



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

April 29, 2010
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10CFR50.71(e)
STI: 32663769

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Updated Final Safety Analysis Report Revision 15

Pursuant to 10CFR50.71(e), STP Nuclear Operating Company submits Revision 15 to the South Texas Project Updated Final Safety Analysis Report (UFSAR).

Attachment 1 includes a summary of changes in Revision 15 that were made under the provisions of 10CFR50.59 or in accordance with the guidance of NEI 98-03 and NEI 96-07. Attachment 2 consists of two CD-ROM's. CD-ROM one includes the UFSAR; CD-ROM two contains the UFSAR Figures and Controlled Drawings.

There are no commitments in this letter.

If you should have any questions on this submittal, please contact Marilyn Kistler at (361) 972-8385 or me at (361) 972-7454.

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

Executed on April 29, 2010

Charles T. Bowman
General Manager, Oversight

MK

Attachment 1: Summary of Changes Updated Final Safety Analysis Report, Revision 15
Attachment 2: Updated Final Safety Analysis Report, Revision 15

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Note: Above copies distributed without attachment 2

NOC-AE-10002553

Attachment 1

Summary of Changes

Updated Final Safety Analysis Report, Revision 15

Summary of Changes

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- () - Change Notice number
- [] - UFSAR section(s) affected if not already identified
- { } - NEI 98-03 Criteria document used for change

Chapter 1, "Introduction and General Description of Plant"

1. Updated information regarding the location of the new Emergency Operations Facility. (CN-2963) [1.2.2.14.4]
2. Revised location of the new Emergency Operations Facility for consistency with the Emergency Plan. (CN-2987) [1.2.2] {NEI 98-03}
3. Editorial corrections. (CN-2988) [Table 1.1-1] {NEI 98-03}

Chapter 2, "Site Characteristics"

1. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [2.3.2, 2.3.4 and Tables 2.3-9, 2.3-13, 2.3-25A, 2.3-25B, 2.3-26A, 2.3-26B, 2.3-29A, 2.3-29B, 2.3-30A, 2.3-30B, 2.3-31A, 2.3-31B, 2.3-32A, 2.3-32B, 2.3-33A, 2.3-33B, 2.3-34A, 2.3-34B, 2.3-35A, 2.3-35B, 2.3-36A, 2.3-36B]
2. Editorial Corrections (CN-2936) [2.4.3.1] {NEI 98-03}
3. Updated information regarding the location of the new Emergency Operations Facility. (CN-2963) [2.4.13.2.5]
4. Revised descriptive information related to the makeup capability for the Essential Cooling Pond. (CN-2974) [2.4, 2.5]
5. Revised the computed factors of safety due to the addition of the old reactor vessel head interim storage slab. (CN-2954) [2.5.4]

Chapter 3, "Design of Structures, Components, Equipment, and Systems"

1. Removed references. (CN-2972) [References 3.5-2, 3.5-32, 3.5-33] {NEI 98-03}
2. Incorporated information for the Unit 1 replacement reactor vessel head, control rod drive mechanism, drive rod position indication and core exit thermocouple cables.

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- (CN-2985) [Table 3.2.B-1, 3.5.1, Table 3.5-3, 3.7.3B, 3.9.1, 3.9.4, Figures 3.9-4A, 3.9-4B, 3.9-5A, 3.9-5B]
3. Added information to allow the use of risk-informed technology in determining the number of ASME Section XI Inservice Inspection Program augmented piping inspections in the break exclusion zone of high energy piping. (CN-2894) [3.6.2]
 4. Editorial corrections. (CN-2988) [3.8.3] {NEI 98-03}
 5. Updated sections to the 2004 Edition No Addenda of ASME Section XI Code for the next ten year interval for IWE (Class MC) and IWL (Class CC). (CN-2944) [3.8.1, Table 3.12 Note 85] {NEI 98-03}
 6. Editorial Corrections and withdrawal of Regulatory Guide 1.150 (CN-2936, CN-2940) [3.9.1 Table 3.12-1] {NEI 98-03}
 7. Added the results of the containment steam line break analysis for Unit 1 Cycle 16 and Unit 2 Cycle 14. (CN-2964) [Table 3.11-1]
 8. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [Table 3.12-1, Notes 95 and 100]
 9. Added Regulatory Guides 1.196 and 1.197. (CN-2928) [Table 3.12-1, Note 101]
 10. Removed Note regarding General Employee Training passing score of 70 percent or above. (CN-2983) [Table 3.12-1 and Note 87] {NEI 98-03}
 11. Updated information to incorporate changes resulting from Part 26, Subpart I, "Fatigue Management" rule. (CN-2966) [Table 3.12-1, Note 102] {NEI 98-03}
 12. Removed reference to RG 1.83, Q121.02, Q121.20 and revised Note. (CN-2971) [Table 3.12-1, Note 72] {NEI 98-03}

