71-9253

Department of Energy
Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

March 24, 1997

Mr. William F. Kane
Director, Spent Fuel Project Office
Office of Nuclear Material Safety and Safeguards
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: Request for Transfer of License for Model No. TN-FSV Packaging, Certificate of Compliance No. 9253, Rev. No. 2 (OPE-SFP-97-078)

REFERENCES:
1. Certificate of Compliance # 9253, Revision 2, March 21, 1996
2. Contract No. DE-AC07-96ID13425, "Settlement Agreement Modifying Contract AT (04-3)-633, As Amended, And Agreement No. DE-SCO7-791D01370, As Amended
3. Letter, M. J. Fisher to J. Hagers, Subject: Consent For Transfer of the Certificate of Compliance for the TS-FSV Package, dated March 6, 1997

Dear Mr. Kane:

The Department of Energy, Idaho Operations Office (DOE-ID) hereby requests that Certificate of Compliance (C of C) No. 9253, currently issued to Public Service Company of Colorado, be revised to show DOE-ID as the registered owner and user of the TN-FSV spent fuel shipping packages. No other changes to the Certificate are requested. Certificate of Compliance No. 9253 has been issued by the Nuclear Regulatory Commission to Public Service Company of Colorado as owner and user of these packages. The latest revision to the C of C is No. 2, dated March 21, 1996 (Enclosure 1).

In accordance with Section J (4) of Contract No. DE-AC07-96ID13425, between the Department of Energy and Public Service Company of Colorado (Reference 2/Enclosure 2), "—PSC will transfer to DOE title to the two TN-FSV spent fuel shipping casks owned by PSC that were purchased for the purpose of decommissioning the ISFSI. PSC will furnish DOE with any pertinent existing documentation such as certification, design, manufacturing, testing and licensing documents (subject to any existing confidentiality agreements) necessary for the use of the shipping casks and/or transfer to DOE, or acquisition of appropriate licenses and/or approvals for use." Reference 3 states Public Service Company of Colorado's consent to this transfer (Enclosure 3).

NTD1/1

The Safety Analysis Report (SAR) for the TN-FSV packages, submitted to the Nuclear Regulatory Commission by Public Service Company of Colorado in the original application for certification and in subsequent revisions, contains a detailed description of the transport package, as required by 10 CFR 71.33. The SAR also provides an evaluation of the package as required by 10 CFR 71.35. No changes to the SAR are being made as part of this transfer request.

The package was designed, fabricated, assembled, and tested in compliance with the Quality Assurance Program of Transnuclear Inc. The Transnuclear Quality Assurance Program was approved by the NRC, Approval No. 0250, Revision 3. Public Service Company of Colorado has an approved Quality Assurance Program which governs activities involving radioactive material transportation packages. NRC approval for this Quality Assurance Program was given via Approval Number 0346, Revision 5. DOE has adopted a quality assurance program for acceptance, transport, storage, and characterization of spent nuclear fuel and high-level waste. This program is documented in DOE/RW/0333P, Revision 5, "Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program." This program has been approved by NRC for 10 CFR Part 71 applications by Approval No. 0786, Revision 1. DOE-ID will conduct maintenance on and operate the TN-FSV packages in accordance with DOE/RW/0333P, Revision 5. These quality assurance programs are identified as required by 10 CFR 71.37.

DOE-ID requests that, if possible, the date of the C of C revision be before transfer of the Ft. St. Vrain Independent Spent Fuel Storage Installation (ISFSI) license SNM-2504 to DOE-ID, as allowed by the provisions of Contract No. DE-AC07-96ID13425.

If there are any questions or concerns regarding this application and supporting documentation, please contact Mr. Jan Hagers, of my staff, at (208) 526-0758.

