Through Mod 42

INTERAGENCY AGREEMENT

DE-SA09-01 SR18976/TVA NO. P-01 N8A-249655-001

BETWEEN

THE DEPARTMENT OF ENERGY (DOE)

AND

THE TENNESSEE VALLEY AUTHORITY (TVA)

FOR THE

OFF-SPECIFICATION FUEL PROJECT

TABLE OF CONTENTS

This Interagency Agreement entered into as of this 5th day of April 2001 by and between the Tennessee Valley Authority, a United States Government agency hereafter referred to as TVA, and the United States Department of Energy, a United States Government agency hereafter referred to as DOE.

WITNESSETH THAT:

Whereas Section 3112(e) (1) of the USEC Privatization Act (Pub. L. 104-134, April 26, 1996) authorizes DOE to transfer or sell enriched uranium to another federal agency if the material is transferred for the use of the receiving agency without any resale or transfer to another entity and the material does not meet commercial specification; and

Whereas the Tennessee Valley Authority Act (16 U.S.C. § 831 et seq.) established TVA as a corporate agency of the federal government with the authority, among other things, to generate, use and sell electric energy and make studies and experiments to promote wider and better use of electric power; and

Whereas the Atomic Energy Act, Section 161U)~ authorizes DOE to make such disposition as it may deem desirable of (1) radioactive materials and (2) any other property, the special disposition of which is, in the opinion of the Department, in the interest of national security; and

Whereas TVA desires and may receive off-specification uranium from DOE;

Now, therefore, the parties agree as follows:

ARTICLE 1 - DEFINITIONS

As used throughout this Interagency Agreement, the following terms shall have the meanings set forth below:

A. "Actual Cost(s)': The actual price a party pays for goods, materials, and labor; the cost a party incurs for overhead, general and administrative overhead, services; and reasonable profit of the parties' contractor(s) on the work completed and that is reasonable, allowable, and allocable to this Interagency Agreement. The term does not include anticipatory profit, or any costs for which either party has been reimbursed by the other party. DOE's or TVA's costs that would have been incurred notwithstanding this Agreement are not considered Actual Costs under this Interagency Agreement.

B. "Allocable Cost(s)': Those expenses charged or credited to this Interagency Agreement and incurred in the performance of this Interagency Agreement.

C. "Allowable Cost(s)": Those expenses that are considered appropriate for one agency to incur and charge to another agency in a binding Interagency Agreement.

D. "Assay": The total weight of ^{235}U per kilogram of Material divided by the total weight of all uranium isotopes per kilogram of Material, the quotient of which is multiplied by 100 and expressed as a weight percent.

E. 'Blendstock Material": Natural uranium in the form of UF_6, or as uranyl nitrate solution, which has never been irradiated, enriched or depleted, and with an approximate Assay of 0.711.

F. "Book Transfer" or "Book Transferred": Book Transfer means the transfer of a given quantity of Material from DOE's account and/or another account on DOE's behalf to TVA's account on the records of a designated facility. Book Transfer does not require Physical Delivery.

G. "Business Day": A day that is not a Saturday, Sunday or observed as a United States Legal Holiday. Unless this term is used, references in this Interagency Agreement to "day" or "days" refer to a calendar day or calendar days, respectively.

H. "DOE": The United States Department of Energy or any successor agency of the federal Government. A party to this Interagency Agreement.

I. "DOE Contracting Officer": A person employed by DOE with the written authority to enter into, administer, and/or terminate contracts and make written determinations on behalf of DOE in accordance with applicable laws, regulations, and procedures.

J. "EBC": Equivalent Boron Content as defined in ASTM Standard C1233-97.

K. "Fabricator": A commercial nuclear fuel fabricator designated by NA.

L. "Feed Account": An account maintained by United States Enrichment Corporation (USEC) to record the quantity of Feed Material held by USEC in TVA's name.

M. "Fiscal Year": A period of twelve months encompassing October 1 of the calendar year preceding the designated year through September 30 of the designated year.

N. "F.O.B. Destination": Free On Board at Destination; i,e., the owner of the Material is responsible for delivery of the Material on the conveyance to the receiver's designated facility. Unless designated otherwise in this Interagency Agreement, the owner of the Material is responsible for arranging shipment, cost of shipping and risk of loss.

O. "F.O.B. Origin": Free On Board at Origin; i.e., the owner of the Material is responsible for placing the Material on the conveyance by which the Material is to be transported. Unless designated otherwise in this Interagency Agreement, the party receiving the Material is responsible for arranging shipment, cost of shipping and risk

of loss.

P. "Fuel Cost Savings": The mathematical difference between TVA's Normal Fuel Costs and TVA's total Actual Costs under this Interagency Agreement as set forth in Article XIII, Sharing of Savings.

Q. "Highly Enriched Uranium" or "HEU": Uranium with an Assay of 20 percent or greater.

R. "Low Enriched Uranium" or "LEU": Uranium with an Assay greater than .711 percent and less than 20 percent.

S. "Low-Enriched Uranyl Nitrate": Uranyl nitrate solution with an Assay of 4.95 +.04/-.05%.

T. "Low-Level Waste": Low-level Radioactive Waste as defined by the Low Level Radioactive Waste Policy Act Amendments of 1985.

U. "Material": Blendstock Material, Low-Enriched Uranyl Nitrate, or Highly Enriched Uranium.

V. "Natural Uranium": Uranium whose isotopic composition, as it occurs in nature, has not been altered, typically 0.711% ^{235}U.

W. "Physical Deliver": Physical Delivery means (a) in the case of delivery Blendstock Material from TVA to DOE, the unloading of the Blendstock Material from TVA's conveyance at a point designated by DOE at SRS; or (b) in the case of delivery of Low Enriched Uranyl Nitrate solution from DOE to TVA, the loading of the material into shipping containers on a conveyance provided by TVA at SRS; or (c) in the case of delivery of Highly Enriched Uranium from DOE to TVA, the unloading of the HEU at TVA's designated contractor facility.

X. "Reasonable Cost(s)": Those expenses that are considered fair, proper, just, moderate, and suitable under the circumstances.

Y. Reserved

Z. "SRS": The DOE Savannah River Site located in Aiken, Allendale, and Barnwell counties in the State of South Carolina.

AA. "TVA": Tennessee Valley Authority or its successors. A party to this Interagency Agreement.

BB. "TVA Contracting Officer": The person executing this contract on behalf of TVA, and any other officer or employee who is properly designated Contracting Officer of TVA.

CC. "Uranium-235" or "^{235}U": A fissionable uranium isotope with atomic mass number 235.

DD."USEC"; The United States Enrichment Corporation or its successors.

ARTICLE 2 — SCOPE

A. DOE agrees to deliver to TVA for processing and use in reactors: (1) LEU which is at a minimum equivalent to 341,000 Kg U at an assay of 4.95% in the form of Low Enriched Uranyl Nitrate at DOE's SRS; (2) Approximately 9,600 Kg U of HEU at an approximate average assay of 55% in the form of metal buttons and 7,400 Kg U of HEU at an approximate average assay of 64% in the form of uranium-aluminum (U-Al) alloy ingots at a TVA designated facility for purposes of processing and down-blending; (3) Approximately 5,900 KgU of HEU at an approximate assay of 62% in various chemical forms; and (4) 485,500 Kg U of natural uranium hexafluoride by "Book Transfer at USEC's enrichment facility.

