Docket

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

August 21, 1992

Docket Nos. 50-498
and 50-499

Mr. Donald P. Hall
Group Vice-President, Nuclear
Houston Lighting & Power Company
P. O. Box 1700
Houston, Texas 77251

Dear Mr. Hall:

SUBJECT: ISSUANCE OF AMENDMENT NOS. 42 AND 31 TO FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80 - SOUTH TEXAS PROJECT, UNITS 1 AND 2 (TAC NOS. M81749 AND M81750)

The Commission has issued the enclosed Amendment Nos. 42 and 31 to Facility Operating License Nos. NPF-76 and NPF-80 for the South Texas Project, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated October 30, 1990 (ST-HL-AE-3378), as supplemented by letter dated September 25, 1991 (ST-HL-AE-3879).

The amendments change the Appendix A Technical Specifications by replacing TS 3/4.6.2.2 "Spray Additive System" with a new specification entitled "Recirculation Fluid pH Control System" to be consistent with a plant modification that eliminates the containment spray additive system for both units.

The September 25, 1991, letter informed the staff that the proposed modifications related to the TS change would be made to Unit 2 during the second refueling outage (which was completed in December 1991) and to Unit 1 during its fourth refueling outage (which is scheduled to begin in September 1992). By amendments 30 (Unit 1) and 21 (Unit 2) to the licenses (October 24, 1991) the TS reflected the differences in the two units. With these new amendments the TS reflect the removal of the spray additive system and the addition of the Recirculation Fluid pH Control System for Unit 1.

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A copy of the Safety Evaluation supporting the amendments is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Original Signed By

George F. Dick, Jr., Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 42 to NPF-76
2. Amendment No. 31 to NPF-80
3. Safety Evaluation

cc w/enclosures:
See next page

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cc w/enclosures:
Mr. J. Tapia
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 910
Bay City, Texas 77414

Mr. J. C. Lanier/M. B. Lee
City of Austin
Electric Utility Department
P. O. Box 1088
Austin, Texas 78767

Mr. K. J. Fiedler
Mr. M. T. Hardt
City Public Service Board
P. O. Box 1771
San Antonio, Texas 78296

Mr. D. E. Ward
Mr. T. M. Puckett
Central Power and Light Company
P. O. Box 2121
Corpus Christi, Texas 78403

INPO
Records Center
1100 Circle 75 Parkway
Atlanta, Georgia 30339-3064

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Mr. Joseph M. Hendrie
50 Bellport Lane
Bellport, New York 11713

Judge, Matagorda County
Matagorda County Courthouse
1700 Seventh Street
Bay City, Texas 77414

Mr. William J. Jump
Manager, Nuclear Licensing
Houston Lighting and Power Company
P. O. Box 289
Wadsworth, Texas 77483

Jack R. Newman, Esq.
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, D.C. 20036

Licensing Representative
Houston Lighting and Power Company
Suite 610
Three Metro Center
Bethesda, Maryland 20814

Bureau of Radiation Control
State of Texas
1101 West 49th Street
Austin, Texas 78756

Rufus S. Scott
Associate General Counsel
Houston Lighting and Power Company
P. O. Box 61867
Houston, Texas 77208

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NO. 50-498

SOUTH TEXAS PROJECT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 42
License No. NPF-76

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Houston Lighting & Power Company* (HL&P) acting on behalf of itself and for the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and City of Austin, Texas (COA) (the licensees) dated October 30, 1990, as supplemented by letter dated September 25, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

* Houston Lighting & Power Company is authorized to act for the City Public Service Board of San Antonio, Central Power and Light Company and City of Austin, Texas and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-76 is hereby amended to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendix A, as revised through Amendment No. 42, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and is to be implemented prior to restart from the fourth refueling outage for Unit 1 (IRE04).

