



Public Service
Electric and Gas
Company

E. C. Simpson
Senior Vice President - Nuclear Engineering

Public Service Electric and Gas Company P.O. Box 236, Hancocks Bridge, NJ 08038 609-339-1700

DEC 28 1995
LR-N95247

United States Nuclear Regulatory Commission
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**UPDATED FINAL SAFETY ANALYSIS REPORT, INTERIM REVISION 7
HOPE CREEK GENERATING STATION
DOCKET NO. 50-354**

Revision 7 to the Hope Creek Updated Final Safety Analysis Report (UFSAR) is hereby submitted in accordance with a corrective action committed to in Public Service Electric and Gas Company's letter, LR-N95139, in response to Notice of Violation (NOV), 50-354/95-10. As discussed in the NOV and response, certain changes to the UFSAR were not incorporated during previous UFSAR revisions as required by 10CFR50.71(e).

UFSAR Revision 7 is an interim submittal which includes UFSAR changes to the text, tables, and figures that were part of the NOV-identified backlog of changes which should have been included in previous UFSAR revisions and which are required to reflect current plant configuration. The backlog changes included in Revision 7 are those plant configuration changes which were implemented prior to April 22, 1994, six months prior to the date of filing of Hope Creek's last UFSAR update, Revision 6. A brief summary and explanation of each change is provided in Attachment 1.

In addition to the backlog UFSAR changes, Revision 7 also includes current cycle UFSAR changes that were approved as of December 1, 1995. However, because Revision 7 is an interim revision intended primarily for backlog incorporation, it does not reflect all plant configuration changes implemented up to six months prior to the date of this submittal. This 10CFR50.71(e) requirement will be satisfied by submittal of the regularly scheduled UFSAR update, Revision 8, for Hope Creek currently planned for August, 1996.

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Should there be any questions with regard to this submittal,
please do not hesitate to contact us.

Sincerely,



Attachment (1)

C (Document Control Desk - Original & ten copies)

Mr. T. T. Martin, Administrator - Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. D. Jaffe (**Cover letter only**)
Licensing Project Manager - Hope Creek
U. S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 14E21
Rockville, MD 20852

Mr. R. Summers (X24)
USNRC Senior Resident Inspector - Hope Creek

Mr. Kent Tosch, Manager, IV
Bureau of Nuclear Engineering
33 Arctic Parkway
CN 415
Trenton, NJ 08625

STATE OF NEW JERSEY)
)
COUNTY OF SALEM) SS.

E. C. Simpson, being duly sworn, states that he is Senior Vice President - Nuclear Engineering of Public Service Electric and Gas Company, that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this certification; and that in accordance with 10CFR50.71(e)(2), the information contained in the attached letter and Updated Final Safety Analysis Report accurately presents changes made since the previous submittal, necessary to reflect information and analyses submitted to the Commission or prepared pursuant to Commission requirement, and contains an identification of changes made under the provisions of 10CFR50.59 but not previously submitted to the Commission.

E C Simpson

Subscribed and Sworn to before me
this 28 day of December, 1995

Elizabeth J. Kidd
Notary Public of New Jersey

ELIZABETH J. KIDD
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 25, 2000

My Commission expires on _____

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ATTACHMENT 1

Summary of Hope Creek UFSAR Revision 7 changes

Hope Creek UFSAR Changes

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Page 1

| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|---------------------------------|---|---|
| 1.2, 9.5, 11.4, 12.2, 12.3, 3.4 | 1.2-18, 9.5-29, 11-ii, 11.4-3, 11.4-16, 12-xvi, 12.2-13, 12.3-15, 12.3-19, 12.3-33, T9.5-2 Sht 4 of 8, T9.5-3 Sht 4 of 5, T12.2-145 F1.2-1, F3.4-3 Sht 4 of 4, F9.5-15, F9.5-19 | Adds Low Level Radwaste Storage Facility |
| 1.8 | 1.8-119, 1.8-120 | Deletion of Commitment to Install a Category 1 System for Post-Accident Neutron Monitoring Per Regulatory Guide 1.97. |
| 1.8, 1.12, 14.2 | 14.2-208, 1.8-157, 1.12-17 thru 20 | Station Blackout Incorporation |
| 1.8, 9.5 | 1.8-147, 9.5-118, -121, -125 | Raises the Alarm Level and the Transfer Pump Start Level of the Emergency Diesel Generator Day Tanks |
| 1.8 | 1.8-133 | Make additional exception to Reg. Guide 1.108, Emergency Diesel Generator Testing, to Incorporate Amendment 72. |
| 1.10 | 1.10-59 | Clarifies the Discussion Concerning the High Pressure Coolant Injection Torus Suction Isolation Valve to Maintain Consistency |
| 1.10 | 1.10-11 | Clarifies Operations Shift Manning |
| 1.10, 6.2 | 1.10-115, 6.2-89, -119, -120, -123, -124, -126; T6.2-22 Shts 1&2 of 3 | Clarifies the Performance of Leakage Reduction Tests during Containment Integrated Leak Rate Test |
| 1.14 | 1.14-50 | Adds Vessel Level Sensing Line Backfill |
| 2.3 | 2.3-36; T2.3-29 Sht 1,2&3 of 3 | Reduce Detail in UFSAR for Meteorological Instrumentation Equipment |
| 3.3 | T3.3-2 Sht 2 of 2 | Correction for Filtration Recirculation Ventilation System Location |
| 3.4 | F3.4-3, Sht 1 of 4 | Update of Finish Grade and Drainage Plan |