Sincerely,

Clayton R. Nichols per

J. Wilcynski
Manager

Enclosures

cc w/o enc:
M. Fisher, PSC
L. Kokajko, NRC, M/S-6G22
B. Spitzberg, NRC Region IV

cc w/enc:
S. Le Roy, LMITCO, M/S 3140
V. Tharpe, NRC, M/S-6G22 (4 copies)
NRC Document Control Desk, Docket No. 71-9253 (1 copy)

Enclosure 1

Certificate of Compliance No. 9253, Rev. 2, March 21, 1996

NRC FORM 618
(3-96)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIALS PACKAGES

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. PACKAGE IDENTIFICATION NUMBER	d. PAGE NUMBER	e. TOTAL NUMBER PAGES
9253	2	USA/9253/B(U)F	1	3

2. PREAMBLE

a. This certificate is issued to certify that the packaging and contents described in Item 5 below, meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."

b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

a. ISSUED TO *(Name and Address)*
Public Service Company
of Colorado
Platteville, Colorado 80651

b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION:
Public Service Company of Colorado
application dated March 31, 1993,
as supplemented

c. DOCKET NUMBER
71-9253

4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

(1) Model No.: TN-FSV

(2) Description

A steel and lead shielded shipping cask for irradiated high temperature gas cooled reactor (HTGR) fuel elements. The cask is a right circular cylinder, with a balsa and redwood impact limiter at each end. The package has approximate dimensions and weights as follows:

Cavity diameter	18 inches
Cavity length	199 inches
Cask body outer diameter	31 inches
Lead shield thickness	3.44 inches
Package overall outer diameter, including impact limiters	78 inches
Package overall length, including impact limiters	247 inches
Packaging weight	42,000 pounds
Gross package weight, including contents	47,000 pounds

The cask body is made of two concentric shells of Type 304 stainless steel, welded to a bottom plate and a top closure flange. The inner shell has an ID of 18 inches and is 1.12 inches thick. The outer shell has an OD of approximately 30 inches and is 1.5 inches thick. The annular space between the inner and outer shells is filled with lead. The bottom plate is 5.5-inch thick Type 304 stainless steel. The closure lid is 2.5-inch thick Type 304 stainless steel, and is fully recessed into the cask top flange. The lid is fastened to the cask body by 12, 1-inch diameter closure bolts. The lid is sealed with double silicone O-rings, equipped with a leak test port. A vent port and drain port are sealed with single silicone O-rings and cover plates. The cask body is covered with a stainless steel thermal shield composed of 0.25-inch thick stainless steel plate over a wire wrap. The impact limiters are constructed of balsa and redwood encased in stainless steel shells.

5.(a)(2) Description (Continued)

The cask has two lifting sockets bolted to the cask top flange. Two rear trunnions are provided for cask tie-down.

The fuel elements are stacked in a carbon steel fuel storage container, which has an OD of approximately 17.6 inches and an overall length of 195 inches. The fuel storage container has a 0.5-inch thick shell, a 2.0-inch thick bottom plate, and a 1.5-inch thick lid. The lid accommodates a removable depleted uranium plug.

(3) Drawings

The packaging is constructed and assembled in accordance with the following Transnuclear, Inc. Drawing Nos.:

1090-SAR-1, Rev. 2	1090-SAR-6, Rev. 2
1090-SAR-2, Rev. 2	1090-SAR-7, Rev. 2
1090-SAR-3, Rev. 2	1090-SAR-8, Rev. 2
1090-SAR-4, Rev. 2	1090-SAR-9, Rev. 2
1090-SAR-5, Rev. 2	1090-SAR-10, Rev. 1

(b) Contents

(1) Type and form of material

Irradiated HTGR fuel elements. Each fuel element consists of a graphite block containing fuel rods. The fuel is composed of thorium/uranium carbide and thorium carbide fuel particles within the fuel rods. The graphite block is hexagonal in cross section and is approximately 14.2 inches across the flats and 31.2 inches long. Each fuel element contains a maximum of 1.4 kg of uranium enriched to a maximum of 93.5 weight percent U-235 and approximately 11.3 kg of thorium. The maximum burnup is approximately 70,000 MWD/MTIHM, and the minimum cool time is 1600 days.

(2) Maximum quantity of material per package

Six fuel elements, with decay heat not to exceed 60 watts per fuel element. The fuel elements are contained within a fuel storage container. Total weight of contents not to exceed 5,000 pounds, including fuel elements, fuel storage container, and depleted uranium shield plug.

