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February 18, 1983

Marshall E. Miller, Esq., Chairman
 Administrative Judge
 Atomic Safety and Licensing Board
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

Dr. Kenneth A. McCollom
 Administrative Judge
 Dean, Division of Engineering,
 Architecture and Technology
 Oklahoma State University
 Stillwater, OK 74078

Dr. Richard Cole
 Administrative Judge
 Atomic Safety and Licensing Board
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

DMB-PDR/LPDR
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In the Matter of
 Texas Utilities Generating Company, et al.
 (Comanche Peak Steam Electric Station, Units 1 and 2)
 Docket Nos. 50-445 and 50-446

Dear Administrative Judges:

By letter dated November 5, 1981, the NRC Staff transmitted to the Board and parties a copy of the application (as amended) submitted by Texas Utilities Generating Company pursuant to 10 C.F.R. Part 70 for a license to receive, possess, store, inspect and package for transport special nuclear material required for the operation of Comanche Peak. The Staff noted that although the requested license had not been issued, subject to making favorable findings on applicable requirements, the Staff would issue the license.

On February 14, 1983, the Staff issued the requested license to TUGCO, NRC Special Nuclear Material License No. SNM-1912. Enclosed is a copy of the license and related documents.

Sincerely,

8302230505 830218
 PDR ADOCK 05000445
 G PDR

Marjorie U. Rothschild
 Counsel for NRC Staff

DS07

Enclosure: as stated
 cc w/encl: Service List

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Texas Utilities Generating Company
ATTN: Mr. R. J. Gary
Executive Vice President and
General Manager
2801 Bryan Tower
Dallas, Texas 75201

Gentlemen:

Enclosed is NRC Special Nuclear Material License No. SNM-1912, which authorizes the receipt, possession, inspection, and storage of uranium enriched in the U-235 isotope contained in fuel assemblies for eventual use at the Comanche Peak Steam Electric Station, Unit No. 1.

In addition, the license authorizes the packaging of fuel assemblies for delivery to a carrier for transport. This latter authority enables you to return fuel assemblies to another location, e.g., return to the manufacturer. The delivery of the assemblies to a carrier must be in accordance with 10 CFR Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions," copy enclosed. In this regard, your attention is directed to Section 71.12(b) of Part 71 which provides a general license under specified conditions for the use of certain shipping packages which have been licensed for use by another licensee.

Also enclosed are eight copies of Indemnity Agreement No. B-96 for your review, acceptance, and the return of one signed copy.

The Nuclear Regulatory Commission (Commission) uses an electronic data processing system to record the location by licensee, of special nuclear material. This system uses a three letter Reporting Identification Symbol to identify licensees who submit the material transfer reports, and periodic material status reports in accordance with Sections 70.53 and 70.54 of the Commission's regulations 10 CFR Part 70. For this purpose, you should continue to use the Reporting Identification Symbol: XIN, previously assigned to you. This symbol is to be used in completing the transfer reports and the periodic material status reports and should be used in any other correspondence with the NRC relative to such reports. You should also note the requirements of Section 70.51(b), (c), and (d) regarding records, material control, and accounting procedures, and physical inventories. Your cooperation will be appreciated.

Your application for license requested an exemption from the provisions of 10 CFR 70.24. Such an exemption would relieve you from the requirements of having a criticality alarm system. Because of the inherent features associated with the storage and inspection of unirradiated fuel, the NRC staff has determined that you have shown good cause for being granted the exemption and that granting such an exemption will not endanger public life or property or the common defense and security and is otherwise in the public interest.

The license conditions were discussed with and agreed to by Mr. B. W. Coss representing Texas Utilities Generating Company, Dallas Power & Light Company, Texas Electric Service Company, Texas Power & Light Company, Texas Municipal Power Agency, Brazos Electric Power Cooperative, Inc., and Tex-La Electric Cooperative of Texas and Mr. Norman Ketzlach of my staff on January 12, 1983.

Enclosed is our evaluation report in support of this license.

Sincerely,

Original signed by
W. T. Crow

R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NRC

Enclosures.

