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10CFR50.36

December 20, 1999

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
CREDIT FOR SOLUBLE BORON IN SPENT FUEL POOLS AND
SPENT FUEL STORAGE CAPACITY INCREASE
(TAC NOS. UNIT 1 - MA4841, UNIT 2 - MA4842)

REF:
1) TXU Electric Letter, logged TXX-99001, from C. L. Terry to the NRC dated February 11, 1999
2) TXU Electric Letter, logged TXX-96423, from C. L. Terry to the NRC dated August 1, 1996
3) NRC letter from Timothy J. Polich to C. Lance Terry, dated February 9, 1996 (TAC NOS. M91244 and M91245).
4) TXU Electric Letter, logged TXX-94325, from C. L. Terry to the NRC dated December 30, 1994
5) NRC letter from Jack N. Donohew to C. Lance Terry, dated February 26, 1999 (TAC NOS. M98778 and M98779).
6) TXU Electric Letter, logged TXX-97105, from C. L. Terry to the NRC dated May 15, 1997

Gentlemen:

Pursuant to 10CFR50.90, TXU Electric requested, via Reference 1, an amendment to the CPSES Unit 1 Operating License (NPF-87) and CPSES Unit 2 Operating License (NPF-89) to increase the spent fuel storage capacity by incorporating the changes to the CPSES Units 1 and 2 Technical Specifications.

A001

These changes revise the specifications for fuel storage to increase the spent fuel storage capacity, to add fuel pool boron concentration, and to revise the storage configurations in the spent fuel pool. These changes apply equally to CPSES Units 1 and 2.

As a result of conversations between the NRC Staff (D. H. Jaffe) and TXU Electric (C. B. Corbin) on October 15, 1999, requests for additional information related to the Environmental Evaluation (Section "V" of Attachment 2 to Reference 1) were identified. The Environmental Evaluation has been updated to consider radiological impacts (e.g. exposure to workers) and non-radiological impacts (e.g. thermal heat rejected) and is provided in Attachment 2. Also, page 5-4 of Enclosure 1 to Reference 1 is clarified to reflect the incremental thermal impact of this change on the environment. The replacement page for Enclosure 1 to Reference 1 is provided in the Enclosure to this letter for the CPSES Fuel Storage Licensing Report.

FSAR Amendment 94 (Reference 2) clarified the design bases for the spent fuel cooling system (FSAR Sections 9.1.3.1.1(1) and 9.1.3.1.1(2)). These clarifications are incorporated into the discussion regarding the decay heat analyses (pages 3-5 and 3-6 of Enclosure 1 to Reference 1). The assumptions used in the overall spent fuel cooling analyses are conservative and unaffected by these clarifications. Replacement pages for Enclosure 1 to Reference 1 are provided in the Enclosure to this letter for the CPSES Fuel Storage Licensing Report.

Figure 3.7.17-3, "Minimum Burnup vs. Initial U-235 Enrichment For a 2 out of 4 Storage Configuration in High Density Racks," was submitted via Reference 1 (page 7 of Attachment 4 to Reference 1). As stated in the CPSES Fuel Storage Licensing Report (Page 3-1 of Enclosure 1 to Reference 1), the CPSES criticality analysis for high density (2/4) was previously approved by Reference 3. This approval was based on the burnup requirements of Table 3-7 (Enclosure 1 to Reference 4). After License Amendment Request 98-008 (Reference 1) was submitted but prior to the implementation of License Amendment 64 (Reference 5) in July 1999, it was discovered that Figure 3.7.17-1 (Fuel Assembly Burnup Limits in High Density Racks) as submitted by Reference 6 (Enclosure 5A of Attachment 13) was overly restrictive. This overly restrictive curve was a result of an administrative error in transferring Technical Specification Figure 5.6-1 (Amendment 46/32) during the Improved Technical Specification conversion. This curve will be replaced by Figure 3.7.17-3 (page 7 of Attachment 4 to Reference 1). It was also verified, prior to implementation of License Amendment 64, that spent fuel storage was in compliance with the overly restrictive requirements of the current Technical Specifications Figure 3.7.17-1 (Amendment 64).

This communication contains no new licensing basis commitments regarding CPSES Units 1 and 2.

