AmerGen (AmerGen Energy Company, LLC). 2007. Three Mile Island Nuclear Station Water Use Schematic, NPDES PA0009920. March 30.</i></u>
Section 4.21	4-51	12th paragraph (including “Note to reader”) The reference in the 12 th paragraph, PDEP 2007, contains a typographical error. Revise the 12 th paragraph (PDEP 2007) to read as follows: <i>PADEP (Pennsylvania Department of Environmental Protection). 2007. “Pennsylvania’s Peregrine DEP Falcon Page.” Available online at http://www.dep.state.pa.us/dep/falcon/. Accessed on February 1, 2007.</i> To implement this revision, also change textual references from “PDEP 2007” to “PADEP 2007” in Section 4.9 (page 4-18, Column 2, 1 st partial paragraph, 1 st full sentence) and Section 4.10 (page 4-20, Column 1, 1 st partial paragraph, 1 st partial sentence).
Section 7.3	7-26	3rd paragraph The reference in the 3 rd paragraph, EIA 2006b, contains a transcription error. Revise the 3 rd paragraph (EIA 2006b) to read as follows: <i>EIA (Energy Information Administration). 2006b. DOE/EIA-0191(2006). Cost and Quality of Fuels for Electric Utility Plants 2003 and 2004. Tables 41.A, 11.B, 14.A, 14.B, 15.A, 15.B. June 30. Available at http://www.eia.doe.gov/cneaf/electricity/cq/cqa2004.pdf. Accessed October 30, 2006.</i>

<u>Environmental Report (Main Body)</u> <u>Affected Section</u>	<u>Environmental Report (Main Body)</u> <u>Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section 7.3	7-26	4 th paragraph The reference in the 4 th paragraph, EIA 2006c, contains transcription errors. Revise the 4 th paragraph (EIA 2006c) to read as follows: <i>EIA (Energy Information Administration). 2006c. State Electricity Profiles, 2004 Edition. DOE/EIA-0629(2004). May/June. Available at http://www.eia.doe.gov/cneaf/electricity/st_profiles/e_profiles_sum.html. Accessed October 4, 2006.</i>
Section 7.3	7-26	8 th paragraph The reference in the 8 th paragraph, Exelon 2006, contains transcription errors. Revise the 8 th paragraph (Exelon 2006) to read as follows: <i>Exelon Corporation. 2006. "Power Generation, Three Mile Island <u>Unit Generating</u> - 1". Available at http://www.exeloncorp.com/ourcompanies/powergen/nuclear/three_mile_island_unit_1.htm. Accessed September 26, 2006.</i>
Section 7.3	7-27	8 th paragraph The reference in the 8 th paragraph, NRC 1996b, contains transcription errors. Revise the 8 th paragraph (NRC 1996b) to read as follows: <i>NRC (U.S. Nuclear Regulatory Commission). 1996b. <u>Supplementary Information to Final Rule: "Environmental Review for Renewal of Nuclear Power Plant Operating Licenses."</u> <u>Final Rule</u>. Federal Register. Vol. 61, No. 244. December 18.</i>
Section 7.3	7-28	2 nd paragraph The reference in the 2 nd paragraph, Pennsylvania General Assembly 1996, contains transcription errors. Revise the 2 nd paragraph (Pennsylvania General Assembly 1996) to read as follows: <i>Pennsylvania General Assembly. 1996. House Bill No. 1509, <u>Electricity Generation Choice for Customers of Electric Cooperatives Choice and Competition Act</u>, as Amended. <u>November 20</u>. Available at http://www.puc.state.pa.us/electric/pdf/HB1509P4282.pdf. Accessed October 30, 2006.</i>
Section 7.3	7-28	4 th paragraph The reference in the 4 th paragraph, Pinero 2001, contains transcription errors. Revise the 4 th paragraph (Pinero 2001) to read as follows: <i>Pinero, E. 2001. Testimony Summary: The House Committee on Energy and Commerce, Subcommittee on Energy and Air Quality Hearing, March 14, 2001. Available at http://energycommerce.house.gov/reparchives/107/Hearings/03142001hearing94/Pinero127.htm. Accessed October 30, 2006.</i>