1. NRC License No. SW-1912
2. 10 CFR Part 71
3. Agreement No. E-96
4. Safety Evaluation Report

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		3. License number
1. Texas Utilities Generating Company Dallas Power & Light Company Texas Electric Service Company Texas Power & Light Company 2. Texas Municipal Power Agency Brazos Electric Power Cooperative, Inc. Tex-La Electric Cooperative of Texas 2001 Bryan Tower		SIT-1912
	4. Expiration date	December 31, 1987 or *
	5. Docket or Reference No.	70-2932

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
Uranium enriched in the U-235 isotope	In unirradiated reactor fuel assemblies	2,200 kilograms of U-235 in uranium enriched to no more than 3.20% in U-235

9. Authorized use:
- A. For receipt, possession, inspection, storage and packaging of fuel for delivery to a carrier in accordance with the statements, representations and conditions specified in the licensee's application dated July 10, 1980, and its supplements dated April 3 and July 16, 1981, and August 11, 1982.
10. Authorized place of use:
- The licensees' Comanche Peak Steam Electric Station, Unit 1, located in Somervell County, Texas, as described in the aforesaid application.
11. The Engineering Superintendent shall have a B.S. degree in engineering, science or equivalent and at least 8 years of power plant experience, 1 year of which shall be in nuclear power plants.
12. The Radiation Protection Engineer shall have the minimum qualifications for a Radiation Protection Manager as specified in Regulatory Guide 1.8, Revision 1-R, September 1975, "Personnel Selection and Training." He shall either have the minimum 5 years' required professional experience in applied radiation protection or shall have a member on his staff who does have this experience.

*Upon conversion of Construction Permit No. CPPR-126 to an operating license, whichever is earlier.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number

SM-1012

Docket or Reference Number

70-2932

13. The fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.
14. The following administrative controls shall be used to control spacing between fuel assemblies stored in the spent fuel pool storage racks:
 - a. The individual conducting new fuel loadings shall verify correct assembly location after insertion of each new fuel assembly into the assigned storage rack.
 - b. An independent loading verification shall be made after each fuel assembly insertion by a second individual participating in fuel storage operations.
 - c. A loading check shall be conducted by CPSES Reactor Engineering after each shipment of fuel is off-loaded into assigned storage locations.
15. Fuel assemblies, when stored in their shipping containers, shall be limited to arrays containing no more than 40 shipping containers.
16. There shall be a minimum edge-to-edge distance of 12 feet plus a minimum thickness of 24 inches concrete between the shipping container storage array and all other fuel assembly storage arrays.
17. No more than one fuel shipping container shall be at an inspection station at any one time with a maximum of 2 fuel assemblies in the station. Fuel assemblies in the inspection stations shall be separated from each other by at least 12 feet.
18. There shall be a minimum edge-to-edge distance of 12 feet between the inspection stations and/or all fuel assembly storage areas.
19. The licensee is hereby exempted from the provisions of 10 CFR 70.24 insofar as this section applies to material held under the license.
20. Portable radiation survey instruments shall be calibrated at least quarterly.
21. The "Interim Physical Security Plan for Protection of Stored Special Nuclear Material of Low Strategic Significance at Comanche Peak Electric Station" shall be fully implemented by the date of fuel receipt and shall be in effect whenever fresh fuel is stored on site.

For the U.S. Nuclear Regulatory Commission

Original signed by:
W. T. Crow

By

Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

Date

12/18/82

DOCKET NO.: 70-2932

APPLICANT: Texas Utilities Generating Company (TUGCO)
Dallas Power & Light Company
Texas Electric Service Company
Texas Power & Light Company
Texas Municipal Power Agency
Brazos Electric Power Cooperative
Tex-La Electric Cooperative of Texas

FACILITY: Comanche Peak Steam Electric Station (CPSES) Unit 1

SUBJECT: REVIEW OF LICENSE APPLICATION DATED JULY 10, 1980, AND THE
SUPPLEMENTS THERETO DATED APRIL 3 AND JULY 16, 1981, AND
AUGUST 11, 1982

I. INTRODUCTION

A. General

By application dated July 10, 1980, TUGCO, an agent for the Dallas Power & Light Company, Texas Electric Service Company, Texas Power & Light Company, Texas Municipal Power Agency, Brazos Electric Power Cooperative, and Tex-La Electric Cooperative of Texas, requested an NRC Special Nuclear Material license for the receipt, possession, storage, inspection, and packaging for transport of the following:

<u>Byproduct, Source, and Special Nuclear Material</u>	<u>Chemical and Physical Form</u>	<u>Maximum Amount to be Possessed</u>
Uranium enriched in the U-235 isotope	In unirradiated reactor fuel assemblies	2,100 kg of U-235 in uranium enriched to no more than 0.10% in U-235

The finished fuel assemblies will be supplied by the Westinghouse Electric Corporation. Each fuel assembly contains 264 fuel rods, 24 Zircaloy-4 control rod guide thimbles, and one Zircaloy-4 instrumentation thimble arranged in a 17x17 matrix. The weight of uranium contained in an assembly is 461 kg and the maximum weight of U-235 in an assembly is 14.3 kg. Table 1 gives the general fuel rod parameters that describe the fuel which will eventually be used in CPSES Unit 1. Unit 1 is a pressurized water reactor (PWR). The Special Nuclear

Material license is being issued to allow early receipt of the fuel for the purpose of inspection and preparation of the fuel for reactor loading. The license will automatically terminate upon issuance of the Part 50 operating license.

TABLE 1
Fuel Rod Parameter

Parameter	Initial Core
Rod Array	17x17
Maximum No. Fuel Rods/Bundle	264
Fuel Rod Material	UO ₂
Pellet Diameter (in.)	0.3225
Pellet Length (in.)	0.530
Pellet Density (% Theoretical)	95
Clad Material	Zircaloy-4
Clad I.D. (in.)	0.329
Clad O.D. (in.)	0.374
Clad Thickness (nominal, in.)	.0225
Active Length (in.)	144
Fuel Rod Pitch (in.)	0.496

B. Location Description

The CPSES Unit 1 is located in Somervell County, Texas, 65 air miles southwest of the Dallas-Fort Worth metropolitan area in north central Texas.

II. AUTHORIZED ACTIVITIES

The applicant requests authorization for the receipt, possession, storage, and inspection of 193 finished fuel assemblies having a maximum enrichment of 3.10% U-235. The applicant also requests authorization to repackage any assembly, if necessary, for delivery to a carrier. It should be noted that the license will not authorize insertion of a fuel assembly into the reactor vessel.

III. SCOPE OF REVIEW

The safety review of the TUGCO request for a Special Nuclear Material license included an evaluation of the application dated July 10, 1980, and supplements dated April 3 and July 16, 1981, and August 11, 1982. The April 3 and July 16 supplements provided additional information required to complete the review of the application. The August 1, 1982 supplement provided information on the addition of a seventh applicant for the SNM license. A detailed review was made of the CPSES organization, administration, nuclear criticality safety, radiation protection, and fire protection programs.

Discussions were held with the NRR project manager, the resident inspector, and with staff members of the applicant during the course of the reviews. The evaluation of the physical security plan was made by the Physical Security Licensing Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards.

IV. POSSESSION LIMITS

Although the applicant requested authorization for 2,100 kg contained U-235 in uranium enriched to no more than 3.1%, we propose to license a maximum enrichment of 3.20% U-235 and that the maximum possession limit be 2,200 kg of contained U-235 because of measurement and enrichment variations usually encountered.

It is recommended that Condition Nos. 6., 7., and 8. be added to the license to authorize the indicated special nuclear material, chemical and/or physical form, and maximum quantity the licensee may possess at any one time under this license, respectively.

<u>6. Material</u>	<u>7. Form</u>	<u>8. Quantity</u>
Uranium enriched in the U-235 isotope	Unirradiated reactor fuel assemblies	2,200 kg of U-235 in uranium enriched to no more than 3.20% in U-235

V. ORGANIZATION

A. Nuclear Criticality Safety and Radiation Protection Responsibilities

The administrative controls which govern the safe handling and storage of fuel are the responsibility of the Engineering Superintendent. Those procedures which control the safe handling of fuel are approved by the Station Operations Review Committee (SORC). The SORC is charged with reviewing nuclear safety activities (e.g., proposed nuclear safety-related procedures or changes to them).

The manipulation of the new fuel assemblies is performed by the CPSES operations personnel trained in proper fuel handling techniques and, in addition, performed in accordance with approved written fuel handling procedures containing provisions to assure that all fuel assemblies are handled correctly.

The Radiation Protection Engineer is responsible to the Engineering Superintendent for the Station Radiation Protection Program and procedures, including the station policy of maintaining operational exposures ALARA. He provides assurance that his personnel are adequately trained and that safety-related activities are conducted in accordance with applicable procedures, policies, and regulations.