The information provided by this letter does not affect the proposed Technical Specification changes, the safety analysis of those changes, or the determination that the proposed changes do not involve a significant hazard consideration (provided by Attachments 2 and 3 of Reference 1).

In accordance with 10CFR50.91(b), TXU Electric is providing the State of Texas with a copy of this additional information regarding the proposed amendment.

TXU

TXU requests an implementation date of "no later than June 30, 2000," for this license amendment request.

Should you have any questions, please contact Carl B. Corbin at (254) 897-0121.

Sincerely,

Charles L Terry

C. L. Terry

CBC/cbc

Attachments
Enclosure

c - E. W. Merschoff, Region IV
J. I. Tapia, Region IV
D. H. Jaffe, NRR
Resident Inspectors, CPSES

Mr. Authur C. Tate
Bureau of Radiation Control
Texas Department of Public Health
1100 West 49th Street
Austin, Texas 78704

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)		
	)		
Texas Utilities Electric Company	)	Docket Nos.	50-445
	)		50-446
(Comanche Peak Steam Electric	)	License Nos.	NPF-87
Station, Units 1 & 2)	)		NPF-89

AFFIDAVIT

C. L. Terry being duly sworn, hereby deposes and says that he is the Senior Vice President & Principal Nuclear Officer, the licensee herein; that he is duly authorized to sign and file with the Nuclear Regulatory Commission this additional information regarding License Amendment Request 98-008; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.

Charles L Terry

C. L. Terry
Senior Vice President &
Principal Nuclear Officer

STATE OF TEXAS)
)
COUNTY OF Somervell)

Subscribed and sworn to before me, on this 20 day of December

Jean Amundson

Notary Public

JEAN AMUNDSON
NOTARY PUBLIC
STATE OF TEXAS
My Commission Expires 08-31-2002

V. ENVIRONMENTAL EVALUATION

The Comanche Peak Steam Electric Station (CPSES) Final Environmental Statement (FES-OL), NUREG-0775, evaluates the environmental impact of operating Comanche Peak Steam Electric Station Units 1 and 2. The conclusions of the Final Environmental Statement are based on review of information contained in the CPSES Environmental Report Operating License Stage. The following evaluation provides an assessment of environmental impact associated with an increase in the spent fuel storage capacity, the additional fuel pool boron concentration, and the revised storage configurations in the spent fuel pool.

Section 3.1 of the CPSES Environmental Protection Plan (EPP), Appendix B to the Unit 2 Facility Operating Licenses NPF-89 states that "the licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change to the EPP*." Section 3.1 requires that an environmental evaluation be prepared and recorded prior to engaging in any activity which may significantly affect the environment. Section 3.1 further states that, "[A] proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact."

In accordance with the requirements discussed above, an evaluation assessing the environmental impact of the proposed spent fuel storage capacity increase has been performed. This evaluation determines that the proposed change is not significant relative to the potential adverse environmental impact. The following environmental evaluation considers non-radiological and radiological impacts.

* This provision does not relieve the licensee of the requirements of 10CFR50.59.

Heat is transferred from the Spent Fuel Pool (SFP) via the SFP heat exchangers to the Component Cooling Water (CCW) system for each unit. The Service Water Systems (SSW) remove the additional SFP heat loads rejected by the Component Cooling Water heat exchangers to the Safe Shutdown Impoundment (SSI), which is the plant's ultimate heat sink. The increase in spent fuel heat loads does not exceed the bounding design of SSW and the SSI. Therefore, the SSW and the ultimate heat sink will continue to perform their intended safety functions. The thermal impact on the environment is insignificant, as discussed in Section 5.1.5 of Enclosure 1 to Reference 1 (as updated by the Enclosure to TXX-99247).

Soluble boron has been contained in the fuel storage pool since initial operation, therefore no new chemicals are introduced by the new requirement for boron concentration in the spent fuel pool.

This activity does not add new storage racks nor does it require construction of new storage facilities. Therefore, there is no impact on land use at CPSES nor is there any impact on previous archeological finds at CPSES.

Full use of the high density racks at CPSES will increase the storage capacity of the spent fuel pools (SFPs). The radiological consequences have been evaluated with the objective of determining if there is significant on-site or off-site incremental impact relative to previous evaluations. In addition, radiological impact to operating personnel has been evaluated to ensure exposure remains as low as reasonably achievable (ALARA). This activity has been evaluated for the radiological impact on solid radioactive waste, gaseous effluent, and personnel exposure, and determined to remain acceptable as described below.