B. TVA agrees to deliver to DOE: (1) a minimum of 327,400Kg U of natural uranium as Blendstock Material at SRS; and (2) the conforming Low-Level (not mixed) Waste generated during the conversion of Low Enriched Uranyl Nitrate to uranium oxide and the processing, recovery, downblending and conversion of the DOE HEU to a facility designated by DOE.

C. TVA agrees to convert and fabricate into fuel assemblies for use in TVA reactors, DOE's low-enriched uranyl nitrate. NA agrees to process, recover, downblend, convert, and fabricate into fuel assemblies for use in TVA reactors, the DOE HEU metal buttons and the DOE HEU U-Al ingots.

ARTICLE 3 — TERM

Unless earlier terminated in accordance with Article XVIII, Termination, this Interagency Agreement shall remain in effect from the date of execution until six (6) months after delivery to TVA of the last reload fuel assemblies containing Material transferred under this Interagency Agreement. It is anticipated that delivery of the last reload of such fuel assemblies will occur approximately in 2020.

ARTICLE 4 - DOE DELIVERY OF LOW-ENRICHED URANYL NITRATE TO WA

A. DOE shall deliver to TVA at SRS all LEU derived from downblending approximately 8,624 Kg U of irradiated uranium aluminum alloy fuel ,7,119 Kg U of unirradiated uranium aluminum alloy fuel and additional material from various other forms of HEU. Although estimated at approximately 342,260 Kg U at 4.95%, the resultant LEU shall be at a minimum equivalent to 341,000 Kg U at an assay of 4.95% in the

form of uranyl nitrate solution. Delivery shall be F.O.B. Origin.

B. Low-Enriched Uranyl Nitrate shall conform to the specifications defined in Attachment 2. TVA may, with written approval of the DOE Contracting Officer, revise the specifications detailed in Attachment 2. If the specifications are revised, DOE shall supply Low-Enriched Uranyl Nitrate conforming to the revised specifications and charge TVA with any additional Actual Cost(s) reasonably incurred by DOE to comply with the revised specifications.

C. TVA may, at DOE's expense, return Low-Enriched Uranyl Nitrate to SRS if the Material is determined to be non-conforming. At DOE's request, and if feasible, TVA shall return non-conforming Low-Enriched Uranyl Nitrate to SRS as a stable oxide. DOE shall bear the Actual Cost(s) of converting the non-conforming Low-Enriched Uranyl Nitrate to an oxide.

D. SRS will provide TVA with a two-business-day shipment reconfirmation prior to any LEU shipment.

ARTICLE 5 — DOE DELIVERY OF HIGHLY ENRICHED URANIUM TO TVA

A. DOE shall deliver approximately 9,600 Kg U of HEU at an approximate average assay of 55% in the form of metal buttons and 7,400 Kg U of HEU at an approximate average assay of 64% in the form of uranium — aluminum (U-Al) alloy ingots, and 5,900 KgU of HEU at an approximate average assay of 62% in various forms at a TVA—designated, commercial processing facility in the U.S. The TVA-designated facility shall be licensed for possession and processing HEU prior to commencement of shipments. The HEU metal buttons shall conform to the specifications defined in Attachment 3. Delivery shall be F.O.B. Destination.

B. TVA shall contract with a commercial facility to process, recover and down-blend the delivered HEU to LEU, and shall include in its contract with the commercial facility provisions to ensure that the delivered HEU is down-blended to LEU within two (2) years of receipt of the last shipment of HEU under this Agreement.

C. Reserved

D. If, in accordance with Article IX, Inspection and Acceptance, and subject to Article29, Disputes, any HEU metal buttons fail to conform to the specifications in Attachment 3, then DOE shall replace the non-conforming HEU metal buttons with an equivalent amount of conforming surplus HEU, LEU, or a combination thereof, as agreed to by the Parties. DOE shall, at DOE's expense pick-up non-conforming HEU at the facility where the HEU was delivered. If DOE chooses to dispute TVA's determination that the HEU is non-conforming, DOE has no obligation to remove the HEU from TVA's facility until thirty (30) days after the dispute is resolved. In such

an event, DOE shall bear the Actual Cost of storage and handling of any HEU determined to be non-conforming beginning at the point in time when TVA notifies DOE that the HEU is non-conforming in accordance with Article IX, Inspection and Acceptance, and subject to Article29, Disputes.

E. HEU shall be delivered to TVA and its contractors using Government-owned containers, associated pallets, and Cargo Restraint Tie downs (CRTs) as required. The title to such containers, pallets, and CRTs shall remain with the Government unless specifically identified as non-returnable. Items that are to be returned shall include the empty shipping containers, pallets, and any empty inner secondary containers, pallets, and any empty inner secondary containers that are provided within the shipping container (for example, the inner, full-length, screw-top cans). TVA and its contactors shall maintain the containers, CRTs, and pallets in its possession in good condition until returned to DOE.
F. Prior to return, TVA and its Contractors shall radiologically survey all of te returned items to confirm that they do not exceed a smearable alpha contamination limit of 220 dpm/100cm^2.
G. TVA, through its Contractor, shall return the Government owned containers, pallets, and CRTs to DOE at Doe's expense. Shipments will be FOB Erwin, Tennessee and DOE shall reimburse TVA for shipping costs. DOE shall promptly pay invoices for shipping within tirty (30) days of receipt. DOE shall provide direction to TVA regarding quantities and location for returning the CRTs and containers.

H. DOE and TVA shall share the increased costs required to meet new Nuclear Regulatory Commission regulations implemented after the negotiation of tis Interagency Agreement. These costs are limited to additional costs associated with increased security requirements. The total additional security costs are $6,072,633. Doe shall reimburse TVA for 58% of the total security costs or $3,522,127. TVA shall be responsible for the remaining 42% of the security costs.

ARTICLE 6 — DOE NATURAL URANIUM DELIVERY TO TVA

DOE shall deliver to TVA 485,500 Kg U of natural uranium hexafluoride, equivalent to the Blendstock Material required for this Interagency Agreement, subject to a Secretarial determination and other requirements of section 3112(d)(2) of the USEC Privatization Act, 42 U.S.C. § 2297h-10(d)(2). A Secretarial determination shall be issued prior to or coincident with the execution of this Interagency Agreement. Delivery shall be by Book Transfer at the USEC enrichment facility. The natural uranium transferred to TVA by DOE shall meet ASTM Specification ASTM C 787-96, Standard Specification for Uranium Hexafluoride for Enrichment, and be of U.S. origin in both feed and conversion services.

ARTICLE 7- TVA BLENDSTOCK MATERIAL DELIVERY TO DOE

A. TVA shall deliver to SRS a minimum of 327,400 Kg U of natural uranium as uranyl nitrate solution for use as Blendstock Material in this program. This Blendstock Material shall comply with the specifications set forth in Attachment 4. Delivery by TVA shall be F.O.B. Destination.