<u>Environmental Report (Main Body)</u> <u>Affected Section</u>	<u>Environmental Report (Main Body)</u> <u>Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section 7.3	7-28	5 th paragraph
<p>The reference in the 5th paragraph, PJM 2006a, contains a transcription error. To correct the error, redesignate the reference PJM 2006a as PJM 2005, and revise the 5th paragraph (PJM 2006a) to read as follows:</p> <p><i>PJM (PJM Interconnection, LLC). 20052006a. "PJM 20052006 Annual Report." Available at http://www.pjm.com/about/annual-report.html. Accessed September 27, 2006.</i></p>		

To implement the change above, also make the following changes to the reference list in Section 7.3 (page 7-28):

Redesignate PJM 2006b as PJM 2006a
Redesignate PJM 2006c as PJM 2006b

Associated textual changes are as follows:

Change "PJM 2006a" to "PJM 2005" in Section 7.2 (page 7-7, Column 1, 2nd paragraph, 5th and 7th sentences)

Change "PJM 2006b" to "PJM 2006a" in Section 7.2 (page 7-7, Column 1, 2nd paragraph, 6th and 8th sentences) and in Section 7.2.1.4 (Other Alternatives; Delayed Retirement) (page 7-15, Column 2, 2nd full paragraph, 3rd and 6th sentences).

Change "PJM 2006c" to PJM 2006b" in Section 7.2.1.4 (Delayed Retirement) (page 7-13, Column 1, 1st paragraph, 1st sentence), Section 7.2.1.4 (Hydropower) (page 7-13, Column 1, 1st paragraph, 1st sentence), Section 7.2.1.4 (Petroleum) (page 7-14, Column 2, 4th full paragraph, 1st sentence), and Section 7.2.1.4 (Delayed Retirement) (page 7-15, Column 2, 1st full paragraph, 2nd sentence)

<u>Section 7.3</u>	<u>7-28</u>	<u>7th paragraph</u>
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The reference in the 7th paragraph, PJM 2006c, contains a transcription error in addition to being redesignated as PJM 2006b. Revise the 7th paragraph (PJM 2006c) to read as follows:

PJM (PJM Interconnection, LLC). ~~2006b2006c~~. "~~20062005~~ PJM Load, Capacity and Transmission Report (Draft)." August 16, 2006. Available at <http://www.pjm.com/documents/downloads/reports/draft-2006-pjm-411.pdf>. Accessed September 30, 2006.

TABLE A-2
Editorial Changes in Appendix E, SAMA Report, of TMI Unit 1 Applicant's Environmental Report

<u>Environmental Report (Appendix E, SAMA) Affected Section</u>	<u>Environmental Report (Appendix E, SAMA) Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section E.2.2.3.1	E-8	1st full paragraph, last sentence A more current and appropriate reference is substituted for Duke 1990. Revise the last sentence in the 1 st full paragraph to read as follows: <i>This grouping procedure was developed through an iterative process resulting in a method that allowed core damage sequences to be grouped according to the status of plant systems at the onset of core damage (Exelon 2007Duke 1990).</i>
Section E.2.2.3.1.1.1	E-10	1st partial paragraph, 1st partial sentence An unnecessary reference (FAI 1987) is deleted. Revise the 1 st partial sentence in the 1 st partial paragraph to read as follows: <i>... a continuous supply of water contacts the core debris, a coolable debris bed can be formed and the tellurium release can be prevented or terminated (FAI 1987).</i>
Section E.2.2.3.1.1.1	E-12	3rd paragraph, 3rd sentence A more current and appropriate reference is substituted for PRC 1981. Revise the 3 rd sentence in the 3 rd paragraph to read as follows: <i>Even though recommended evacuation times are much longer than two hours, studies of past evacuations have shown that two hours is more than sufficient time to evacuate the majority of the population participating in the evacuation plan (ETI 2003PRC 1981).</i>
Section E.2.2.3.1.1.2.1	E-13	2nd full paragraph, last sentence, 1st bullet An unnecessary reference (DE&S 1992) is deleted. Revise the 1 st bullet in the last sentence of the 2 nd full paragraph to read as follows: <i>For TMI-1, a core melt sequence can be grouped as a small LOCA if it has one of the following break size characteristics:</i> <ul style="list-style-type: none">• <i>0.007 ft2 to 0.1 ft2 breaks (DE&S 1992)</i>• <i>Stuck open pressurizer PORV</i>• <i>Stuck open SRV</i>• <i>Reactor coolant pump (RCP) seal LOCA</i>• <i>Steam generator tube ruptures that have an intact secondary system</i>
Section E.2.2.3.1.1.2.1	E-13	3rd full paragraph, last sentence An unnecessary reference (DE&S 1992) is deleted. Revise the last sentence in the 3 rd full paragraph to read as follows: <i>For TMI-1, the medium LOCA size is from 0.1 ft2 to 0.5 ft2 breaks (DE&S 1992).</i>