The volume of solid radioactive waste generated by operation of the spent fuel pool cleanup system is dependent upon general system cleanliness and the rate of core component replacement. Solid radioactive waste volume is not affected by the capacity of the spent fuel storage racks. The frequency of refueling is determined by operational considerations and fuel design. In general, system cleanliness and frequency of core component replacement are both governed by plant operations, component design, and materials of construction, not by the amount of stored assemblies. Operational experience demonstrates that required replacement of SFP cleanup demineralizer resins and filters and fuel building ventilation system high-efficiency particulate air (HEPA) filters and charcoal beds results primarily from buildup of non-radioactive impurities such as dust, dirt, airborne debris, resin fines, etc. These components are rarely replaced as a result of radiological considerations. Table 5-1 of Enclosure 1 to Reference 1 shows the amount of filter media used from 1991 to 1998.

No significant increase in the volume of solid radioactive waste is expected due to the increased storage capacity of the new racks. Increases in the amount of spent resin from the SFP cleanup system from full utilization of the high density racks will be negligible.

Gaseous radioactive effluents are produced by the evaporation of SFP water and by leakage from defective spent fuel assemblies. Evaporation of SFP water will not increase significantly as a result of the increase in storage capacity. Aged spent fuel associated with the expanded capacity contains insignificant amounts of radioiodines and short-lived gaseous fission products because most noble gas and radioiodine activity will significantly decrease within a few weeks after shutdown due to radioactive decay. The exception is Krypton-85 (Kr-85) which has a half-life of 10.72 years. However, the expanded capacity of the SFPs should not result in any significant increase in the amount of Kr-85 released to the environment. Leakage from fuel assemblies occurs due to fuel failure which, in general, occurs as a result of operation, not as a result of storage. Because leakage from fuel failure occurs over a relatively short period of time, long-term storage is not expected to result in significant increases in leakage. Therefore, storage of additional aged fuel, including allowances for the 1% power uprate (Reference 2), should not result in significant increases in releases of Kr-85. This conclusion is supported by existing CPSES data on Kr-85 releases. Since CPSES does not have a fuel building ventilation effluent release point, any Kr-85 effluent will be released through the common plant ventilation system. Kr-85 has never been detected during routine continuous effluent release from the common plant ventilation system for the period of 1992 through 1998. This has been previously documented in the CPSES Radioactive Effluent Release Reports. Although the number of assemblies stored during this period has increased, there has been no detectable Kr-85 released. This data supports the conclusion that expanded storage will not significantly increase the quantity of gaseous radioactive effluent.

The design of the Fuel Building and the pump room HVAC systems will be adequate for additional heat loads (e.g. impact on temperature / evaporation) caused by use of high density racks. Additional information regarding the impact on the HVAC system is provided in Section 3.2.7 of Enclosure 1 to Reference 3.

Radiological impact to operating personnel has been evaluated to ensure exposure remains ALARA. Personnel exposure over the life of the plant is a function of the normal operational source term. The source term in this case refers to radioactivity that is accessible and available for release. As discussed below, increased spent fuel storage will not have a significant effect on the radiological source term.

The impact of the use of high density racks on the CPSES SFP cleanup system was evaluated. The system is designed to respond to varying water purity levels ranging from equilibrium conditions of undisturbed fuel storage to transient, relatively high impurity conditions due to refueling activities. The increased spent fuel storage capacity does not affect the design basis or functional requirements of the cleanup system.

Refueling activities involving mixing of pool water with reactor coolant and frequent moves of crud laden fuel present the maximum load for the CPSES SFP cleanup system. Operational experience has demonstrated that SFP waterborne radionuclide concentrations increase following the onset of fuel handling activities and quickly decrease after such activities cease. The increase during fuel handling is the result of the mechanical dislodging or dissolution of corrosion products adhering to the fuel assembly surfaces.