B. Minimum Qualifications

The Engineering Superintendent has a B.S. degree in engineering, science or equivalent and at least 8 years of power plant experience, including 1 year in nuclear power plants. His experience is commensurate with the responsibilities for the administrative controls which govern the safe handling and storage of fuel.

The Radiation Protection Engineer has a bachelor's degree in science, including some formal training in radiation protection (a 10-week Health Physics and Radiation Protection Course completed at the Oak Ridge Associated Universities). He also has a total of 5 years power plant experience, including 2 years at nuclear power plants. Although he lacks the 5 years of professional experience in applied radiation protection, recommended by Regulatory Guide 1.8 for a Radiation Protection Manager, he does have a member on his staff who does have this experience. Other than the recommended professional experience in applied radiation protection, he does meet the requirements specified in Regulatory Guide 1.8. His experience, together with that of his staff, is adequate for facility operations under the 10 CFR Part 70 license.

Since the minimum qualifications of the key personnel specified above neither appear or are referenced in the Part 70 license application, it is recommended that Condition Nos. 11. and 12. be added specifying the minimum qualifications for the Engineering Superintendent and for the Radiation Protection Engineer.

C. Training

The Radiation Protection Engineer is responsible for the health physics training program at CPSES. All permanent station personnel who are required to work in restricted areas will complete the basic training courses, lectures, and exercises and demonstrate their proficiency and competence prior to the arrival of fuel at the station. The staff has concluded that the applicant's Radiation Safety Program and personnel are adequate to allow them to reasonably carry out the activities for which a license is requested.

VI. NUCLEAR CRITICALITY SAFETY

The fuel assemblies will be stored in their shipping containers, in the new fuel storage racks and in the spent fuel pool racks in the dry state. The new fuel storage vault can accommodate 132 fuel assemblies. The spent fuel storage racks have a capacity for 1,116 fuel assemblies. In both the new fuel vault and the spent fuel storage racks, spaces between fuel storage positions are designed so that it is not possible to insert a fuel assembly in any position within the rack array not intended for fuel.

The fuel assembly racks in the new fuel storage vault are designed so that there are seven groupings (sections) of two rows each, with a center-to-center spacing between assemblies within a row of 21 inches, and 21 inches between rows within a grouping. The center-to-center distance between nearest rows of assemblies in adjacent groupings is 36 inches. Three of the groupings have 10 assemblies/row; the remainder, nine. A metal cover is positioned over each new fuel rack section (a 2 x 2 grouping of assemblies) after each section is loaded so that no more than four assemblies will be exposed at any one time to a water mist in the event water were used to fight a fire in the area. If the entire array were flooded with full density water, the maximum k_{eff} would be less than 0.90. Independent analyses indicate the entire new fuel storage vault containing its full capacity of 132 fuel assemblies could not be made critical independent of the degree of water-mist density moderation or reflection (based on memorandum from C. R. Marotta to J. C. Delaney, "Background Criticality Calculations for Diablo Canyon Storage Pool Under Accident Mode," dated April 26, 1976).

The applicant plans to wrap the fuel assemblies in polyethylene sheeting open at the bottoms, to protect them from the environment while in storage. The opening at the bottom of the sheeting would prevent the assemblies from becoming internally moderated with water while having an air space between assemblies. This might occur if the bottoms of the sheeting were closed, the storage area flooded, the area then drained, and the water retained in the plastic bags. This added precaution taken by the applicant to prevent such a situation will be represented in Condition No. 13, which requires the fuel assemblies to be stored in such a manner that would allow water to drain freely from within the assemblies in the event of flooding and subsequent draining of the storage area. It is the staff's opinion that with this condition, the applicant has established reasonable and satisfactory precautions to avoid accidental criticality.

The spent fuel storage racks provide a center-to-center distance between fuel assemblies of 16 inches. CPSES states the dry storage of new fuel assemblies in the spent fuel pool racks will be in an "expanded checkerboard" array such that an open storage cell exists in the eight adjacent cells surrounding each assembly. This results in a 32-inch center-to-center spacing between fuel assemblies. Therefore, the k_{eff} of an array of assemblies in the spent fuel pool is less than that in the new fuel storage racks under all credible accident conditions. A study has been made ("Supercriticality Through Optimum Moderation in Nuclear Fuel Storage," Nuclear Technology, May 1980, by J. M. Cano, et al.) that indicates that an array of 4% U-235 enriched assemblies on 32-inch centers cannot be made critical at any degree of water moderation. The applicant has made a commitment to the following to control spacing between assemblies:

- (a) The individual conducting new fuel loading into the spent fuel pool will verify correct assembly location after insertion of each new fuel assembly into its assigned storage rack.