B. Delivery of the Blendstock Material shall be made in DOT MC-312 tank trucks or containers with an equivalent physical configuration that has the proper DOT certification to transport the Blendstock Material. TVA shall notify DOE of any proposed changes to the design of the MC-312 tank trucks no less than two (2) weeks prior to implementing such changes. DOE shall further be provided with timely documentation of such implemented changes.

C. Upon fourteen (14) days written notice from DOE, TVA shall delay delivery of the Blendstock Material. TVA shall provide SRS with a two-business-day reconfirmation prior to any Blendstock Material shipment.

D. If the Blendstock Material delivered by TVA fails to conform to the specifications set forth in Attachment 4, DOE may require TVA to replace such non-conforming Blendstock Material with conforming Blendstock Material. TVA shall replace the Blendstock Material and shall remove the non conforming Blendstock Material within seven (7) days of notification. DOE shall not be responsible for any delay in the delivery of Low-Enriched Uranyl Nitrate resulting from TVA's failure to deliver conforming Blendstock Material.

E. If within seven (7) days after notification of rejection by DOE (or final resolution under Article29, Disputes), TVA fails to remove the rejected Blendstock Material, DOE shall have the right to dispose of the Blendstock Material at NA's expense by shipping the Blendstock Material to a NA facility or holding it in storage, until WA arranges for pickup. TVA shall pay all reasonable charges and costs associated with such disposition and/or storage.

ARTICLE 8—DELIVERY SCHEDULE

A. DOE planned deliveries to TVA of LEU (as uranyl nitrate) and HEU (as uranium metal buttons and uranium-aluminum alloy ingots) may meet the quantities and schedule detailed in Attachments 1 and 1A, columns B and C, respectively. Minimum deliveries shall be in accordance with Attachment 1, column E and Article IX, Inspection and Acceptance. Specific monthly delivery schedules shall be mutually agreed to by DOE and TVA every six (6) months commencing in April 2002.

B. Natural uranium hexafluoride delivery from DOE to TVA shall be in accordance with Attachment 1, column D.

C. Blendstock Material delivery from TVA to DOE shall be in accordance with Attachments 1 and 1A, column F.

ARTICLE 9- INSPECTION AND ACCEPTANCE

A. The Party that Physically Delivers Material (the "supplying Parts") to the other Party (the "receiving Party") shall furnish the receiving Party with a completed DOE/NRC Form 741 at the time of delivery. The supplying Party shall also furnish the receiving Party with copies of the DOE/NRC Form 741 associated with each shipment of Material within ten (10) days after delivery is complete.

B. For shipments of Low-Enriched Uranyl Nitrate from SRS in 230-gallon uranyl nitrate shipping containers mounted on trailers, SRS's statement of quantities and properties shall be based on the total quantity of Material per trailer rather than on a per container basis.

C. DOE shall sample and analyze Low-Enriched Uranyl Nitrate in accordance with a sampling plan and procedures mutually agreeable to TVA and DOE. DOE shall also comply with any additional sampling reasonably requested by TVA, subject to reimbursement by TVA for any additional Actual Cost(s) incurred by DOE in complying with such requests. The shipment schedule referenced in Attachment 1, shall also be adjusted, if necessary, to perform the additional sampling. DOE shall provide TVA with the sample analysis data. TVA shall promptly review the sample analyses and notify DOE when the Low-Enriched Uranyl Nitrate is accepted for delivery. Samples of Low-Enriched Uranyl Nitrate taken by DOE shall be saved and used as the official samples in the event of a dispute. DOE shall notify TVA of any deviations or changes to SRS processes or procedures that may impact the agreed upon sampling and quality assurance plan witin three (3) days of knowledge of a proposed change or discovery of a deviation. Additionally, TVA or its designee(s) may audit the DOE processes and procedures used to satisfy the sampling and quality assurance plan. DOE shall receive a minimum of five (5) working days notice of such an audit.

D. DOE has sampled a portion of the Highly Enriched Uranium metal buttons and provided TVA the results of the sampling. DOE shall conduct sampling of Highly Enriched Uranium metal buttons not previously sampled in accordance with a sampling plan and procedures mutually agreeable to TVA and DOE. DOE shall also comply with any additional sampling reasonably requested by TVA subject to reimbursement by TVA for any additional Actual Cost(s) incurred by DOE in complying with such requests. The delivery schedule referenced in Attachment 1, shall also be adjusted, if necessary, to perform the additional sampling. DOE shall provide TVA with the sample analysis data. Samples taken by DOE shall be saved and used as the official samples in the event of a dispute.

E. TVA shall sample Blendstock Material in accordance with a sampling plan and procedures mutually agreeable to DOE and TVA. WA shall provide the sample analysis data to DOE. DOE shall promptly review the samples analyses and notify TVA when the Blendstock Material is accepted for delivery. Samples of the

Blendstock Material shall be saved by TVA and used as the official samples in the event of a dispute.

F. If DOE receives a written request from TVA at least ten (10) business days prior to the scheduled Physical Delivery of Low Enriched Uranyi Nitrate, DOE shall give TVA an opportunity to observe the loading of any shipping container, and the taking of official samples, if any, by DOE. TVA shall only send personnel that have current DOE radiological training and are cleared for escorted access to observe the loading. If TVA requests an opportunity to observe loading and sampling, DOE shall notify TVA of the date(s) and place(s) for observance of such events. If TVA does not exercise its right to witness the taking of official samples by DOE, TVA shall not have the right thereafter to dispute the validity of such samples.

G. In the event the receiving party contends that the material is non-conforming to the relevant specifications, such party shall follow the procedures set forth in Article29, Disputes. During dispute resolution, the receiving party shall handle the material as necessary for storage, safeguards and security, and protection against health and safety hazards.

H. If the receiving party does not submit a notice of nonconformance within the timeframes detailed in Article 29, Disputes, the delivered material shall be deemed accepted. Upon acceptance of the delivered Low-Enriched Uranyl Nitrate, Highly Enriched Uranium metal buttons and Blendstock Material the supplying party is no longer obligated to maintain the official samples.

ARTICLE 10— TITLE TO MATERIALS AND RISK OF LOSS

A. Title to, possession, and risk of loss of the Blendstock Material delivered to DOE, shall pass to DOE when the Blendstock Material is accepted and unloaded from TVA's shipping container.

B. Title to, possession, and risk of loss of the Low-Enriched Uranyl Nitrate Loaded into the first fort-five (45) shipping containers, shall pass to TVA when the solution is accepted by TVA and leaves the SRS boundary. For all remaining shipments, title to, possession, and risk of loss of the Low-Enriched Uranyl Nitrate delivered to TVA, shall pass to TVA when the solution is accepted and loaded into the 230-gallon shipping containers at SRS.

C. Title to, and risk of loss of the HEU shall pass to TVA when the HEU is accepted and Physically Delivered to TVA's contractor located in the United States. Possession of the HEU shall pass to TVA's contractor, which must be, at all relevant times, licensed for such possession by the U.S. Nuclear Regulatory Commission (NRC).