Aged fuel (greater than 5 years) presents a low potential for increasing the waterborne activity in the pool. Fission products within the cladding decay significantly over time, and due to the corrosion resistance of the cladding, the decaying fission products from an assembly should be largely retained within the cladding. Most of the deposited corrosion products on the exterior of the fuel assemblies are dislodged during the initial movements of those assemblies. The remaining exterior particles will decay significantly during long term storage. Therefore, due to the decay of the radioactive sources inside and outside the fuel cladding and the long term stability of the cladding material, the aged assemblies do not contribute significantly to the waterborne activity and the cleanup system load.

Short term increases in the SFP source term are dependent on crud transport, fission product release, or system cross-flow resulting from refueling operations. Since these circumstances are essentially independent of the quantity of spent fuel stored, the cleanup system is negligibly impacted by the increased spent fuel storage capability.

External exposure is primarily a function of water-borne activity and is essentially independent of the number of stored fuel assemblies. The stored fuel assemblies are covered by at least twenty-three feet of water for normal storage and ten feet of water for spent fuel movement. This situation affords more than adequate shielding to individuals who may be in the vicinity of the SFP. Therefore, there will not be a significant increase in personnel exposure.

Table 5-2 of Enclosure 1 to Reference 1 shows typical gamma radionuclide analyses of the SFP water during normal storage conditions and during spent fuel movement.

Since the SFP water activity will not change significantly due to increased spent fuel storage, the increase in exposure rate will be minimal. Accordingly, current survey data from the SFP area should reflect the anticipated dose rates with the proposed increased spent fuel storage capacity. These dose rates are shown in Table 5-3 of Enclosure 1 to Reference 1.

Due to the insignificant increase in radiological source term, there will be no noticeable increase in internal exposure from the airborne radionuclides in the vicinity of the SFP or at the site boundary.

The SFP cleanup system has an installed skimmer designed to recirculate and clean the surface water. The turnover rate is currently sufficient to preclude the build-up of crud on the sides of the pool. The expansion in storage capacity will produce an insignificant increase in water-borne activity and therefore will result in a negligible buildup of crud along the sides of the pool.

In summary, the SFP radiological source term is a function of fuel handling activities. The concentration of radioactive materials and other impurities in the SFP water reaches a maximum during refueling activities as a result of initial fuel movement after shut-down. It is not affected by the number of assemblies being stored. Airborne radioactivity levels in the fuel building are highest during initial fuel movement after shut-down because most gaseous fission products are relatively short-lived and tend to escape from any defective fuel soon after shutdown. Aged spent fuel releases relatively insignificant quantities of gaseous fission products. Since increases in water and air activity will be negligible as a result of the expanded storage capacity, the increase in the total effective dose equivalent (TEDE) in the areas of the SFPs is insignificant.

The original CPSES licensing review considered radiological consequences resulting from 40 years of operation for both units. The additional fuel storage capacity contributes little to the concentration of radionuclides in either the SFP water or fuel building atmosphere. Therefore, increasing the storage capacity for aged spent fuel will not significantly influence the radiological source term and resulting radiation doses.

A previous evaluation of the radiological impact from a dropped fuel assembly is discussed in the CPSES FSAR, Section 15.7.5 (Reference 4). Only the dropped assembly is damaged, so there is no change in the existing FSAR accident evaluation from the new racks. The proposed full use of the high density racks, including allowances for the 1% power uprate (Reference 2), will not significantly increase the radiological consequences of a fuel handling accident and remains within the design basis.

In summary, the changes associated with the increased spent fuel storage capacity were evaluated for potential radiological and non-radiological impacts. The changes do not affect the conclusions of the Final Environmental Statement.

Based on the above evaluation, the proposed increase in spent fuel storage capacity does not result in any significant adverse environmental impact. The Final Environmental Statement concluded that no significant environmental impact would result from operation of CPSES. This conclusion remains valid for the proposed increase in spent fuel storage capacity. In accordance with the above evaluation, it can be concluded that no significant environmental impact will result from the proposed increase in spent fuel storage capacity.

TXU has determined that the proposed amendment would change requirements with respect to the installation or use of a facility component located within the restricted area, as defined in 10CFR20, or would change an inspection or surveillance requirement. TXU has evaluated the proposed changes and has determined that the changes do not involve (1) a significant hazards consideration, (2) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (3) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), an environmental assessment of the proposed change is not required.