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| Affected Sections | Affected Pages/ Tables/Figures | Description |
|-------------------|---|---|
| 3.6 | T3.6-22 Sht 1 of 2 | Revises Low Pressure Coolant Injection Piping Stress Levels due to Snubber Reduction Program |
| 3.6 | T3.6-14 | Revises Reactor Core Isolation Cooling Piping Stress Levels due to Snubber Reduction Program |
| 3.6 | T3.6-23 | Revises Core Spray Piping Stress Levels due to Snubber Reduction Program |
| 3.6 | T3.6-3, 3.6-17 Sht 1 of 2 F3.6-27 Sht 1&2 of 2 | Revises Main Steam Drain Piping Stress Levels due to Snubber Reduction Program |
| 3.6 | T3.6-22 | Revises Low Pressure Coolant Injection Piping Stress Levels due to Snubber Reduction Program |
| 3.6 | T3.6-10 | Revises Reactor Water Cleanup Piping Stress Levels due to Snubber Reduction Program |
| 3.6, 3.2, 3.9 | T3.6-2, T3.2-3, T3.6-6, T3.6-6A, T3.6-20, T3.6-21, T3.6-27, T3.9-4h, T3.9-4g, T3.9-4k Shts 1,2,3&4 of 4, T3.9-5e Shts 1&2 of 2, T3.9-5f, T3.9-4l Shts 1-7 of 7 F3.6-10 Sht 2 of 2, F3.6-30, F3.6-31 Shts 1&2 of 2, F3.6-37 | Snubber Reduction Project for: Safety Relief Valve Lines D, H, M, Main Steam Line A, B, C, D, Loop A, B, C, D, Safety Relief Valve Lines A, B, C, E, G, J, L, R, Recirc Loop A, Residual Heat Removal Loop A, B Systems |
| 3.6, 9.2 | 9.2-8,-35,-51, T3.6-28, T 9.2-9 Shts 1&2 of 2 | Reflects Change to Maximum Ultimate Heat Sink Operability Temperature |
| 3.10, 8.3 | T3.10-3 Sht 5 of 5, T8.3-7a Sht 1&2 of 2, T8.3-7b Sht 1&2 of 2, T8.3-7c Sht 1&2 of 2, T8.3-7d Sht 1&2 of 2 F 8.3-8 | Elimination of Topaz Inverter from Emergency Core Cooling System and Reactor Core Isolation Cooling Circuitry, also ECCS Leak Detection System Modification |
| 3.11 | 3.11-9,-10 | Change for Safety & Non-safety Related Mechanical Equipment Qualification |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|--------------------------|--|--|
| 4.1, 4.2, 4.3, 4.4, 4.6 | 4.1-2, -20, 4.2-1, -2, 4.3-4, 4.4-10, 4.6-26, -45 | Add description of ABB Control Rods |
| 5.4, 6.3 | 5.4-46, -47, -48, -52 F5.4-13 Sht. 2 of 2, F6.3-12 Shts 1,2,3 of 3 | Addition of Residual Heat Removal Crosstie Flowpath |
| 5.4 | T5.4-3 | Correct the Minimum Available Net Positive Suction Head for the Reactor Water Cleanup Main Cleanup Recirculation Pumps |
| 5.4 | T5.4-3 | Correct the Shell Side Design Pressure for the Non-regenerative Heat Exchanger |
| 5.4 | F5.4-20 | Reactor Water Clean-up System Filter Demineralization - Replacement of Table Information |
| 6.2 | T6.2-30 pg 7 of 9 | Revised Primary Containment Penetration Leak Rate Testing for Penetration P219 |
| 6.2 | 6.2-119, 6.2-122, 6.2-123; T6.2-22 Sht 2 of 3; T6.2-23 | Clarify the Monitoring of the Control Rod Drive Line Leakage During the Primary Containment Integrated Leak Rate Test, Several Other Changes Related to Type A Testing |
| 6.2 | 6.2-50, 6.2-51, 6.2-52 | Correction of Testing Requirements for Several Containment Isolation Valves |
| 6.2 | F6.2-27, Shts 1,2,5,6,8,13,15,22,30,35,38 of 49 | Corrected Errors in Existing Figures for Containment Penetrations. |