FOR THE NUCLEAR REGULATORY COMMISSION

Suzanne C. Black, Director
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 21, 1992

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NO. 50-499

SOUTH TEXAS PROJECT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 31
License No. NPF-80

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Houston Lighting & Power Company* (HL&P) acting on behalf of itself and for the City Public Service Board of San Antonio (CPS), Central Power and Light Company (CPL), and City of Austin, Texas (COA) (the licensees) dated October 30, 1990, as supplemented by letter dated September 25, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

* Houston Lighting & Power Company is authorized to act for the City Public Service Board of San Antonio, Central Power and Light Company and City of Austin, Texas and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. NPF-80 is hereby amended to read as follows:

   2. Technical Specifications

      The Technical Specifications contained in Appendix A, as revised through Amendment No. 31, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. The license amendment is effective as of its date of issuance and is to be implemented prior to restart from the fourth refueling outage for Unit 1 (IRE04).

FOR THE NUCLEAR REGULATORY COMMISSION

Suzanne C. Black, Director
Project Directorate IV-2
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 21, 1992

ATTACHMENT TO LICENSE AMENDMENT NOS. 42 AND 31

FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

DOCKET NOS. 50-498 AND 50-499

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
3/4 6-15	3/5 6-15
3/4 6-17	3/4 6-17
3/4 6-18	3/4 6-18
3/4 6-19	3/4 6-19
3/4 6-20	
3/4 6-21	
B 3/4 6-4	B 3/4 6-4

RECIRCULATION FLUID PH CONTROL SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.6.2.2 The recirculation fluid pH control system shall be operable with between 11,500 lbs. (213 cu. ft.) and 15,100 lbs (252 cu. ft.) of trisodium phosphate (w/12 hydrates) available in the storage baskets in the containment.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With less than the required amount of trisodium phosphate available, restore the system to the correct amount within 72 hours or be in at least HOT STANDBY within the next 6 hours; restore the system to the correct amount within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 During each refueling outage, as a minimum, the recirculation fluid pH control system shall be demonstrated operable by visually verifying that:

a. 6 trisodium phosphate storage baskets are in place, and

b. have maintained their integrity, and

c. are filled with trisodium phosphate such that the level is above the indicated fill mark.

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 Three independent groups of Reactor Containment Fan Coolers (RCFC) shall be OPERABLE with a minimum of two units in two groups and one unit in the third group.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one group of the above required Reactor Containment Fan Coolers inoperable, restore the inoperable group of RCFC to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.3 Each group of Reactor Containment Fan Coolers shall be demonstrated OPERABLE:

a. At least once per 31 days by:

   1) Starting each non-operating fan group from the control room, and verifying that each fan group operates for at least 15 minutes, and

   2) Verifying a cooling water flow rate of greater than or equal to 550 gpm to each cooler.

b. At least once per 18 months by verifying that each fan group starts automatically on a Safety Injection test signal.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3 The containment isolation valves shall be OPERABLE with isolation times less than or equal to the required isolation times.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With one or more of the isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange, or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 The isolation valves shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test, and verification of isolation time.

4.6.3.2 Each isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position;

b. Verifying that on a Containment Ventilation Isolation test signal, each purge and exhaust valve actuates to its isolation position; and

c. Verifying that on a Phase "B" Isolation test signal, each Phase "B" isolation valve actuates to its isolation position.

d. Verifying that on a Phase "A" Isolation test signal, coincident with a low charging header pressure signal, that each seal injection valve actuates to its isolation position.

4.6.3.3 The isolation time of each power-operated or automatic valve shall be determined to be within its limits when tested pursuant to Specification 4.0.5.

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

3.6.4.1 Two independent containment hydrogen analyzers shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

a. With one hydrogen analyzer inoperable, restore the inoperable analyzer to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

b. With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.1 Each hydrogen analyzer shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours, an ANALOG CHANNEL OPERATIONAL TEST at least once per 31 days, a channel OPERABILITY verification at least once per 92 days on a STAGGERED TEST BASIS using sample gas containing one volume percent hydrogen, balance nitrogen, and by performing a CHANNEL CALIBRATION at least once per 18 months using sample gas containing ten volume percent hydrogen, balance nitrogen.