Chapter 4, "Reactor"

1. Incorporated the use of pre-oxidized coating applied to the bottom seven inches of fuel rods. (CN-2890) [4.2.2]
2. Removed reference to the core internals monitoring function for the Loose Parts Monitoring System. (CN-2866) [4.4.6]

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3. Incorporated information for the Unit 1 replacement reactor vessel head, control rod drive mechanism, drive rod position indication and core exit thermocouple cables. (CN-2985) [4.5.1]

Chapter 5, "Reactor Coolant System and Connected Systems"

1. Revised to reflect disconnected pressurizer heaters in Unit 1. (CN-2908) [Table 5.1-1]
2. Incorporated information for the Unit 1 replacement reactor vessel head, control rod drive mechanism, drive rod position indication and core exit thermocouple cables. (CN-2985) (Table 5.1-1, 5.2.3, Tables 5.2-1, 5.2-2, 5.2-6, 5.3.1, 5.3.3, Tables 5.3-1, 5.3-2, 5.3-3, Figures 5.3-1A, 5.3-1B)
3. Revised to allow addition of a soluble zinc compound, zinc acetate dehydrate to the reactor coolant during normal operations. (CN-2905, CN-2909) [5.2.3, Table 5.2-4]
4. Updated to reflect compliance with the latest edition of the ASME Section XI Code requirements. (CN-2969) [5.2.4] {NEI 98-03}
5. Editorial corrections (CN-2936) [5.2.3.4, 5.3.1, 5.3.3, 5.4.2, 5.4.7, 5.4.12, 5.4.14] {NEI 98-03}
6. Editorial corrections. (CN-2988) [Tables 5.3-7, 5.3-8] {NEI 98-03}
7. Editorial corrections. (CN-2988) [5.4.1] {NEI 98-03}
8. Installed a 1/8 inch stainless steel threaded plug in the Unit 1 reactor vessel flange drain hole for the inner O-ring leakoff line. (CN-2907) [5.3.3]
9. Removed reference to RG 1.83. (CN-2971) [5.4.2] {NEI 98-03}
10. Replaced wide range Reactor Coolant System pressure transmitters. (CN-2924) [5.4.7]
11. Added Residual Heat Removal outlet line check valves. (CN-2926) [5.4.7]

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Chapter 6, "Engineered Safety Features"

1. Added the results of the containment steam line break analysis for Unit 1 Cycle 16 and Unit 2 Cycle 14. (CN-2964) [6.2.1, Tables 6.2.1.1-14A, 6.2.1.1-15A, 6.2.1.4-1A, 6.2.1.4-2A, Figures 6.2.1.1-25A, 6.2.1.1-27A, 6.2.1.1-28A, 6.2.1.1-29A.]
2. Revised to indicate design for the sump is also per NRC Generic Letter 2004-02 as described and to list revised Net Positive Suction Head values. (CN-2818) [6.2.2, Table 6.2.2-4 and Table 6.3-1]
3. Revised Containment Penetration figure to change the Unit 1 Chemical and Volume Control System (CVCS) low pressure letdown isolation test valve from bellows sealed type to packed type globe valve. (CN-2899) [Figure 6.2.4-1 Sheet 53 of 100]
4. Revised to reflect replacement of the Safety Injection test header air operated valves with manual valves. (CN-2982) [Table 6.3-13]
5. Removed reference to spiral wound asbestos gasket and added replaced with fillers that do not contain asbestos. (CN-2960) [6.3.2] {NEI 98-03}
6. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [6.4.1, 6.4.4, Reference 6.4-4, Table 6.4-2, 6.5.1, 6.5.2]
7. Added clarification regarding the role of Essential Chilled Water in maintaining Control Room Envelope HVAC cleanup filtration efficiencies. (CN-2910) [6.4.4]
8. Added information to allow the use of risk-informed technology in determining the number of ASME Section XI Inservice Inspection Program augmented piping inspections in the break exclusion zone of high energy piping. (CN-2894) [6.6.8]
9. Updated to reflect compliance with the latest edition of the ASME Section XI Code requirements. (CN-2969) [6.6]