ARTICLE 11— URANYL NITRATE SHIPPING CONTAINERS

A. TVA shall ensure that a sufficient number of NRC-licensed 230-gallon, Fissile Type B uranyl nitrate shipping containers are available at SRS to meet the delivery schedule defined in Attachment 1. These 230-gallon shipping containers shall be mounted on flatbed trailers with sufficient space between containers to conduct inspections, tests, and surveys. TVA shall install hydraulic landing gear on each of the five (5) LR-230 transport trailers prior to delivery of the first trailer to SRS for loading. DOE and TVA shall equally share the costs of modifying the LR-230 trailers. The total fixed price cost of this modification is $29,000. DOE and TVA shall each be responsible for $14,500.

B. All shipping containers and equipment supplied by TVA shall meet all applicable Department of Transportation (DOT) and NRC regulatory specifications and practices.

C. TVA shall provide to SRS all equipment that is necessary to conduct DOT or NRC required testing of shipping containers after loading and prior to transport, e.g., leak testing. TVA shall also provide a copy of the testing procedures and, if requested, provide at least two, but not more than three, training sessions on the use of the equipment.

D. TVA shall be responsible for maintaining the NRC Type B certification throughout the life of this program. TVA shall also be responsible for maintenance of the shipping containers and trailers, as required. TVA shall notify DOE of any proposed changes to the design and/or Safety Analysis Review for Packaging (SARP) for the LR230 shipping containers and trailer no less than two (2) weeks prior to implementing such changes. DOE shall further be provided with timely documentation of such changes to design and/or SARP after implementation.

E. DOE shall not be responsible for any loss or damage to shipping containers and trailers or other equipment supplied to DOE by TVA except as may result solely from gross negligence or willful misconduct of DOE, its contractors, or agents.

ARTICLE 12— WASTE ACCEPTANCE

A. DOE shall accept title to conforming Low-Level or Low-Level Mixed Waste, in solid form, generated from the conversion of uranyl nitrate to uranium oxide and the processing, recovery, downblending, and conversion and fabrication of the HEU supplied by DOE. Conforming Low-Level Waste or Low-Level Mixed Waste shall meet the Waste Acceptance Criteria (WAC) of the DOE-designated disposal site(s) and shall not exceed the maximum volume of 400,000 cubic feet. Low-Level Waste or Low-Level Mixed Waste that fails to meet the waste acceptance criteria or that exceeds the maximum volume shall be considered non-conforming, and title to such non-conforming waste shall not revert to DOE; rather, it shall remain vested in TVA.

B. TVA shall transport the Low-Level Waste, at TVA's expense, to the site(s) designated by DOE. TVA shall be responsible for any transportation costs and disposal costs associated with the non-conforming waste, if any. Transportation of the Low-Level Waste shall be in accordance with all applicable DOT and NRC regulations.

ARTICLE 13— SHARING OF SAVINGS

A. Definitions - In addition to the definitions in Article I, Definitions, the following definitions shall apply to this Article:

1. "Normal Average Unit Cost": The average of TVA's actual, contract unit costs for uranium, conversion and enrichment of fuel inserted by TVA in its reactors using non-REV-derived fuel plus the unit cost of fabrication. This Normal Average Unit Cost shall be based on all TVA reloads within the 18 months preceding the loading of each HEU-derived fuel reload. The unit cost of fabrication shall be based on the actual contract fabrication price for non-HEU-derived fuel assemblies for the reactors using HEU-derived fuel in the same 18-month period.

2. "Normal Reload Unit Requirements": For TVA's reactors using HEU-derived fuel, TVA's reload unit requirements including units of uranium and conversion (Kg of natural UF6), enrichment (number of SWU), and fabrication (number of fuel assemblies) that would be needed to produce the same fuel cycle energy using non-HEU-derived fuel.

3. "Normal Fuel Cost": TVA's Normal Average Unit Cost multiplied by the Normal Reload Unit Requirements, less any uranium, conversion or enrichment reimbursement provided by DOE as a result of the tritium program under the January 1, 2000 Interagency Agreement between the United States Deportment of Energy and the Tennessee Valley Authority for Irradiation Services ("Irradiation Services Agreement'), plus any associated costs for transportation of material or fuel assemblies for reactors using HEU-derived fuel, to the extent that such transportation costs are not otherwise included in unit costs, above.

B. Fuel Cost Savings/Sharing

1. Fuel Cost Savings shall be determined by subtracting TVA's to-date, accumulated, total Actual Costs under this Interagency Agreement from the to-date, accumulated Normal Fuel Cost, each calculated on a present value basis, discounted to April 1, 2001 with a 7% per year discount rate. All costs in a month shall be assumed to have occurred at the beginning of the month.

2. TVA shall calculate the Fuel Cost Savings annually. All Fuel Cost Savings will be retained by TVA until TVA has realized Fuel Cost Savings equivalent to 21.25% of accumulated Normal Fuel Cost.

3. After TVA has realized Fuel Cost Savings equivalent to 21.25% of accumulated Normal Fuel Cost, any additional Fuel Cost Savings shall be shared equally between TVA and DOE. TVA shall make payments to DOE equivalent to 50% of the present value Fuel Cost Savings that exceed the 21,25% of Normal Fuel Costs retained by TVA. Payment amounts shall be adjusted to time-of-payment dollars using the same 7% per year discount rate as provided above. Payments to DOE shall occur within six months after the completion of each HEU-derived fuel reload delivery. For each reload after the first payment to DOE, TVA shall recalculate the Fuel Cost Savings and DOE's share of the Fuel Cost Savings. The calculations of the Fuel Cost Savings and DOE's share shall be reviewed and agreed to by DOE.

4. For all LEU added to this Agreement from the H-Canyon EU Disposition Project at the Savannah River Site, including any LEU that may be added pursuant to Article 28, Options, paragraph B, TVA shall make payments to DOE based on a sliding scale proportional to the price of natural uranium described below, of all fuel cost savings realized by TVA from use of the newly provided LEU. The sharing of the savings is dependent on the average price TVA paid over the previous 18 months for one pound of natural uranium in either the form of U_3O_8 or UF_6. The percent sharing is a sliding scale as follows:

% sharing to DOE	TVA contract price of One lb of U_3O_{8e}
50	$40
75	$150

Linear interpolation will be used between these endpoints and the percent sharing will be fixed at 50% for uranium prices less than $40 and at 75% for uranium prices greater than $150.

These payments shall be made six months (to allow for fuel cycles to be run to model the actual loading) after the startup of the cycle in which the material is loaded such that a payment is made to DOE for each cycle in which BLEU material from this amendment is loaded into a TVA reactor. The parties may mutually agree to extend such payment up to sixty days without either party incurring a penalty or interest for such extension

ARTICLE 14 COST

A. DOE shall reimburse TVA for the Actual Cost(s) incurred to process and blend down the 7,400 KgU of HEU in the form of U-Al alloy ingots, 5,900 KgU of HEU in various chemical forms and approximately 200 KgU of HEU in the form of UO_2F_2. Except as noted in paragraph B below, TVA shall invoice DOE for the Actual Cost(s) incurred for such HEU processing, recovery, and downblending. DOE shall promptly pay such invoices within thirty (30) days of receipt.