ELECTRIC HYDROGEN RECOMBINERS

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent Hydrogen Recombiner Systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one Hydrogen Recombiner System inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each Hydrogen Recombiner System shall be demonstrated OPERABLE:

a. At least once per 6 months by verifying, during a Hydrogen Recombiner System functional test, that the minimum heater sheath temperature increases to greater than or equal to 1000°F within 90 minutes at 52 kW. Upon reaching 1000°F, increase the power setting to maximum power for 2 minutes and verify that the power meter reads greater than or equal to 65 kW, and

b. At least once per 18 months by:

1) Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits,

2) Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiner enclosure (i.e., loose wiring or structural connections, deposits of foreign materials, etc.), and

3) Verifying the integrity of all heater electrical circuits by performing a resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be greater than or equal to 10,000 ohms.

CONTAINMENT VENTILATION SYSTEM (Continued)

fore, the SITE BOUNDARY dose guidelines of 10 CFR 100 would not be exceeded in the event of an accident during containment PURGING operation.

Leakage integrity tests with a maximum allowable leakage rate for containment purge supply and exhaust supply valves will provide early indication of resilient material seal degradation and will allow opportunity for repair before gross leakage failures could develop. The 0.60 L_a leakage limit of Specification 3.6.1.2b. shall not be exceeded when the leakage rates determined by the leakage integrity tests of these valves are added to the previously determined total for all valves and penetrations subject to Type B and C tests.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA or steam line break. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses.

The Containment Spray System and the Containment Cooling System both provide post-accident cooling of the containment atmosphere. However, the Containment Spray System also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable Spray System to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

3/4.6.2.2 RECIRCULATION FLUID PH CONTROL SYSTEM

The operability of the recirculation fluid pH control system ensures that there is sufficient trisodium phosphate available in containment to guarantee a sump pH of $\geq$7.0 during the recirculation phase of a postulated LOCA. This pH level is required to reduce the potential for chloride induced stress corrosion of austenitic stainless steel and assure the retention of iodine in the recirculating fluid. The specified amounts of TSP will result in a recirculation fluid pH between 7.0 and 9.5.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the Containment Cooling System ensures that: (1) the containment air temperature will be maintained within limits during normal operation, and (2) adequate heat removal capacity is available when operated in conjunction with the Containment Spray Systems during post-LOCA conditions.

STPEGS has three groups of Reactor Containment Fan Coolers with two fans in each group (total of six fans). Five fans are adequate to satisfy the safety requirements including single failure.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of General Design Criteria 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," Revision 2, November 1978.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 42 AND 31 TO

FACILITY OPERATING LICENSE NOS. NPF-76 AND NPF-80

HOUSTON LIGHTING & POWER COMPANY

CITY PUBLIC SERVICE BOARD OF SAN ANTONIO

CENTRAL POWER AND LIGHT COMPANY

CITY OF AUSTIN, TEXAS

DOCKET NOS. 50-498 AND 50-499

SOUTH TEXAS PROJECT, UNITS 1 AND 2

1.0 INTRODUCTION

By application dated October 30, 1990 (ST-HL-AE-3378), as supplemented by letter dated September 25, 1991 (ST-HL-AE-3879), Houston Lighting & Power Company, et.al., (the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License Nos. NPF-76 and NPF-80) for the South Texas Project, Units 1 and 2. The proposed changes would replace Technical Specification (TS) 3/4.6.2.2 "Spray Additive System" with a new specification entitled "Recirculation Fluid pH Control System" to be consistent with a planned plant modification which would eliminate the containment spray additive system for Unit 1. The September 25, 1991, letter informed the staff that the proposed plant modification related to the TS change would be made to Unit 2 during the second refueling outage (2RE02). The Unit 1 change will be made during its fourth refueling outage (1RE04) which is scheduled to begin in September 1992. The Unit 2 second refueling outage was completed in December 1991. Consequently, the TS regarding the Spray Additive System has been applicable to Unit 1 only and has been identified as TS 3/4.6.2.4. This proposed TS change will delete all requirements regarding the spray additive system for both units. The September 25, 1991, submittal provided additional clarifying information and did not change the initial no significant hazards consideration determination.