Chapter 7, "Instrumentation and Controls"

1. Incorporated information resulting from NRC approved License Amendments 182 and 169 Alternate Source Term. (CN-2897) [7.3.1, 7.3.3]

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2. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2902) [7.3.1]
3. Editorial Corrections (CN-2936) [7.5.6] {NEI 98-03}
4. Updated information regarding the location of the new Emergency Operations Facility. (CN-2963) [7.4.1, 7.5.7, 7A.S.8, Figure 7A.S.8-5, Figure 7A.S.8-6]
5. Replaced 7.5 kVa inverters with 10kVa inverters in channels I-IV, replaced 30 kVa inverters with 20 kVa inverters in DP 001 and DP 002, replaced 15 kVa inverters with 10 kVa inverters in channels II and III. (CN-2923) [7.6.1] {NEI 98-03}
6. Replaced wide range Reactor Coolant System pressure transmitters. (CN-2924) [7.6.2, Table 7.6-1, Table 7.1-1]
7. Clarified description of the AMSAC-20 setpoints. (CN-2980) [7.8.1]
8. Revised location of the new Emergency Operations Facility for consistency with the Emergency Plan. (CN-2987) [7A.S.8] {NEI 98-03}
9. Added a note for Unit 1 regarding the Core Exit Thermocouples due to the new reactor vessel head.(CN-2985) [Figure 7A.II.F.2-1]
10. Updated information to incorporate changes resulting from Part 26, Subpart I, "Fatigue Management" rule. (CN-2966) [Appendix 7A I.A.1.3]
11. Changed the title "Shift Supervisor" to "Shift Manager". (CN-2988) [Appendix 7A I.A.1.1, I.A.1.2, I.A.2.1, I.C.3, I.C.6, Table S.8-2] {NEI 98-03}

Chapter 8, "Electric Power"

1. Revised to reflect disconnected pressurizer heaters in Unit 1. (CN-2908) [Table 8.3-14]
2. Replaced 13.8 KV and 4.16 KV Transformers. (CN-2914) [8.3.1]
3. Replaced 7.5 kVa inverters with 10kVa inverters in channels I-IV, replaced 30 kVa inverters with 20 kVa inverters in DP 001 and DP 002, replaced 15 kVa inverters with 10 kVa inverters in channels II and III. (CN-2923) [8.3.1, Table 8.3-13, Removed Figure 8.3-15] {NEI 98-03}

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Chapter 9, "Auxiliary Systems"