B. In lieu of TVA invoicing DOE for the Actual Cost(s) incurred for processing, recovery and downblending the UO_2F_2 material, TVA agrees to pay the actual costs associated with processing, recovery and downblending the UO_2F_2 material when due and shall subsequently debit DOE's share of fuel cost savings owed pursuant to Article 13, Sharing of Savings on a net present value (NPV) dollar for dollar basis with the NPV of the cost of processing these materials, which will include a 10% overhead cost to compensate TVA for moving money between fiscal years. Additionally, during periods when the cumulative balance of actual costs associated wit the UO^2F^2 material exceeds DOE's share of fuel cost savings owed pursuant to Article 13, Sharing of Savings TVA shall apply compound interest at an annualized rate of 7% to the excess amount.

C. In lieu of TVA invoicing DOE for the Actual Costs of DOE's share of decontamination and decommissioning costs associated with the processing, recovery, and blend down of U-Al alloy ingots and HEU in various other chemical forms (including the UO_2F_2), TVA shall use DOE's portion of the sharing money calculated in Article 13, paragraph B.4., Sharing of Savings. DOE's share of decontamination and decommissioning costs shall be limited to equipment and facilities used solely for processing and blending down of the 13,300KgU of HEU. In order to implement this change, TVA shall keep $19 million of the sharing payments to be made to DOE in 2010 plus a 10% fee and pay the first $19 million of the D&D costs identified in this paragraph. The $19 million shall be increased each year by TVA adding to the fund its short term cost of money which is defined by the 2 year Treasury Benchmark Yield plus 0.75%. If the total D&D costs are less than $19 million plus short-term interest, then TVA shall pay the remainder to DOE. If the D&D costs are greater than $19 million plus accumulated interest, the parties agree to negotiate in good faith an amendment to equitably address the additional costs consistent with this paragraph. TVA shall not finalize its contract with its contractor for this service until after TVA has submitted the relevant portion of the contract and price justification to DOE for review and has received DOE's written concurrence.

D. DOE and TVA shall share the increased costs required to meet new Nuclear Regulatory Commission regulations implemented after the negotiation of this Interagency Agreement. These costs are limited to additional costs associated

with increased security requirements. DOE shall reimburse TVA for 58% of the total security costs. TVA shall be responsible for 42% of the security costs.

ARTICLE 15- FURTHER ASSURANCES

A. TVA intends to use the fuel derived from the DOE HEU in TVA reactors.

B. TVA shall not use any fuel assemblies that result from this program in a TVA reactor while that reactor is being used to provide DOE irradiation services for the production of tritium without DOE's specific written consent.

C. TVA shall neither resell nor transfer title to the HEU or LEU received under this Interagency Agreement to another entity.

D. Neither party shall administer this Interagency Agreement in any manner that will unreasonably hinder, delay or increase either party's costs of performing its obligations hereunder. The parties agree that TVA's good faith operation of the power system and DOE's good faith operation of its facilities shall not be events that unreasonably hinder, delay or increase the other party's costs of performing its obligations under this Interagency Agreement; however, each party shall notify the other as soon as practicable of any changes in operations that can be expected to materially impact this Agreement in terms of costs or schedules.

ARTICLE 16- FORCE MAJEURE

A. A Party shall not be liable for any expense, loss or damage resulting from delay in, or prevention of, performance of its obligations under this Interagency Agreement, to the extent due to a cause beyond the reasonable control of that Party (the "affected Party") including, but not limited to, fires, floods, acts of God, strikes, labor disputes, riots, transportation delays, litigation that impedes either Party's performance, acts or failures to act of governmental authorities (other than DOE or TVA), third parties, or the other Party (irrespective of whether excused). Failure of Congress to appropriate funds sufficient for DOE to fulfill its obligations under this Agreement does not constitute Force Majeure. Failure of the NRC to grant a license as detailed in Article XVIII B.1, Termination, does not constitute Force Majeure. Except as otherwise provided herein, in the event of any delay arising by reason of the foregoing, the time for performance shall be extended by a period of time equal to the time lost by reason of such delay or prevention of performance, provided the affected Party shall exert reasonable efforts to eliminate the cause of such delay or prevention of performance, or to minimize its effect on performance of this Interagency Agreement. Nothing contained herein shall require the affected Party to settle any labor difficulty except as the affected Party, in its sole discretion, determines appropriate.

B. The affected Party shall notify the other Party in writing no later than two (2) weeks after the commencement of the delay, or the affected Party's knowledge of the delay, whichever is later. The notice shall include the cause of any delay in or prevention of

performance for which excuse is claimed under this Article and its expected duration. The affected Party shall use reasonable efforts to keep the other Party informed of any change in the facts set forth in the notice.

ARTICLE 17 — LIMITATION OF LIABILITY & HOLD HARMLESS

A. Except as otherwise provided in the Atomic Energy Act, neither Party shall be liable for any personal injury and/or property damage caused by the intentional or negligent conduct of the other Party, including its contractors, subcontractors and consultants, arising out of this Interagency Agreement. Except as otherwise provided in the Atomic Energy Act, neither Party shall be liable to the other Party for any incidental, consequential, special, exemplary, penal, indirect or punitive damages of any nature arising out of or relating to the performance or breach of this Interagency Agreement including, but not limited to, replacement power costs, loss of revenue, loss of anticipated profits or loss of use of, or damage to, plant or other property.

B. Except as otherwise provided in the Atomic Energy Act, the liability of either Party to the other for any claims resulting from the willful or negligent conduct of the other Party, including its contractors and subcontractors shall be strictly limited to specifically identified written claims submitted by each Party to the other Party prior to the expiration of one (1) year after the Party knows or should have known of the occurrence of the event or the first of a series of events which give rise to the claim; provided, however, that this provision shall not act as a bar to any counterclaim, setoff or similar cause of action asserted subsequent to the expiration of such period in response to any written claim submitted prior thereto. If any claims or cross-claims are submitted by either or both Parties, the Parties shall consider resolution in accordance with Article 29, Disputes.

C. DOE's obligation to deliver Low-Enriched Uranyl Nitrate or HEU required by this Interagency Agreement and conforming to applicable specifications herein shall be deemed to have been satisfied (except as to claims not otherwise barred under this Interagency Agreement arising out of unexcused delays in delivery) upon acceptance of such Material by TVA in accordance with Article9, Inspection and Acceptance.

D. TVA's obligation to deliver Blendstock Material required by this Interagency Agreement and conforming to applicable specifications herein shall be deemed to have been satisfied (except as to claims not otherwise barred under this Interagency Agreement arising out of unexcused delays in delivery) upon acceptance of such Blendstock Material by DOE in accordance with Article9, Inspection and Acceptance.

E. Notwithstanding provisions A through D above, and except as otherwise provided in the Atomic Energy Act, as amended, DOE agrees to indemnify and hold TVA harmless for all liability or damage and all third party liability that may arise out of the processing of this off-specification HEU or material derived from the off-

specification HEU at a DOE facility by DOE or by a DOE contractor or subcontractor, subject to the availability of funds (See Article24, Availability of Funds).