| 6.2 | 6.2-89, -126 | Increase of Hydrostatic Test Pressure for Containment Isolation Valves Provided with Water Seal from the Suppression Pool |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|---|--|--|
| 6.2 | 6.2-127, T6.2-16 Shts 6,7&8 of 33, T6.2-24 Shts 3,4,5&17 of 17, T6.2-25 | Elimination of Type C Leak Rate Test for Containment Isolation Valves in Certain Primary Penetrations that Terminate Below the Min Water Lvl in Torus Reclassified HPCI and RCIC Turbine Exhaust Vacuum Breaker Network Associated with Cont. Pent. P204 |
| 6.3 | 6.3-46, -50 | Revised Surveillance Test Interval and Out-of-Service Times for Emergency Core Cooling System and Reactor Core Isolation Cooling per License Amendment 62 |
| 7, 7.1, 7.7 | 7-xiii, 7.1-8,-9,-10, 7.7- 34,-35,-36,-37,-38,-39,- 40 | Deleted section that discussed Sensing Line Failures concurrent with a Single Electrical Failure. Section is no longer applicable. Feedwater Control System was also revised. Changes made to reflect the Installation of the Digital Feedwater System |
| | DELETE F7.7-7 | |
| 7.1 | 7.1-23, T7.1-2 | Corrected the revision date for Regulatory Guide 1.29 Revision 3 |
| 7.3 | F7.3-52 | Revision to Correctly Indicate Hydrogen Recombiner System Trips |
| 7.3, 7.2, 3.1, 15.2, 15.4, 15.9, 15A, 11.5, 1.2 | 1.2-27; 3.1-27; 7.2-15,- 16,-19; 7.3-24, 11.5- 11,-12; 15.2-17,15.9- 66,15-vi,xv,xvi;15.4- 18,-19,-20,-21,-22,-23,- 24,-25,-26; 15A-1 thru 14,19 thru 21,24; T7.2- 1 Sht 1 of 2, T7.2-2, T7.3-6 Sht 1&2 of 2, T11.5-2, T15.0-2, T15.4-6 thru T15.4-16 F15.9-41, F15.4.4 | Eliminated the Main Steam Line Radiation Monitor Initiated Scram and Main Steam Isolation Valve and Main Steam Line Drain Valve Closure per Tech Spec Amendment 53 |
| 7.5 | T7.5-1 | Make Corrections to Safety Parameter Display Table |
| 7.5 | 7.5-18,-23,-24 | Incorporate License Amendment 73, Relocation of Loose Parts Detection System from the Tech Specs to the UFSAR |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|--------------------------|---|--|
| 7.5 | T7.5-1, Shts 1,2,3,4,5,6,7,10,11,12,13,15,16,17,19,20 | Make Corrections to Safety Parameter Display Table |
| 7.6 | 7.6-4, 7.6-37 F7.6-11 | Make Correction to Low Pressure Coolant Injection Valve Setpoint of Pressure Indicating Switch PIS-N658 |
| 8.2 | 8.2-10 | Add Description of Manual Trip-A-Unit Interlock Related to Hope Creek Keeney and Salem Deans 500KV Lines to Maintain Transmission System Stability |
| 8.2, 8.3 | 8.2-11, 8.3-2, 8.3-7 | Corrects Description of External Distribution System Breaker Arrangement |
| 8.3 | 8-viii, T8.3-11 (deleted) F8.3-15 | Degraded Grid Voltage Analysis - Deletes Table of Bus Voltages. Values Have Been Recalculated and Are Now Controlled in the Calculation |
| 9.1 | 9.1-62 to 64,-71,-81,-84,-124,-124a, T9.1-6 Sht 1 of 2, T9.1-12 Sht 4 of 9, T9.1-14 Sht 1 of 2, T9.1-21 Shts 1&2 of 3 F9.1-32 Sht 11 of 13 | Allows the use of a Circular Nut Rack when Detensioning the Reactor Pressure Vessel Head |
| 9.1 | 9.1-80 F9.1-32 Sht 3 of 13 | Expands Spent Fuel Pool Slot Plug Laydown Area & Safe Load Path |
| 9.1, 5.4 | 5.4-47, 9.1-42, T9.1-1 Sht 2 of 4 | Modification to the Spent Fuel Pool Heat Exchangers |