(c) Transport Index for Criticality Control

Minimum transport index to be shown on label for nuclear criticality control: 100

6. The package must be leak tested as follows:

   (a) Within the 12-month period prior to shipment, and after seal replacement, the package must be tested to show a leak rate no greater than 1×10^{-3} std-cm^3/sec. The leak test must have a sensitivity of at least 5×10^{-4} std-cm^3/sec.

   (b) Prior to each shipment, the package seals (main seal and vent seal) must be leak tested in accordance with Section 7.1.2 of the application. The acceptance criterion is a leak rate no greater than 1×10^{-3} std-cm^3/sec. The test must have a sensitivity of at least 1×10^{-3} std-cm^3/sec. The drain seal must also be tested if the drain port cover has been removed since the seal was last leak tested.

7. In addition to the requirements of Subpart G of 10 CFR Part 71:

   (a) The package must be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 7 of the application.

   (b) Each packaging must meet the acceptance tests and must be maintained in accordance with the Acceptance Tests and Maintenance Program of Chapter 8 of the application.

   (c) Prior to each shipment, the cask main closure seal and vent seal must be inspected. The drain seal must be inspected if the drain port cover has been removed during preparation for shipment. All seals must be replaced within the 12-month period prior to shipment, or earlier if inspection shows any defect.

8. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR §71.12.

9. Expiration date: May 31, 1999.

REFERENCES

Public Service Company of Colorado application dated March 31, 1993.

Supplements dated: February 24, June 2, and June 14, 1994; September 11, and December 7, 1995.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

William D. Travers, Director
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Date 3/21/96

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

APPROVAL RECORD
Model No. TN-FSV Package
Certificate of Compliance No. 9253
Revision No. 2

The Nuclear Regulatory Commission and the Department of Transportation have adopted new regulations for the safe transport of radioactive material (60 FR 50248 and 60 FR 50292). Among other things, the new regulations include provisions that affect the shipment of fissile material packages. Under the new regulations, the transport index, rather than Fissile Class, is used to limit the number of fissile material packages that may be transported together.

The Certificate of Compliance has been revised to be consistent with the new provisions for fissile material packages and to specify the minimum transport index to be shown on the package label for nuclear criticality control. The changes in the certificate are summarized below for the three fissile classes previously used:

Fissile Class I - Certificates are being revised to show a minimum transport index of 0.4, consistent with the accident array size of 250 packages specified in the previous regulation. Accordingly, these packages may no longer be transported with an unlimited number of packages per shipment.

Fissile Class II - The minimum transport index is unchanged.

Fissile Class III - Certificates are being revised to show a minimum transport index derived in accordance with 10 CFR §71.59 of the new regulations, based upon the maximum number of packages per shipment specified in the previous certificate. Because the new regulations require larger array sizes to be considered under normal conditions, some packages previously authorized as Fissile Class III may now be limited to fewer packages per shipment. Packages previously authorized for one package per shipment are being assigned a transport index of 100.

The staff expects that some certificate holders for packages previously designated Fissile Class I and Fissile Class III may choose to submit an application, with appropriate information, requesting a lower transport index.

William Travers

William D. Travers, Director
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

Date 3/21/96

Enclosure 2

Contract No. DE-AC07-96ID13425
(excerpt)

CONTRACT NO. DE-AC07-96ID13425

SETTLEMENT AGREEMENT MODIFYING CONTRACT AT (04-3)-633, AS AMENDED, AND AGREEMENT NO. DE-SC07-79ID01370, AS AMENDED

between

UNITED STATES DEPARTMENT OF ENERGY

and

PUBLIC SERVICE COMPANY OF COLORADO

cancel, promptly settle or otherwise transfer to DOE existing orders, subcontracts and commitments pertaining to this Agreement. In accordance with section V.F. of this Agreement entitled "Insurance -- Litigation and Claims," DOE will assume responsibility for any and all obligations, commitments, and claims that PSC may have undertaken or incurred, the costs of which are reasonable and allowable in accordance with section V.B. of this Agreement entitled "Allowable Costs."

(5) If title to the ISFSI and ISFSI property has not transferred to DOE, upon termination of the Agreement, the interest payments remaining in the trust/escrow account will be remitted to the Miscellaneous Receipts Account of the United States Treasury Department. Any principal remaining in the escrow account will be transferred to PSC.