F. Notwithstanding provisions A through D above, and except as otherwise provided in the Atomic Energy Act, as amended, TVA agrees to indemnify and hold DOE harmless for all liability or damage and all third party liability that may arise out of the processing of this off-specification HEU or material derived from the off-specification HEU at the facility of a TVA contractor or subcontractor or may arise out of TVA's use of fuel derived from off-specification HEU at its nuclear plants, subject to the limitation in Article24, Availability of Funds.

ARTICLE 18- REGULATORY REQUIREMENTS

Each Party shall obtain all permits, licenses or approvals required for its performance of this Interagency Agreement (including any special nuclear material licenses) and shall comply with all applicable laws, regulations, or ordinances of the United States and of any State, territory or political subdivision regarding its possession, storage and transportation of Material, as well as all applicable bilateral and multilateral treaties and other agreements to which the United States is a party

ARTICLE 19— TERMINATION

This Interagency Agreement may be terminated under the following circumstances:

A. Termination for Non Performance or Convenience.

1. Termination for Non Performance

DOE or TVA shall have the right to terminate this Interagency Agreement in the event the other Party fails to perform any of its material obligations hereunder and such other Party fails to initiate corrective action within thirty (30) days of the date of receipt of written notice of such failure to perform, unless such failure is excused under Article XV, Force Maieure, or this Interagency Agreement otherwise provides for a specific remedy for such failure of performance. Under this circumstance, this Interagency Agreement may be terminated thirty (30) days after delivery of written notice of termination in accordance with Article XXII, Notices and Addresses. The party failing to perform its obligations shall be responsible for the costs as defined in Section A.3 of this Article.

2. Termination for Convenience

DOE or TVA shall have the right to terminate this Interagency Agreement for convenience upon providing the other party ninety (90) days written notice. If either party exercises its right to terminate for convenience, the other party shall, upon

receipt of the notice, take all reasonable steps to stop work and mitigate termination costs. The party terminating under this Section A.2 shall be responsible for the costs as defined in Section A.3 of this Article.

3. Termination Costs

In determining termination costs, Actual Costs and any payments shall be calculated on a present value basis discounted to April 1, 2001 in accordance with Section B.3 of Article XIII, Sharing of Savings.

If DOE is responsible for termination costs under either section A.1 or A.2 of this article, DOE's total termination costs (TTC) shall be:

TTC=AC—VN—VF—TP + SR-FCS

Where:

AC = Actual Cost(s) incurred by TVA including reasonable costs to terminate TVA contracts and payments made to DOE.

VN = Value of natural uranium hexafluoride delivered, which shall be the average of the spot prices published by Trade Tech and Ux Consulting Co. in the month of delivery.

VF = Value of all the fuel assemblies that have been fabricated prior to termination, or could be fabricated after termination unless the LEU or HEU is returned to DOE. The value of the fuel assemblies shall be equal to 78.75 % of the Normal Fuel Cost as determined in Article XIII.

TP = Total Payments made to TVA up to the time of termination.

SR = Any Savings Reduction owed to TVA by DOE pursuant to Article XIII, Section C that has not been paid.

FCS = Any Fuel Cost Savings owed to DOE under Article XIII, Sharing of Savings.

If TVA is responsible for termination costs under either section A. 1 or A.2, TVA's total termination costs (TTC) shall be:

TTC=AC+VN—TP—SR + FCS

Where:

AC = Actual Cost(s) incurred by DOE including reasonable costs to

terminate DOE contracts and subcontracts. (Notwithstanding section 170 of the Atomic Energy Act, DOE contracts and subcontracts as used in this paragraph shall not include contracts entered into by TVA pursuant to this Interagency Agreement.) The actual costs shall be prorated based on percentage of Low Enriched Uranyl Nitrate and HEU delivered to TVA, unless TVA has realized a Fuel Cost Savings of 21.25% or greater from use of this material.

VN = Value of natural uranium hexafluoride delivered, which shall be the average of the spot prices published by Trade Tech and Ux Consulting Co. in the month of delivery.

TP = Total Payments made to DOE up to the time of termination.

SR = Any Savings Reduction paid to TVA by DOE pursuant to Article XIII, Section C.

FCS = Any Fuel Cost Savings owed to DOE under Article XIII, Sharing of Savings.

Any HEU or LEU that cannot be processed shall be returned to DOE. Any HEU or LEU that is returned shall not offset TVA's termination costs. This paragraph shall apply regardless of which Party is responsible for termination,

B. Special Circumstances for Termination:

The following circumstances shall also provide grounds for the Parties to terminate this Interagency Agreement. The circumstances described below are not considered Force Majeure, nor do they constitute a failure by the Parties to perform a material obligation under this Interagency Agreement.

1. It shall be necessary for TVA's contractors to obtain a number of NRC licenses for the shipping, storage and conversion of the uranyl nitrate to an oxide powder. The Parties intend to closely monitor the progress of these licensing activities, and cooperatively strive to minimize the risks inherent therein by limiting expenditures if serious licensing difficulties develop. Either party shall have a right to terminate this Interagency Agreement if (a) TVA's contractors are unable to receive required facility licenses in sufficient time for TVA to meet the Interagency Agreement's schedules and failure to obtain such licenses is due solely to the NRC determination that (i) there is no current need for such facilities; (ii) TVA's contractors lack adequate financial resources to receive an NRC license and this determination cannot be overcome by appropriate corporate guarantees; (iii) the construction and operation of the proposed facilities would constitute "environmental racism"; or (iv) any other novel or social reason put forth by NRC for denial of such operating licenses or (b) WA's contractor is unable to obtain the Type B license for shipping containers in sufficient time for

WA to meet the Interagency Agreement's schedule.

2. In the event of a fuel failure in any of the Lead Use Assemblies currently in residence in TVA's Sequoyah Unit 2 TVA agrees to suspend work and take actions to reduce expenditures until a determination of the cause of the fuel failure is completed. If the fuel failure is the result of using off-specification uranium or cannot be attributed to other failure causes, TVA or DOE shall have the right to terminate this Interagency Agreement. If the fuel failure cannot be attributed to other failure causes, and prior to TVA terminating this Agreement, DOE shall have the right to request TVA conduct additional testing to determine the cause of the fuel failure. DOE shall reimburse TVA for Actual Costs of any additional testing requested by DOE.

3. In the event the Interagency Agreement is terminated under special circumstances described in subsection 1 or 2 above, DOE shall accept and pay Actual Costs incurred by TVA up to a maximum of $15 million. DOE and TVA shall equally share TVA's contractor termination costs for the next $30 million. TVA shall be liable for Actual Costs that exceed $45 million.

ARTICLE 20- ASSIGNMENT

Except as provided herein and subject to applicable law, this Interagency Agreement shall not be assigned by either Party without the prior written consent of the other Party.

ARTICLE 21- DISCLAIMER

DOE will provide material in accordance with the specifications required by this Interagency Agreement. DOE makes no warranty express or implied regarding the suitability of fuel made from off-specification uranyl nitrate or HEU as provided herein.