2.0 BACKGROUND

In the original design of the South Texas Project (STP), sodium hydroxide additive was used to control pH of the containment spray solution in order to enhance removal of elemental iodine from the post-accident containment atmosphere and prevent stress corrosion cracking of austenitic steel components. The pH was maintained at 7.5 to 10.5 in the sprays and 7.5 to 10

in the sump. At the time the plant was designed, it was believed that these high pH values were required to remove elemental iodine.

As more information was developed about iodine removal, it was found that in an iodine free solution the pH could be maintained at much lower values and still be effective in removing elemental iodine from the containment atmosphere. In addition, it was found that most of the iodine would be in a cesium iodide form and could dissolve in water regardless of its pH. Therefore, it was not necessary to control the pH of the spray water as long as it was free of dissolved iodine. However, when iodine containing water is used, as for example during the recirculation phase spraying, pH would have to be maintained above seven in order to retain the iodine in solution. A pH higher than seven would also have to be maintained to prevent chloride induced stress corrosion cracking of austenitic steel components exposed to spray water and minimize evolution of hydrogen from the corrosion of zinc on galvanized surfaces and in zinc-based paints. These requirements are reflected in Sections 6.1.1 and 6.5.2 of the Standard Review Plan (SRP). In the submittal, the licensee proposed to use borated water with the lowest pH of 4.5 and control sump water pH between 7 and 9.5 with trisodium phosphate from the baskets placed in the containment sump.

3.0 EVALUATION

The staff reviewed the licensee's analysis, the information included in WCAP-12477, "Spray Additive Elimination Analysis for the South Texas Project", and performed its own independent verification as part of the evaluation.

3.1 Chemical Consideration for the Removal of the Spray Additive System

During the injection phase, the licensee proposed to operate the containment sprays with borated water without sodium hydroxide additive. The pH of this borated water could be as low as 4.5. Using the information currently available on iodine removal and the guidance provided in Section 6.5.2 of the SRP, the licensee has demonstrated that this low value of pH would not affect removal rates of the elemental and particulate iodine from the post-accident containment atmosphere. These rates are determined by the first-order removal coefficients which for elemental iodine removal by spray water and by deposition on the containment walls are independent of pH and, therefore, not affected by elimination of the pH controlling additive. The same applies to the removal coefficient for particulate iodine which is controlled by the hydrodynamic characteristics of the sprays. The licensee calculated these coefficients using the methods given in Section 6.5.2 of the SRP and found them not to differ significantly from the values used in the previous evaluation.

During the recirculation phase, spray water will come from the sump and will contain dissolved iodine removed from the containment atmosphere during the injection phase. In a radiation environment this iodine could be desorbed from the water and released to the containment atmosphere if the pH of the solution is too low. In order to prevent that from happening, the pH of the sump solution should be kept above seven. The licensee proposed to control pH

by having solid trisodium phosphate in the sump which will dissolve as soon as it comes in contact with the sump water and will buffer the pH to a value above seven.

In addition to retaining the iodine in solution, the sump water must be maintained in a alkaline condition in order to minimize corrosion of metallic surfaces. Chloride induced stress corrosion cracking of austenitic stainless steel components is considerably reduced if the pH of the solution is maintained above seven. Short exposure to water with a pH of 4.5 during the injection phase will not cause significant stress corrosion cracking, but more extended exposure during the recirculation phase or in the sump may result in significant damage. Section 6.1.1 of the SRP (Branch Technical Position MTEB-6-1) recommends that pH be maintained in the 7 to 9.5 range.