1. Added information regarding an underperforming impeller on a Spent Fuel Pool pump. (CN-2979) [Table 9.1-2] {NEI 98-03}
2. Added reference to NRC correspondence and station procedures for the Control of Heavy Loads Program. (CN-2919) [9.1.4, References 9.1-1 and 9.1-2] {NEI 98-03}
3. Revised descriptive information related to the makeup capability for the Essential Cooling Pond. (CN-2974) [9.2]
4. Revised failure effects for Component Cooling Water Surge Tank Level Switches. (CN-2945) [Table 9.2.2-3]
5. Changed the Essential Cooling water pumps net positive suction head to 7.0 feet over suction bowl lip. (CN-2947) [Table 9.2.1-1]
6. Removed the Essential Cooling Pond makeup pumps. (CN-2958) [9.2.5]
7. Updated information regarding the location of the new Emergency Operations Facility. (CN-2963) [9.2.4.2, 9.5.2, 9.5.3]
8. Editorial corrections. (CN-2988) [9.5.1, 9.5.2] {NEI 98-03}
9. Removed "Outlet" from Circulating Condenser Outlet Water Boxes. (CN-2942) [Table 9.3-3] {NEI 98-03}
10. Editorial corrections to drawing numbers. (CN-2956) [Table 9.3-14] {NEI 98-03}
11. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [9.1.2.1, 9.1.3, 9.3.2, 9.4.1, 9.4.2, Tables 9.4-5.1 and 9.4-5.2]
12. Revised refueling activities related to a potential drop of the reactor vessel head. (CN-2895) [9.1.4]
13. Replaced Essential Cooling Water pumps with a product lubricated bearing design and removed water piping and instruments from service. (CN-2911) [9.2.1]
14. Revised to allow addition of a soluble zinc compound, zinc acetate dehydrate to the reactor coolant during normal operations. (CN-2905, CN-2909) [9.3.4]
15. Added clarification regarding the role of Essential Chilled Water in maintaining Control Room Envelope HVAC cleanup filtration efficiencies. (CN-2910) [9.4.1]

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16. Removed the capacity of the fuel oil storage tank. (CN-2904) [9.5.4] {NEI 98-03}
17. Updated information to accurately reflect the title "Manager, Quality". (CN-2968) [9.5.1] {NEI 98-03}

Chapter 10, "Steam and Power Conversion System"

1. Revised to permit a manual operator action to close the steam release path to the moisture separator reheater temperature control valves in the event of a loss of power to the controller of the valves or loss of instrument air. (CN-2961) [Table 10.3-1]
2. Removed reference to Feedwater Heater terminal temperature difference and drain cooler approach. (CN-2898) [10.4.7] {NEI 98-03}
3. Revised the nominal low limit of feedwater inlet temperature. (CN-2973) [10.4] {NEI 98-03}

Chapter 11, "Radioactive Waste Management"

1. Added instruments to monitor flow during erratic indication from control valve. Also added an alternate control valve. (CN-2858, CN-2921) [Table 11.3-6]

Chapter 12, "Radiation Protection"

1. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [12.3.2, 12.3.3, Table 12.3.2-2]
2. Removed radiation area monitor and building ventilation monitors in the old Emergency Operations facility. (CN-2963) [Table 12.3.4-1, Table 12.3.4-2]

Chapter 13, "Conduct of Operations"

1. Updated Plant Manager's responsibilities. (CN-2922) [13.1.2]
2. Changed the title "Shift Supervisor" to "Shift Manager". (CN-2988) [13.1.2, Figure 13.1-2, 13.2.1, 13.5.1] {NEI 98-03}

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3. Updated information to incorporate changes resulting from Part 26, Subpart I, "Fatigue Management" rule. (CN-2966) [13.5.1] {NEI 98-03}
4. Updated method of assessing Risk Achievement Worth values consistent with NEI 00-04. (CN-2959) [13.7.2] {NEI 98-03}

Chapter 14, "Initial Test Program"

1. Replaced 7.5 kVa inverters with 10kVa inverters in channels I-IV, replaced 30 kVa inverters with 20 kVa inverters in DP 001 and DP 002, replaced 15 kVa inverters with 10 kVa inverters in channels II and III. (CN-2923) [14.2.12] {NEI 98-03}
2. Changed the title "Shift Supervisor" to "Shift Manager". (CN-2988) [14.2.2] {NEI 98-03}

Chapter 15, "Accident Analyses"