REFERENCES

1. TXU Electric letter logged TXX-99001, from C. L. Terry to the NRC, dated February 11, 1999.

2. TU Electric Letter logged TXX-98265, from C. L. Terry to the NRC dated December 21, 1998, License Amendment Request 98-010, Increase in Unit 2 Reactor Power to 3445 Mwt.

3. TXU Electric letter logged TXX-94325, from C. L. Terry to the NRC, dated December 30, 1994.

4. Comanche Peak Steam Electric Station Final Safety Analysis Report, Docket Nos. 50-445 and 50-446.

ENCLOSURE TO TXX-99247

CPSES FUEL STORAGE

LICENSING REPORT

Comanche Peak Steam Electric Station (CPSES)

Credit for Soluble Boron

and

Expansion of Spent Fuel Storage Capacity

License Amendment Request 98-08

Revision 2

November 19, 1999

Revision Status:

Revision 0 -	February 3, 1999, original report
Revision 1 -	August 6, 1999, replace Title page and 4-1
Revision 2 -	November 19, 1999, remove Title page, 3-5, 3-6, 3-7, and 5-4, insert Title page, 3-5, 3-6, 3-7, 3-8, and 5-4

acceptable.

5. For the "Maximum Design Condition" and "Maximum Summer Design Condition," (pages 3-36 and 3-37 respectively of Section 3.2.1, "Decay Heat Analysis," Enclosure 1 to Reference 4(a)), after the sentence "At least 193 spaces in the spent fuel pools are assumed to remain available to accept one full core in accordance with ANSI N18.2 and ANSI N210." insert the following sentence:

> In actual practice, the 193 spaces assumed to remain available for one full core offload may be used for fuel assembly storage. Based on the conservative assumptions in the design conditions and the insignificant decay heat from additional assemblies in these spaces, the analyses remain valid even when these spaces are used for assembly storage.

This information was provided previously (page 17 of Attachment 4 to Reference 4(a)) and was relocated by FSAR Amendment 94 (TXX-96423, dated August 1, 1996) to the appropriate paragraphs to prevent misinterpretation.

6. For the "Maximum Design Condition" (page 3-36 of Section 3.2.1, "Decay Heat Analysis," Enclosure 1 to Reference 4(a)), beginning with the sentence "To maximize decay heat loads ...." delete to the end of the paragraph. Insert the following:

> Back to back refueling outages are assumed for conservatism. The first outage is assumed to be complete prior to the start of the second. The start of the second outage is conservatively assumed to begin 30 days after the first for 12 month fuel cycles and 45 days after the first for 18 month fuel cycles. An normal full core offload is conservatively assumed to start at 100 hours after the reactor is subcritical and complete at 168 hours. Off-load rates do not affect the analyses. Refueling discharges (which remain in the pools after refueling) are assumed to be one-third of a core (either 64 or 65 assemblies) for 12 month cycles and up to 96 fuel assemblies for 18 month fuel cycles. The outages are assumed to begin

and end during normal refueling periods (September 15th through May).

The "Maximum Design Condition" was clarified by FSAR Amendment 94 (TXX-96423, dated August 1, 1996) by revising the discussion with regard to outage assumptions, the core-off load rate, and refueling discharges. The assumptions used in the overall spent fuel cooling analyses are conservative and unaffected by the clarifications noted above.

3.3 THERMAL-HYDRAULIC ANALYSIS FOR SPENT FUEL COOLING

The thermal-hydraulic analysis for spent fuel cooling contained in Section 3.3 of Enclosure 1 to Reference 4(a) remain valid and bounding for the changes in this Licensing Report.

The thermal hydraulic analysis performed to support License Amendment Request 94-22 [Ref. 4(a)] was based on a core thermal power of 3411 megawatt thermal power (Mwt). TU Electric has requested an increase in core thermal power from 3411 MWt to 3445 Mwt [Ref. 8]. If the power uprate license amendment is approved as requested, the decay heat of assemblies discharged subsequent to the power uprate will be increased slightly. Therefore the decay heat of previous bounding analyses (based on an assumed total capacity of 3386 spent fuel assemblies) will be increased slightly. The overall impact of the power uprate on the previous bounding analyses has been evaluated as part of the power uprate license amendment request [Ref. 8] and determined to remain acceptable.