Control of sump pH is also required to minimize hydrogen generation by corrosion of aluminum and zinc on galvanized surfaces and in the organic coating on containment surfaces. The licensee has shown that the proposed lowering of the spray pH will have no significant effect on the corrosion rates of aluminum as long as the pH stays above 4.5. Zinc in paints and in organic coatings will corrode and produce hydrogen. However, the licensee, using the results from the NRC sponsored studies performed at Sandia, has demonstrated that with controlled pH these corrosion rates will be low and no significant amounts of hydrogen would be produced.

Change of pH will have no significant effect on seals and insulation materials in the electrical equipment located in the containment. This equipment has been environmentally qualified for long term exposure at high pH and will not be adversely affected by short term exposure to low pH solution.

In order to control the sump pH, the licensee intends to have between 11500 and 15100 lbs. of trisodium phosphate in six sump baskets. This amount of salt, when dissolved in sump water, will maintain its pH between 7 and 9.5. Trisodium phosphate is an easily soluble substance and in warm sump water its dissolution should take no more than 1.5 hours. The licensee has proposed to verify the integrity of the trisodium phosphate containing baskets and the level of the salt in individual baskets during each refueling outage.

3.2 Dose Considerations for the Removal of the Spray Additive System

The licensee presented an evaluation, "Spray Additive Elimination Analysis for the South Texas Project," (WCAP 12477), in their submittal, which indicated that utilization of the methodology of SRP 6.5.2 would result in a containment spray removal rate constant for elemental iodine of 20/hr. Using the information in SRP Section 6.5.2, the licensee calculated an iodine particulate removal rate constant of 6.9/hr for the period of time in which the ratio of the initial concentration to the concentration at a time t (C_o/C_t) was less than or equal to 50 and a removal rate constant of 0.7/hr for (C_o/C_t) greater than 50.

In the accident evaluation originally approved by the staff, the licensee assumed that 50 percent of the airborne radioiodine plated out immediately. In the licensee's analysis which accompanied the removal of the spray additive tanks, a time dependent deposition model was used. The licensee utilized a deposition removal rate of 4.5/hr for the period of time until the initial airborne concentration (C_o) had been reduced by a factor of 100. After this time period, the removal rate was assumed to continue at five percent of the initial value until a decontamination factor of 200 was reached. After that time, no credit was taken for iodine deposition.

The licensee calculated the decontamination factor for elemental radioiodine in the sump solution. For the South Texas units this value was determined to be approximately 60. With this decontamination factor, the licensee estimated that 98.3 percent of the iodine released to the containment would be retained in the sump solution.

The staff has evaluated the proposed licensing change and determined the impact of these changes upon the doses associated with the various design basis accidents. The safety evaluation supporting license amendments 28 (Unit 1) and 19 (Unit 2) provided the results of its review of the dose consequences associated with a large break LOCA and the impact of a heater failure in the control room or fuel handling building HVAC systems on the control room operator doses, in addition to other analyses. The staff determined in that evaluation that the control room operator doses were within the requirements of GDC 19 and that the offsite exposures at the site boundary and at the low population zone were within the requirements of 10 CFR Part 100. Based upon this most recent evaluation and the South Texas Project SER, "SER Related to the Operation of South Texas Units 1 and 2", NUREG-0781, April 1986, the staff has determined that the radiological doses as a result of the removal of the spray additive tanks are less than the doses discussed in the safety evaluation supporting the aforementioned license amendments and are still within the requirements of GDC 19 and 10 CFR Part 100.

4.0 SUMMARY

Based on the above evaluation, the staff concludes that: (1) the modifications to the South Texas Project containment spray system proposed by the licensee meet the requirements of General Design Criterion 41 for providing a satisfactory means of post-accident containment atmosphere cleanup; (2) the proposed revised technical specifications for surveillance of trisodium phosphate in the containment sump meet the requirements of General Design Criterion 42 for inspection of the containment atmosphere cleanup systems, (3) the offsite doses at the site boundary or the low population zone will not exceed that allowed by 10 CFR Part 100 and (4) the doses to the control room operators would still be within the requirements of GDC 19.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Texas State official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 47971). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: K. Parczewski
J. Hayes

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