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| Affected Sections | Affected Pages/ Tables/Figures | Description |
|-------------------|--|---|
| 9.1, 9A, 3.2, 1.2 | 9.1-61,-62,-63,-64,-65,- 70,-78,-81,-82,-82a,- 83,-84,-88,-91,-93,- 94,-125 T3.2-1 Sht 9 of 42, T9.1-4 Sht 2 of 3, T9.1-6 Sht 1 of 2, T9.1-14 Sht 1 of 2, T9A-1 Sht 36 of 55 F1.2-32, F9.1-16 sht 1&2 of 2, F9.1-17, F9.1-32 Sht 1 of 13 | Revision to Include REM*Light Wet Transfer Equipment During Reactor Refueling Activities |
| 9.1 | 9.1-124, -124a, T9.1- 12 Sht 2&3 of 9, T9.1- 21 Sht 2&3 of 3 | Lift of RPV Head Insulation Package using Kevlar Sling Arrangement and Polar Crane Auxiliary Hook to Reduce Time Spent in Reactor Cavity |
| 9.1, 6.2 | 9.1-22,-25,-26,-27,- 29&-30, 6.2-90 | Revises the Minimum Allowable Temperature in the Spent Fuel Pool to 40 degrees F |
| 9.2 | 9.2-4 | Clarify Conditions Under Which Station Service Water Lubrication Water Storage Tanks Operate |
| 9.2 | 9.2-49 | Deletes the Use of Sodium Nitrate as a Reactor Auxilliary Cooling System Corrosion Inhibitor |
| 9.2 | 9.2-16, T9.2-4 Shts 1&2 of 2 | Addition of Auxilliary Boiier Condensate Coolers |
| 9.2 | 9.2-16 | Delete Reference to Use of Sodium Nitrite as a Corrosion Inhibitor for Safety Turbine Auxilliary Cooling System. |
| 9.2 | 9.2-41, -42, -46; T9.2- 6 Sht 1 of 2, T9.2-7, T9.2-8 | Describes the Corrosion Control Methodology Used for the Chilled Water System |
| 9.3 | 9.3-38, -39, -42, T9.3- 8 Sht 1&2 of 2 | Designation of Radioactive Drains and Non-radioactive Drains |
| 9.3 | 9.3-33 | Deletes pressure value for nitrogen gas supply for Post Accident Sample Pat. ⁶¹ |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|--------------------------|---|---|
| 9.4 | 9.4-29 | Revise Reactor Building Ventilation System Exhaust System Isolation Closure Time Per License Amendment 6 |
| 9.5 | 9.5-79 | Provide Explanation Why a Dedicated Audible Fire Alarm System Is Not Provided |
| 9.5 | 9.5-60 | Revision Reflects use of National Fire Codes for Testing and Inspection |
| 9.5 | 9.5-28 | Delete Repetitive Description of Fire Pump Testing |
| 9.5 | 9.5-37, 9.5-47 | Reflects the Replacement of Adjustable Pressure Restricting Valves on Fire Hose Stations with Non-Pressure Reducing Globe Valves |
| 9.5 | 9.5-95 | Add Standards for Noncombustible Coatings. |
| 9.5, 9A | 9.5-89,-90, T9A-1 Sht 47 of 55, T9A-61 Shts 1,2&4 of 4 | Update Fire Loads in Control Room Areas for Carpeting. |
| 9.5, 10.4, 11.3 | 9.5-8, 10.4-38, 11.3-3, T9.5-3 Sht 1 of 5 | Installs Hydrogen Water Chemistry, Hydrogen/Oxygen Injection System to Control Intergranular Stress Corrosion Cracking |
| 9, 9A | 9-xxiia, 9Aiii, 9A-86 thru 88, T9A-103, T9A-104 Shts 1-5 of 5 | Revises Structural Steel Fireproofing Plan and Deletes Tables with Redundant Information |
| 9A, 6A, 6.2 | 6A-1 thru 20, T6A-1 page 2 of 2, T6A-2, T6.2-30, T9A-1 Pages 25&31 of 55, T9A-8 Pages 1&22 of 26, T9A-10, Pages 1, 2 & 7 of 11 F6.2-29 | Revision for Replacement of Several Containment Atmosphere Control Valves and a Complete Rewrite of Appendix 6A-Primary containment Negative Pressure Design Evaluation |
| 9A | T9A-1 Sht 31 of 55, T9A-9 Shts 1&25 of 27 | Addition of Temporary Reactor Recirc Pump Vibration Monitoring |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|--------------------------|--|--|
| 9A, 6.3 | 6.3-50, T9A-1 Shts 38 thru 48 of 55, 9A-32 thru 9A-35 | Correct Cable Chase Combustible Loadings |
| 9A | T9A-1, Shts 17,39,40&48 of 55, T9A-15 Shts 3&4 of 7, T9A-62 | Updated to Indicate Combustible Load Contributions for Security Equipment Cabinets |
| 9A | T9/ -25 Sht 4 of 9 | UFSAR Table 9A-25 editorial changes. |
| 9A | T9A-12 Sht 8 of 42, T9A-1 Sht 32 of 55 | Revise the Fire Hazard Analysis for Feedwater Pump Lubricating Oil in Room 4408 |
| 9A | T9A-15 Sht 7 | Revises the Fire Hazard Analysis Table for Penetration Seals in Room 3301A |
| 9A | T9A-1 Shts 31&32 of 55, T9A-8 Shts 1,22&26 of 26, T9A-12 Shts 1,8,9&9A of 42 F9A-34, -35 | Corrections and Update of Fire Hazard Analysis for Areas RB1 and RB5 |
| 9A | T9A-1 Sht 15 of 55 | Revise the Fire Hazard Analysis for Room 3418, 3419 Carpeting |
| 9A | 9A-21 | Revision to Address Fire Loads for Fiberglass Ladders |
| 9A | 9A-38, T9A-1 Shts 8,9,11,37,39,40,43&46 of 55, T9A-15 Shts 1,2,3,4,5,6&7 of 7 | Corrections and Update of Fire Hazard Analysis for Area AB2 |
| 9A, 6.2 | T9A-1 Sht 31&32 of 55, T9A-10 Sht 1,6&9 of 11, T9A-12 Sht 1&2 of 42, T6.2-30 Sht 6 of 9 | Reflects a Change in Combustible Loading Due to the Replacement of Isolation Valves in the Containment Atmospheric Control System. |
| 10.2 | F10.2-11 | Modify Electro-Hydraulic Control Bypass Valve Control Logic |
| 11.2 | 11.2-10, T11.2-10 Sht 4 of 5 | Organic Polymer Pleated Filter Elements to be used in the Liquid Radwaste Equipment Drain Filter |