Environmental Report
(Appendix E, SAMA)
Affected Section

Environmental
Report (Appendix E,
SAMA) Page No.

Affected Paragraph and Sentence

Section E.4.1

E-37

2nd paragraph, 1st sentence

The reference in the 1st sentence of the 2nd paragraph (NRC 1997a) contains a typographical error. Revise the 1st sentence of the 2nd paragraph to read as follows:

The baseline annual off-site exposure risk was converted to dollars using NRC's conversion factor of \$2,000 per person-rem, and discounted to present value using NRC standard formula (NRC 19971997a): ...

Section E.4.3

E-38

1st paragraph, 1st sentence

The reference in the 1st sentence of the 1st paragraph (NRC 1997a) contains a typographical error. Revise the 1st sentence of the 1st paragraph to read as follows:

Occupational health was evaluated using NRC methodology that involves separately evaluating immediate and long-term doses (NRC 19971997a).

Section E.4.5

E-40

3rd full paragraph, 1st sentence

The reference in the 1st sentence of the 3rd full paragraph (NRC 1997a) contains a typographical error. Revise the 1st sentence of the 3rd full paragraph to read as follows:

The long-term replacement power cost-risk was determined following NRC methodology in NUREG/BR-0184 (NRC 19971997a).

Section E.5.1

E-45

2nd paragraph, 1st sentence, 3rd bullet

The reference in the 1st sentence of the 2nd paragraph (GPU 1993a) contains a typographical error. Revise the 1st bullet in the 1st sentence of the 2nd paragraph to read as follows:

The initial list of SAMA candidates for TMI-1 was developed from a combination of resources including:

- TMI-1 PRA results
- Industry Phase II SAMAs
- TMI-1 IPE (GPU 1993b1993a)
- TMI-1 IPEEE (GPU 1994)

Section E.5.1.3.5

E-51

5th full paragraph (including bullets), 1st sentence

A reference (PPL 2006) is added to support the statement in the 1st sentence in the 5th full paragraph. Revise the 1st sentence in the 5th full paragraph to read as follows:

The Susquehanna SAMA analysis showed that five SAMAs were potentially cost beneficial when considered independently (PPL 2006).

Section E.10

E-256

Table E.2-1, note 4

A formatting error for the reference in table note 4 is corrected by substituting the short citation (ABS 2000) in place of the reference number (Reference [9]). Revise Table E.2-1, note 4 to read as follows:

4. TMI RISKMAN® 2000 Update; Level 2 added to model for first time. Truncation limit not reported. Model reflects plant design as of 1998 (ABS 2000~~see Reference [9]~~).

Environmental Report
(Appendix E, SAMA)
Affected Section

Environmental
Report (Appendix E,
SAMA) Page No.

Affected Paragraph and Sentence

Section E.10

E-256

Table E.2-1, note 6

A formatting error for the reference in table note 6 is corrected by substituting the short citation (ABS 2003) in place of the reference number (Reference [8]). Revise Table E.2-1, note 6 to read as follows:

6. TMI RISKMAN® ABSA model: Revisions in support of responses to peer certification comments. Plant model reflects plant design as of January, 2003 (ABS 2003see ~~Reference [8]~~).

Section E.10

E-256

Table E.2-1, note 8

A formatting error for the reference in table note 6 is corrected by substituting the short citation (Exelon 2005a) in place of the reference number (Reference [4]). Revise Table E.2-1, note 8 to read as follows:

8. TMI CAFTA® 2004, Rev. 1 model: Implementation of various model changes and improvements since Revision 0 (Exelon 2005asee ~~Reference [4]~~). Level 2 model not revised.