ARTICLE 22 - NUCLEAR HAZARDS INDEMNITY

DOE shall indemnify TVA and its subcontractors from a nuclear incident associated with an activity conducted in the United States to the extent and amount authorized by Section 170 of the Atomic Energy Act, consistent with DEAR §952.250-70, Nuclear Hazards Indemnity Agreement, the terms of which are incorporated herein by reference with the following clarifying modifications.

Paragraph (a) of DEAR 952.250-70, Nuclear Hazards Indemnity Agreement, shall be removed and replaced with the following paragraph:

(a) Authority. This clause is incorporated into Interagency Agreement DE-SA09-01SR18976/TVA No. P-01N8A-249655-001 between DOE and TVA for the Off-specification Fuel Project, entered into as of April 5, 2001 (hereinafter called the DOE-TVA Interagency Agreement), pursuant to the authority contained in subsection 170d. of the Atomic Energy Act of 1954, as amended (hereinafter called the Act).

Paragraph (d)(2) of DEAR 952.250-70, Nuclear Hazards Indemnity Agreement, shall be removed and replaced with the following paragraph:

(d)(2) The public liability referred to in subparagraph (d)(1) of this clause is public liability as defined in te Act which (i) arises out of or in connection with the activities under the DOE-TVA Interagency Agreement, including the activities of commercial facilities involved in transporting, processing, recovering, downblending, converting and fabricating into fuel assemblies any and all source, byproduct and special nuclear material for use in TVA reactors; and (ii) arises out of or results from a nuclear incident or precautionary evacuation, as those terms are defined in the Act.

ARTICLE 23— NOTICES AND ADDRESSES

To provide for consistent and effective communication between the Parties, each Party shall appoint a principal programmatic representative to serve as its central point of contact on mailers relating to this Interagency Agreement. No interpretation of any provision of this Interagency Agreement shall be considered official and binding on the other party unless such interpretation is adopted, approved or made by the cognizant Contracting Officer and the other Party is notified in writing. Any opposition to the Contracting Officer's interpretation will be resolved in accordance with Article29, Disputes, of this Interagency Agreement. Either Party may change the listed points of contact by giving written notice of such change to the other Party. All notices required hereunder shall be served by mailing such notice postage prepaid by registered or certified United States mail.

DOE Points of Contact:

National Nuclear Security Adminstration Program Officer
Robert M. GeorgeU.S. Department of Energy
National Nuclear Security Administration
Office of Fissile Materials Disposition, NN-261
1000 Independence Ave. SW.
Washington, DC 20585
(202) 586- 1530

Savannah River Project Officer
Jay P. Ray
Office of Defense Nuclear Nonproliferation
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802
(803) 208-2665

Oak Ridge Project Officer
Becky C. Eddy
NNSA Y-12 Area Office
Y-12 Plant, Bldg. 9704-2, MS 8009
Oak Ridge, TN 37381
(865) 576-4119

A courtesy copy of all correspondence with the programmatic representatives shall be sent to the DOE Contracting Officer. Any administrative issues including billing questions, unresolved items, termination notice, or issues requiring a formal change to this Interagency Agreement shall be addressed to the DOE Contracting Officer listed below.

National Nuclear Security Admininstration, Contracting Officer
Y-12 Nuclear Security Complex
Oak Ridge Operations Office
ATN: Ms. Connie D. Bayless
Oak Ridge, TN 37831-3555
(865) Fax (865)-576-0492

TVA Points of Contact:

TVA Contracting Officer
Paul Mulcahy
Tennessee Valley Authority
1101 Market Street, LP-4T
Chattanooga, TN 37402
(423) 751-3707
pdmulcahy@tva.gov

Courtesy copies of all correspondence shall be provided to:

Manager, Nuclear Fuel
BR 3F-C
Tennessee Valley Authority

1101 Market Street
Chattanooga, Tennessee 37402
Telecopier (423) 751-4959

ARTICLE24— AVAILABILITY OF FUNDS

A. DOE's obligations under this Interagency Agreement shall in any event be contingent upon the availability of appropriated funds obligated for this project. DOE shall each fiscal year notify TVA through modification of this Agreement of available funding for reimbursement. TVA shall not initiate reimbursable work until written notification is received. DOE shall use its best efforts to secure all funding needed to fulfill its commitments under this Interagency Agreement, but both parties recognize that nothing in this Interagency Agreement may be construed as implying that Congress will at a later date appropriate funds. Except as provided in Article XVIII, Termination, the maximum amount of any liability TVA may have toward DOE, at any time under this Interagency Agreement, shall not exceed the maximum amount of liability DOE has at such time after applying the limitation described in the article.

B. In accordance with Article V, DOE Delivery of Highly Enriched Uranium to TVA, DOE shall reimburse TVA for the costs to process and blend down HEU U-Al alloy ingots. Reimbursement shall be made through the Online Payment and Collection (OPAC) system using DOE's ALC of 89-18-5369. Backup documentation to support TVA's drawdowns under te OPAC system shall reference the Interagency Agreement No. and the fund site. Backup shall be sent to both the DOE Program Officer and the DOE Contracting Officer in accordance with Article XXII, Notices and Addresses.

C. Total funds in the Amount of $1,300,055 is allocated and obligated for payment from the effective date of te Interagency Agreement through completion. This funding consists of the following B&R(s):

89X0309.91 NN6002010 NS - $149,914,802.84

ARTICLE 25— SETTLEMENT OF CLAIMS

A. DOE, with WA's consent, may settle any valid claim under this Interagency Agreement by transferring any natural uranium or LEU subject to a Secretarial determination under the USEC Privatization Act and other applicable law. WA shall not unreasonably withhold its consent.

B. The Parties agree that any natural uranium hexafluoride that may be utilized by DOE to settle any valid claim, and the uranium component and the enrichment component of any HEU that may be utilized by DOE to settle any valid claim, shall be valued at the average of the spot prices published by Trade Tech and Ux Consulting Co. in the month of delivery.

ARTICLE 26- GENERAL

A. No interpretation of any Article of this Interagency Agreement shall be binding on the Parties unless agreed to in writing by the Contracting Officers. Failure of either Party to agree on mailers of contract interpretation shall be resolved pursuant to Article29, Disputes. The validity, performance, and all matters relating to interpretation and effect of this Interagency Agreement and any amendment hereto shall be governed by the Federal laws of the United States.

B. Caption headings in this Interagency Agreement are inserted for convenience only and shall not affect the interpretation or construction of this Interagency Agreement or any provision hereof.

C. If any provision of this Interagency Agreement is or becomes invalid or unenforceable, the remainder of this Interagency Agreement shall not be affected. Any provision of this Interagency Agreement which is prohibited or unenforceable in any jurisdiction shall, only as to such jurisdiction, be ineffective only to the extent of the prohibition or unenforceable provision. The Parties shall cooperate to negotiate mutually acceptable terms to replace any invalid or unenforceable provision.

D. The failure of either Party to enforce any of the provisions of this Interagency Agreement, or to require at any time strict performance by the other Party of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions, nor in any way to affect the validity of this Interagency Agreement or any part hereof, or the right of such Party thereafter to enforce each and every such provision.