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| <u>Affected Sections</u> | <u>Affected Pages/ Tables/Figures</u> | <u>Description</u> |
|--------------------------|---|--|
| 11.4 | 11.4-13,11.4-14 | Upgrade of Closed Circuit Television System Used to Observe the Solid Radwaste Packaging and Drum Handling. |
| 11.4 | 11.4-7 | Change in Chemical Treatment of Liquid Waste Management System |
| 11.4 | 11.4-6 | Liquid Radioactive Waste System Crystallizer - Addition of Resin Regeneration Note |
| 11.5 | 11.5-8,-9,-14 | Modified the Plant Annunciator System Description by eliminating the Main Control Room Annunciators that are continuously alarmed |
| 12.2 | T12.2-133 Sht 4 of 6 | Changed Extraction Steam Piping Specification |
| 13.1 | 13.1-33 | License Amendment #56; Clarifications to Unit Staff Qualifications |
| 13.1, 17.2 | 13.1-26, 13.1-27, 17.2-21 | Title Changes for Technical Department System Engineers to System Managers |
| 15 T.O.C., 15.1 | 15-ii, 15.1-19 | Correct Typographical Error, BWR to PWR. |
| 17.2 | 17.2-1,-2,-4 thru -8a,-12,-13,-14,-15,-17,-21,-23,-25,-29,-30,-36,-40,-42 | Change Selected Oversight Practices of QA Organization to More Effectively Monitor Implementation of the Nuclear Department Procedure System |

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