Section E.10

E-256

Table E.2-1, note 9, 1st sentence

A formatting error for the reference in table note 9 is corrected by substituting the short citation (Exelon 2007a) in place of the reference number (Reference [5]). Revise the 1st sentence in Table E.2-1, note 9 to read as follows:

9. TMI CAFTA® 2004, Rev. 2 model: Implementation of various model changes and improvements since Revision 1 (Exelon 2007asee ~~Reference [5]~~).

Section E.10

E-256

Table E.2-1, note 9, 2nd sentence

A formatting error for the reference in table note 9 is corrected by substituting the short citation (Exelon 2007b) in place of the reference number (Reference [6]) and substituting the short citation (GPU 1993a) in place of the reference number (Reference [3]). Revise the 2nd sentence in Table E.2-1, note 9 to read as follows:

New Level 2 model (Exelon 2007bsee ~~Reference [6]~~) developed using CAFTA® based on February 1993 Level 2 model (GPU 1993asee ~~Reference [3]~~).

Section E.11

E-362

7th paragraph

The reference in the 7th paragraph, DE&S 1992, has been removed from the text of Appendix E because it is an unnecessary reference. Delete the 7th paragraph (DE&S 1992).

Section E.11

E-363

1st paragraph

The reference in the 1st paragraph, Duke 1990, has been replaced in the text of Appendix E with a more recent, appropriate reference (Exelon 2007d). Delete the 1st paragraph (Duke 1990).

Section E.11

E-364

8th paragraph

The reference in the 8th paragraph, Exelon 2007a, was dated inaccurately. Revise the 8th paragraph (Exelon 2007a) to read as follows:

Exelon 2007a Exelon (Exelon Corporation). 2007a. TMI PRA Notebook, TMI-PRA-014 Quantification Notebook, TMI PRA Model 2004 Revision 2, August~~May~~.

<u>Environmental Report (Appendix E, SAMA) Affected Section</u>	<u>Environmental Report (Appendix E, SAMA) Page No.</u>	<u>Affected Paragraph and Sentence</u>
Section E.11	E-365	1st paragraph The reference in the 1st paragraph, Exelon 2007b, was dated inaccurately. Revise the 1 st paragraph (Exelon 2007b) to read as follows: <i>Exelon 2007b</i> <i>Exelon (Exelon Corporation). 2007b. TMI PRA Notebook, TMI-PRA-015.2 Level 2 Containment Event Tree Analysis Notebook, TMI PRA Model 2004 Revision 2, AprilMay.</i>
Section E.11	E-365	New 3rd paragraph The reference Duke 1990 has been replaced by a new reference, Exelon 2007d. Add the new reference, Exelon 2007d, as a new 3 rd paragraph after existing 2 nd paragraph (Exelon 2007c) and reading as follows: <i>Exelon 2007d</i> <i>Exelon (Exelon Corporation). 2007d. TMI PRA Notebook, TMI-PRA-015.01. Level 1 to Level 2 Interface Analysis. TMI PRA Model 2004 Revision 2.</i>
Section E.11	E-365	3rd paragraph The reference FAI 1987 has been deleted from the text of Appendix E. Delete the 3 rd paragraph (FAI 1987).
Section E.11	E-365	7th paragraph The reference in the 7 th paragraph (GPU 1993a) contains a typographical error. Revise the 7 th paragraph (GPU 1993a) to read as follows: <i>GPU 1993b1993a</i> <i>GPU (GPU Nuclear Corporation). 1993b1993a. TMI-1 IPE Submittal Report, March.</i>
Section E.11	E-365	8th paragraph The reference in the 8 th paragraph, GPU 1993b, is not called out in the text of Appendix E. Delete the 8 th paragraph (GPU 1993b).
Section E.11	E-366	1st paragraph The reference in the 1 st paragraph, GPU 1993b, is not called out in the text of Appendix E. Delete the 1 st paragraph (GPU 1993b).
Section E.11	E-367	3rd paragraph The reference in the 3 rd paragraph, NRC 1983, contains transcription errors. Revise the 3 rd paragraph (NRC 1983) to read as follows: <i>NRC 1983</i> <i>NRC (U.S. Nuclear Regulatory Commission). 1983. Handbook of Human Reliability Analysis with Emphasis on Nuclear Power Plant Applications. Final Report. NUREG/CR-1278. Washington, DC. August.</i>