1. Revised Response Time for Power Range Neutron Flux High Positive Rate Reactor Trip. (CN-2977) [Table 15.0-4]
2. Revised UFSAR to reflect operator action to close the steam generator power operated relief valves. (CN-2989) [15.0.8.3, Reference 15.0-16] {NEI 98-03}
3. Correction of an inconsistency between assumption #11 in Section 15.1.5.3 and footnote 1 on Table 15.1-2. (The footnote is correct) (CN-2903) [15.1.5 and Table 15.1-2] {NEI 98-03}
4. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [15.1.4.4, 15.1.5.3, 15.1.5.4, Reference 15.1-10, Table 15.1-2, Table 15.1-3, 15.3.3.3, Reference 15.3-4, Tables 15.3-3, 15.3-4, 15.3-5, Section 15.4.8, Reference 15.4-15, Tables 15.4-4, 15.4-5, 15.4-6, 15.4-7, 15.4-8, 15.4-9, Sections 15.6.2, 15.6.3, 15.6.5, References 15.6-30, 15.6-31, 15.6-32 and 15.6-33, Table 15.6-3 through 15.6-25, Section 15.7.4, Tables 15.7-7, 15.7-8, 15.7-9, 15.7-10, 15.7-11, 15.7-12, 15.7-13, Appendix 15A, Appendix 15B, Appendix 15C, Appendix 15D]
5. Revised the maximum reactor coolant system pressure for the locked rotor event. (CN-2962) [Table 15.3-2]

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6. Incorporated information for the Unit 1 replacement reactor vessel head, control rod drive mechanism, drive rod position indication and core exit thermocouple cables. (CN-2985) [15.4.8]
7. Updated to reflect NRC approved License Amendments 189 and 177 for Limiting Condition of Operation for loss of both extended range Neutron Flux Instrumentation. (CN-2938) [15.4.4, 15.4.6.2] {NEI 98-03}
8. Updated to reflect the current Steam Generator Tube Rupture overflow analysis. (CN-2932) [15.6.3, Figure 15.6-4]
9. Updated to add information regarding the current Steam Generator Tube Rupture overflow analysis. (CN-2970) [15.0.8, Reference 15.0-15, Table 15.0-6, 15.6, Table 15.6-3A, Table 15.6-3B, Table 15.6-3C]
10. Deleted discussion concerning NSAL 06-15. (CN-2981) [15.6.3]
11. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2902) [15.7.4]
12. Added clarification regarding the role of Essential Chilled Water in maintaining Control Room Envelope HVAC cleanup filtration efficiencies. (CN-2910) [15D 2.2, Table 15.D-7]

Chapter 16. "Technical Specifications"

1. Corrected the Unit 1 Capsule V EFPY and Unit 2 Capsule Y and U EFPY at the time of removal. Deleted surveillance capsule removal schedule for W and Z. (CN-2957) [Table 16.1-2] {NEI 98-03}
2. Revised Response Time for Steam Generator Water Level – High-High for a turbine trip. (CN-2913) [Table 16.1-4]
3. Revised Response Time for Power range Neutron Flux High Positive Rate Reactor Trip. (CN-2977) [Table 16.1-3]
4. Incorporated information resulting from NRC approved License Amendments 182 and 169 for Alternate Source Term. (CN-2897) [Table 16.1-4]

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Response to NRC Questions

Chapter 3

1. Editorial Corrections (CN-2936) [210.61N, 423.22, 640.8N] {NEI 98-03}
2. Deleted 250.3N due to withdrawal of Regulatory Guide 1.150 (CN-2940) [250.3N] {NEI 98-03}

Chapter 5

1. Incorporated information for the Unit 1 replacement reactor vessel head, control rod drive mechanism, drive rod position indication and core exit thermocouple cables. (CN-2985) [122.7]
2. Deleted NRC Question and Response. (CN-2940) [250.3N] {NEI 98-03}

Chapter 7

1. Replaced 7.5 kVa inverters with 10kVa inverters in channels I-IV, replaced 30 kVa inverters with 20 kVa inverters in DP 001 and DP 002, replaced 15 kVa inverters with 10 kVa inverters in channels II and III. (CN-2923) [032.42] {NEI 98-03}

Chapter 8

1. Mark as Historical. (CN-2951) [430.10N, Figure Q430.10N-1] {NEI 98-03}

Chapter 9

1. Revised to remove excessive detail regarding the emergency lighting system. (CN-2941) [430.81N] {NEI 98-03}

Chapter 15

1. Deleted NRC question and response. (CN-2970) [211.52, 312.9]