J. Decontamination and Decommissioning

(1) If title to the ISFSI and ISFSI property has not transferred to DOE, at the expiration or termination of this Agreement (including any extension), as a condition of such expiration or termination DOE shall:

(a) Remove, transport and dispose of all spent nuclear fuel and the calibration source materials from the ISFSI and ISFSI property;

(b) Decontaminate and decommission the ISFSI in a manner that satisfies all federal, state and local laws and regulations and in a manner that complies with the decontamination and decommissioning plan approved by the NRC;

(c) Remove and dispose of all waste from the ISFSI and ISFSI property, including any low or high level waste, mixed waste or greater-than class-C waste, or waste created by the operation, maintenance, decontamination or decommissioning of the ISFSI;

(d) Take all necessary steps to support PSC's termination of its NRC license and relieve PSC from any obligations relating to the ISFSI, including all regulatory obligations, and reimburse PSC for any costs associated with the termination of NRC license requirements; and

(e) Reimburse PSC for all reasonable and allowable costs for operation and maintenance of the ISFSI under their NRC license, including the reasonable and allowable cost of associated regulatory fees until decontamination and decommissioning is complete. In addition, DOE will pay PSC annual payments in accordance with section IV.D. above entitled "Annual Payments" until decontamination and decommissioning is complete.

(2) If title to the ISFSI and ISFSI property has not transferred to DOE, at the expiration or termination of this Agreement (including any extension), DOE will begin performance of the above obligations, (a) through (e), at such time as is necessary to complete these obligations prior to termination of PSC's NRC license under 10 C.F.R. § 72.54. In consideration of DOE's obligations above, PSC agrees to cooperate with the DOE by renewing its NRC license for the ISFSI in the unforseen event that neither an NRC-licensed monitored retrievable storage (MRS) installation (under 10 C.F.R. § 72) nor geologic repository is available for accepting the spent nuclear fuel stored in the ISFSI at least 5 years prior to the expiration of PSC's current NRC license for the ISFSI. The reasonable and allowable costs of such renewal of PSC's NRC license will be reimbursed by the DOE.

(3) DOE will provide PSC with at least three months prior notice of DOE's intent to begin fulfilling its responsibilities under Section VII.J.(1), so that PSC can notify the NRC pursuant to 10 C.F.R. §72.54(d) (or any subsequent regulatory requirement). DOE, consistent with its responsibilities under this Agreement, including its responsibility for decommissioning the ISFSI, will prepare an appropriate final decommissioning plan for submission by PSC to the NRC within nine months following PSC's notice to the NRC. Consistent with 10 CFR. §72.54 and other regulatory requirements, DOE will begin decommissioning the ISFSI upon approval of the final decommissioning plan by the NRC, and will complete decommissioning as soon as practicable, but no later than twenty four months following approval of the plan. DOE will assist PSC in making any necessary certifications and submissions of information to the NRC required by 10 C.F.R. §72.54(k)

and (l) and other regulatory requirements, and will take all other steps necessary to cause the NRC to terminate the NRC license.

(4) Upon transfer of title to the ISFSI and ISFSI property to DOE, or within five business days following commencement of DOE's obligations under paragraph (1) above, or prior to either event, as mutually agreed to between PSC and DOE, PSC will transfer to DOE title to the two TN-FSV spent fuel shipping casks owned by PSC that were purchased for the purpose of decommissioning the ISFSI. PSC will furnish DOE with any pertinent existing documentation such as certification, design, manufacturing, testing and licensing documents (subject to any existing confidentiality agreements) necessary for the use of the shipping casks and/or transfer to DOE, or acquisition of appropriate licenses and/or approvals for use. DOE shall be responsible for requesting and effecting transfer of such licenses or approvals relating to the shipping casks. All of PSC's reasonable and allowable costs directly associated with maintaining the shipping casks and transferring the casks to DOE will be allowable costs under this Agreement.