- (b) An independent loading verification will be made after each assembly insertion by a second individual participating in fuel storage operations.
- (c) In addition, a loading check will be conducted by CPSES Reactor Engineering after each shipment of fuel is off-loaded in assigned storage locations.

A "shipment" of new fuel consists of no more than 12 fuel assemblies. Condition No. 14. will be added highlighting the administrative controls to assure the expanded checkerboard loading pattern in the spent fuel pool assembly storage racks.

Although the applicant has requested storage of fuel assemblies in their shipping containers, neither maximum number of shipping containers in an array nor justification for the required number was provided. No more than 12 shipping containers are expected to be onsite at any one time. Since Certificate of Compliance No. 5450 authorizes the assignment of a minimum Transport Index of 1.2 to a shipping container in a Class II shipment, an array containing a maximum of 40 shipping containers is safe independent of array shape or the degree of water moderation and reflection. It is recommended that Condition No. 15. be added specifying the maximum number of shipping containers containing fuel assemblies in an array. It is also recommended that License Condition No. 16. be added requiring the separation of at least 12 feet plus a minimum thickness of 24 inches concrete between the shipping container array and all other fuel assembly arrays. The concrete thickness is adequate to provide effective neutron isolation between arrays ("Nuclear Safety Guide 1961," TID-7016, Rev. 1).

No more than one shipping container will be at an inspection station at one time (with a maximum of two fuel assemblies in the station). The licensee has requested authorization for more than one fuel assembly out of its shipping container and/or storage rack at one time. There will be a minimum edge-to-edge separation of 12 feet between fuel assemblies that are in neither their shipping containers nor their storage racks. Previous calculations have demonstrated that two fuel assemblies may be made critical at optimum spacing and optimum water moderation within and between assemblies (memorandum from C. R. Marotta to J. C. Delaney, dated April 26, 1976, see above). However, a separation of 12 feet between the two assemblies or between an inspection station and/or the fuel assembly storage arrays is adequate to ensure nuclear criticality safety ("Nuclear Safety Guide 1961," TID-7016, Rev. 1). These conditions will be reflected in Condition Nos. 17. and 18., respectively.

The applicant has requested, pursuant to 10 CFR 70.24(d), an exemption from the provisions of 10 CFR 70.24. Based on the applicant's demonstration of subcriticality under normal and accident conditions, good cause exists for exemption from the requirements of 10 CFR 70.24. Because of the inherent features associated with the storage and inspection of unirradiated fuel containing uranium enriched to less than 5% in the U-235 isotope when no fuel processing activities are to be performed, the staff hereby determines that granting such an exemption will not endanger life or property or the common defense and security, and is in the public interest. This exemption is authorized pursuant to 10 CFR 70.14. It is recommended that this exemption be identified as Condition No. 19.

VII. RADIATION SAFETY

The Radiation Protection Engineer is responsible for implementation of the health physics program and supervises the Health Physics Technicians. CPSES is committed, consistent with the recommendations of Regulatory Guide 8.8, to establish a program to maintain occupational and general public exposure to radiation As Low As Is Reasonably Achievable (ALARA).

The only radioactive materials covered by this license are in the fuel assemblies. The administrative controls are covered by health physics procedures. The procedures include the receipt of radioactive material, personnel monitoring, operation of portable survey instruments, and radiation work permits.

Instrumentation used to measure radioactive contamination on new fuel assemblies will be calibrated as a minimum on a quarterly basis using appropriate calibration sources. In a discussion with members of the CPSES staff, portable radiation survey instruments will also be calibrated quarterly. It is recommended this requirement be specified in Condition No. 20.