3.4 POTENTIAL FUEL HANDLING ACCIDENTS

This section discusses the changes to fuel handling procedures that will be required by use of two additional storage configurations and the effects of potential fuel handling accidents . As discussed below, postulated accidents will not cause the neutron multiplication factor in the pool to exceed 0.95 and will not cause loss of cooling for the SFP. A discussion of the high density (1/4) and high density (2/4) was provided in Ref. 4(a) and (f).

The placement of both new and burned fuel in the high density racks in SFP2 will be administratively controlled to satisfy the criticality requirements discussed in this report. A 3 out of 4 (3/4) placement array or a 4 out of 4 (all cell) placement array will be allowed for assemblies based on the initial enrichment, burnup, and decay time criteria given in Enclosure 2 to TXX-99001.

The Core Performance group is responsible for the development and review of fuel movement sequence sheets. The refueling procedure which describes the process for preparation, review, and implementation of fuel movements will be revised. The revision will specify limitations and a detailed description of the criticality requirements that must be met for the placement of fuel in SFP2. The applicable Technical Specification figures of minimum burnup versus initial U235 enrichment versus decay time for each of the storage configurations will be referenced. An independent reviewer familiar with the criticality requirements of this report shall review any proposed fuel movements. No fuel movements are performed without the use of the reviewed and approved sequence sheets.

The refueling procedure which provides the precautions, limitations, and instructions for the handling of fuel assemblies shall also be revised to include the criticality requirements discussed in this report.

Training shall be conducted with personnel involved with fuel movements in SFP2. This shall include the individuals responsible for the development, review, and approval of fuel movement sequence sheets. Training shall also be given to fuel handling personnel responsible for the actual physical movements of fuel in SFP2. Independent verification shall be conducted for any movement and placement of fuel assemblies in SFP2.

The computer program which is utilized to generate the fuel movement sequence sheets and to track fuel movements and fuel storage will be updated to show which storage locations in SFP2 are available for use based on the requirements of proposed Technical Specification 3.7.17.

3.5 TECHNICAL SPECIFICATION CHANGES

Proposed Technical Specification changes include:

(1) addition of fuel storage pool boron concentration,

(2) identification of the k_{eff} limit (< 1.0) when fully flooded with unborated water,

(3) identification of the k_{eff} limit ($\leq$ 0.95) when fully flooded with water borated to 750 ppm,

(4) adding figures to identify new storage patterns for the high density racks, and

(5) increasing the storage capacity from 1291 to 2026 fuel assemblies.

The use of the high density racks complies with a limiting configuration of a 3 out of 4 (3/4), or a 4 out of 4 (all cell) checkerboard pattern based on fuel enrichment, burnup, and decay time. The current configurations of 1 out of 4 and 2 out of 4 in the high density racks are also retained.

5.1.3.4 CEASING OPERATION AFTER THE CURRENT SPENT FUEL STORAGE CAPACITY IS EXHAUSTED

If CPSES is not operated after the current spent fuel storage is exhausted, it will be necessary to generate electric energy with alternative generating capacity. As discussed in the CPSES Environmental Report Volume 1, Section 1, such alternative means of generation would not present environmental advantages and/or would have greater cost.

The prospective expenditure of approximately $400,000 for the full use of high density racks in SFP2 is small, even when compared to the estimated incremental cost of replacement power for one year of a single unit's energy output. The total estimate for incremental fuel and capacity costs is $210 million for one year for each unit. Based on these facts, not operating the plant or shutting down the plant after exhaustion of spent fuel discharge capacity is not a viable alternative to high density storage in the SFP.

5.1.4 RESOURCES COMMITTED

No racks will be installed by this change, this section is not applicable.

5.1.5 THERMAL IMPACT ON ENVIRONMENT

The heat rejection to the environment from operation of CPSES is approximately 2280 MWt or 7800 X 10^6 BTU/hr per unit. Therefore, the current heat rejection is on the order of 15,600 X 10^6 BTU/hr. In contrast, the addition of 735 cells (2026-1291) to the spent fuel storage capacity adds less than approximately 3.5 X 10^6 BTU/hr to the total heat rejected to the environment from spent fuel storage at CPSES, which is insignificant when compared to 15,600 x 10^6 BTU/hr. Therefore, the stored spent fuel assemblies will have an insignificant incremental impact on the environment.