(5) Whether or not title to the ISFSI and ISFSI property transfers to DOE, PSC will contribute to the cost of decontaminating and decommissioning the ISFSI and ISFSI property by paying DOE the full amount contained in the prefunded escrow account required by the NRC for purposes of decommissioning the ISFSI (less any escrow fees which may be outstanding if normally paid from escrow funds). PSC will transfer this amount to DOE (or provide necessary access to these funds consistent with NRC requirements) within 7 business days after NRC approval of the final decommissioning plan if title to the ISFSI and ISFSI property has not transferred to DOE prior to termination or expiration of this Agreement, or,

PSC will transfer this amount to DOE on the date title to the ISFSI and ISFSI property is transferred to DOE, whichever is first to occur. DOE will be responsible for all other costs relating to the decontamination and decommissioning of the ISFSI. This Agreement requires PSC to maintain this amount in an escrow account, per NRC requirements, until such funds are transferred to DOE. If subsequent to the execution of this Agreement, the NRC requires PSC to place additional funds in the ISFSI decommissioning escrow account, or otherwise to set aside additional funds for the purposes of decommissioning the ISFSI, or for purposes related to the ISFSI or spent nuclear fuel therein, then the costs of doing so will be a reasonable and allowable cost under this Agreement.

IN WITNESS WHEREOF, DOE and PSC have executed this Agreement by their duly authorized representative.

United States Department of Energy

By: _____
Brad G. Bauer

Title: Contracting Officer, Idaho Operations Office

Date: February 9, 1996

Public Service Company of Colorado

By: _____
A. Clegg Crawford

Title: Vice President, Engineering and Operations Support

Date: February 9, 1996

Enclosure 3

Public Service Company of Colorado, letter dated March 6, 1997,
"Consent for Transfer of the Certificate of Compliance for the TN-FSV package"

Public Service

Public Service
Company of Colorado

550 15th Street, Suite 700
Denver, CO 80202-4256

FAX (303) 571-7877

16805 Weld County Road 19-1/2
Platteville, Colorado 80651

March 6, 1997
Fort St. Vrain
ISFSI
P-97012

Mr. Jan Hagers
U.S. Department of Energy
Idaho Operations Office
785 DOE Place
Mail Stop 1145
Idaho Falls, ID 83401

Docket No. 72-009

SUBJECT: Consent for Transfer of the Certificate of Compliance for the TN-FSV package

REFERENCE: 1) PSCo letter, Crawford to Hagers, dated July 18, 1996 (P-96060)

Dear Mr. Hagers:

This letter provides PSCo's written consent to the transfer of Certificate of Compliance No. 9253 for the TN-FSV package from PSCo to the DOE, and to declare that PSCo is a willing participant in this transfer process.

On February 9, 1996, PSCo and the DOE entered into an agreement whereby the DOE has taken title to all the FSV spent fuel stored at the FSV Independent Spent Fuel Storage Installation (ISFSI). The agreement calls for the DOE to take title to the ISFSI when the ISFSI license is transferred from PSCo to the DOE, with the NRC's approval. Part of the February 9, 1996 agreement called for the transfer of ownership of the TN-FSV packages to the DOE. The DOE submitted a license transfer application to the NRC in December, 1996. PSCo previously submitted our written consent to the ISFSI license transfer from PSCo to the DOE (Reference 1).

PSCo is fully cognizant of the process that is transpiring, desires for the ISFSI license and TN-FSV Certificate of Compliance transfer to take place in the near future, and is actively pursuing transfer of the ISFSI license to the DOE. PSCo hereby gives its written consent for transfer of Certificate of Compliance No. 9253 from PSCo to the DOE without reservation. PSCo attests to the DOE's right - subject to the licensing requirements of the Atomic Energy Act of 1954 as amended, and applicable regulations - to hold the Certificate of Compliance for the TN-FSV packages.

If you have questions regarding the information contained in this submittal, please contact Mr. M. H. Holmes at (303) 571-7633.

Very truly yours,

Mary J. Fisher
General Manager, Nuclear

Subscribed to and sworn before me this 6th day of March, 1997.

Audrey L. Kitzman
Notary Public
My Commission Expires 11/29/99

MJF/tb

cc: Mr. Robert M. Quillin, Director
Radiation Control Division
Colorado Department of Public Health & Environment
RCD-DO-B1
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530