VIII. ENVIRONMENTAL PROTECTION

The Final Environmental Statement related to the operation of CPSES Units 1 and 2, dated September 1981, has been prepared and issued as NUREG-0775. Compared to the operation of a reactor, implementation of the 10 CFR Part 70 license for the storage and handling of special nuclear material will have an insignificant effect on the environment. Accordingly, the issuance of this license is not a major federal action significantly affecting the quality of the environment and thus, pursuant to 10 CFR 51.5(d)(4), no environmental impact appraisal need be prepared.

IX. FIRE SAFETY

The materials used in the construction of the fuel storage areas are concrete and steel. The presence of combustible materials in the fuel storage areas is minimized by administrative controls. Fire protection is provided by portable extinguishers, hose stations, and a remote manual deluge system. Fire protection is provided by ionization and flame detectors equipped with both local and remote alarms. The staff has determined the fire protection measures provided are adequate for the facility.

X. PHYSICAL PROTECTION

The CPSES physical security plan has been reviewed. It is the staff's opinion that the program described is adequate and meets the requirements of 10 CFR 73.67. The applicant was notified by the NRC by letter dated June 3, 1981, that his "Interim Physical Security Plan for Protection of Stored Special Nuclear Material of Low

Strategic Significance at Comanche Peak Electric Station" is approved. It is recommended that Condition No. 21. be added requiring the plan to be fully implemented by the date of fuel receipt and shall be in effect whenever fresh fuel is stored onsite.

The NRR Project Manager, Mr. Spottswood B. Burwell, and the Resident Inspector, Mr. Dennis L. Kelley, have stated they have no objection to issuance of the license.

XI. CONCLUSION

Based on the above statements, the staff believes that the proposed activities can be performed without undue risk to the health and safety of the public. It has been determined by the staff that the applicant fulfills the requirements of 10 CFR 70.23(a). Further, the issuance of this license is not a major Federal action significantly affecting the quality of the human environment and thus, pursuant to 10 CFR 51.5(d)(4), no environmental appraisal need be prepared.

XII. RECOMMENDATIONS

The staff recommends approval of the application and its supplements with the addition of the following conditions:

11. The Engineering Superintendent shall have a B.S. degree in engineering, science or equivalent and at least 8 years of power plant experience, 1 year of which shall be in nuclear power plants.
12. The Radiation Protection Engineer shall have the minimum qualifications for a Radiation Protection Manager as specified in Regulatory Guide 1.8, Revision 1-R, September 1975, "Personnel Selection and Training." He shall either have the 5 years required professional experience in applied radiation protection or shall have a member on his staff who does have this experience.
13. The fuel assemblies shall be stored in such a manner that water would drain freely from the assemblies in the event of flooding and subsequent draining of the fuel storage area.
14. The following administrative controls shall be used to control spacing between fuel assemblies stored in the spent fuel pool storage racks:
 - (a) The individual conducting new fuel loadings shall verify correct assembly location after insertion of each new fuel assembly into the assigned storage rack.
 - (b) An independent loading verification shall be made after each fuel assembly insertion by a second individual participating in fuel storage operations.

- (c) A loading check shall be conducted by CPSES Reactor Engineering after each shipment of fuel is off-loaded into assigned storage locations.
15. Fuel assemblies, when stored in their shipping containers, shall be limited to arrays containing no more than 40 shipping containers.
 16. There shall be a minimum edge-to-edge distance of 12 feet plus a minimum thickness of 24 inches concrete between the shipping container storage array and all other fuel assembly storage arrays.
 17. No more than one fuel shipping container shall be at an inspection station at any one time with a maximum of two fuel assemblies in the station. Fuel assemblies in inspection stations shall be separated from each other by at least 12 feet.
 18. There shall be a minimum edge-to-edge distance of 12 feet between the inspection station and/or all fuel assembly storage areas.
 19. The licensee is hereby exempted from the provisions of 10 CFR 70.24 insofar as this section applies to material held under this license.
 20. Portable radiation survey instruments shall be calibrated at least quarterly.
 21. The "Interim Physical Security Plan for Protection of Stored Special Nuclear Material of Low Strategic Significance at Comanche Peak Electric Station" shall be fully implemented by the date of fuel receipt and shall be in effect whenever fresh fuel is stored onsite.

Approved by

Norman Ketzlach

Norman Ketzlach
 Uranium Fuel Licensing Branch
 Division of Fuel Cycle and
 Material Safety, NMSS

Original signed by:

W. T. Crow

Approved by:

W. T. Crow, Section Leader
 Uranium Process Licensing Section