E. DOE or TVA may fulfill its obligations under this Interagency Agreement through one or more contractors. No such contractor is authorized to modify the terms of this Interagency Agreement, waive any requirement hereof, or settle any claim or dispute arising hereunder.

F. Provisions set forth in Articles10, Title to Materials and Risk of Loss;13, Sharing of Savings;15, Further Assurance;17, Limitation of Liability and Hold Harmless;18, Regulatory Requirements;19, Termination; 22, Nuclear Hazards Indemnity;24, Availability of Funds;27, Fines and Penalties; and31, Taxes, shall survive termination or expiration of this Interagency Agreement. Provisions set forth in Article12, Waste Acceptance, shall survive expiration of this Interagency Agreement or termination if DOE terminates.

G. No modification or amendment of this Interagency Agreement shall be effective unless it is in writing and signed by both Parties. Nothing contained herein shall require either Party to agree to such an amendment, nor shall failure to agree on such an amendment be subject to dispute or arbitration

H. Each individual executing this Interagency Agreement on behalf of a Party represents and warrants that he or she has authority to enter into this Interagency Agreement on

behalf of such Party and that this Interagency Agreement is binding on such Party.

I. TVA and DOE shall prepare Material for shipment in accordance with applicable laws and regulations, and take all steps reasonably requested to assist the other Party or that Party's contractors in handling and protection of the Material from damage in transit. Any breach of this provision shall be a material breach of the Interagency Agreement.

J. TVA shall not be liable for any portion of the costs associated with the environmental remediation or decontamination and decommissioning of any DOE facilities, including without limitation, existing DOE facilities.

K. Except for that portion of decontamination and decommissioning costs agreed to under Article V, paragraph C, TVA shall be solely responsible for any environmental remediation for non-DOE facilities resulting from events which occur after TVA has taken title to the Material.

L. TVA shall be responsible for the cost of storage and disposal of all spent nuclear fuel contained in any fuel assemblies pursuant to this Interagency Agreement. However, nothing in this Interagency Agreement is intended to relieve DOE or TVA of their obligations with respect to such spent nuclear fuel under the provisions of the Nuclear Waste Policy Act of 1982, as amended.

M. DOE and TVA shall consider using program facilities and transportation equipment to ship SRS depleted uranium (DU) solutions to the oxide conversion facility, convert the DU to oxide, package the oxide in containers that meet applicable regulatory requirements, and return the oxide to SRS for storage and disposition. If DOE decides that this approach provides the best value to the Government, TVA and DOE shall use best efforts to negotiate a modification to this Interagency Agreement to include this effort. DOE agrees that inclusion of this effort shall not reduce TVA's share of the program cost savings as a result of the DU conversion, packaging and transportation activities.

ARTICLE 27— FINES AND PENALTIES

A. TVA or TVA's contractor shall be responsible for all fines or penalties that may be levied resulting from TVA's activities under this Interagency Agreement, including but not exclusive of, transportation of Material, storage of Material, processing of Material, and decontamination and decommissioning of non-DOE facilities.

B. DOE or DOE's contractors shall be responsible for all fines or penalties that may be levied resulting from DOE's activities under this Interagency Agreement, including but not exclusive of, transportation of Material, storage of Material, processing of Material, and decontamination and decommissioning of DOE facilities.

ARTICLE 28- OPTIONS

A. Additional Materials—DOE may offer, and TVA may accept, the addition of more DOE HEU and/or LEU to this project. This additional material is beyond the original 32.7 MTU of surplus HEU material already transferred to TVA's account either as HEU or LEU per Articles II, IV, and V. DOE and TVA agree that the addition of more HEU/LEU should enhance the total savings realized by the project. TVA agrees that, if additional off-specification HEU/LEU is offered by DOE, TVA shall solicit proposals for processing of the HEU/LEU, to determine the economic viability of its use. If it is agreed by DOE and TVA that the use of the additional HEU/LEU would be beneficial economically and otherwise, DOE and TVA shall use their best efforts to negotiate a modification to this Interagency Agreement to cover the additional HEU/LEU. If additional HEU/LEU is added to this Interagency Agreement . TVA shall make payments to DOE equal to 50% of all fuel cost savings realized by TVA from use of such additional HEU/LEU. Cost savings shall be computed in accordance with Article 13, Sharing of Savings. DOE agrees to accept the additional waste generated under Article 12, Waste Acceptance, with the addition of more off-specification HEU and/or LEU.

B. DOE shall have the option of offering to TVA increases in the amount of LEU from the H Canyon EU Disposition Project at the Savannah River Site annually between 2011 and 2019, up to a total of 188,000 Kg U. The annual options, if possible, will be offered by DOE before November 1 of each year beginning in 2010. For example, by November 1 of 2010, DOE will, if possible, add HEU material to the program to be processed in 2012. The parties shall negotiate appropriate amendments to this Agreement, including corresponding increases in the quantity of blendstock material to be delivered to DOE and the quantity of waste generated under Article 12, Waste Acceptance, to be accepted by DOE. For the material added in this paragraph, TVA shall make payments to DOE based on a sliding scale proportional to the price of natural uranium described in Article 13, Sharing of Savings, paragraph B.4. of all fuel cost savings realized by TVA from use of the newly provided LEU.

C. Shipping Containers—At the completion of all Low Enriched Uranyl Nitrate solution shipments, DOE may elect to have TVA transfer title of the ^{230}-gallon NRC certified Type B uranyl nitrate shipping containers and the trailers to DOE at no cost. If DOE elects to exercise this option then TVA shall deliver, or require its Contractor to deliver, to SRS the shipping containers and the trailers, as is. If this option is exercised, title to the shipping containers and trailers shall vest in DOE upon receipt at SRS. The DOE Contracting Officer may exercise this option by written notice to TVA within sixty (60) days after TVA notifies DOE in writing that the shipments prescribed under this Agreement are completed.

ARTICLE 29- DISPUTES

A. Material Non-Conformance Disputes

1. In the event the receiving Party contends that HEU metal buttons, or natural uranyl nitrate as Blendstock Material Physically Delivered does not conform to the relevant specifications, such Party shall submit a notice of nonconformance in writing to the supplying Party's Contracting Officer no later than forty-five (45) days after receiving the HEU metal buttons, or natural uranyl nitrate as Blendstock Material. The notice of disagreement shall include the measurement and analysis data supporting the receiving Party's position.

2. In the event that TVA contends that Low Enriched Uranyl Nitrate Physically Delivered does not conform to the relevant specifications, TVA shall submit a notice of nonconformance in writing to DOE's Contracting Officer no later than fifteen (15) days after receiving the Low Enriched Uranyl Nitrate. The notice of disagreement shall include the measurement and analysis data supporting TVA's position. If based on DOE's samples, TVA accepts nonconforming Low Enriched Uranyl Nitrate prior to its leaving SRS, TVA's waives the right to later reject such material as nonconforming unless the Low Enriched Uranyl Nitrate delivered differs from DOE's samples.

3. If the disagreement is not resolved by mutual agreement within ten (10) days following submission of the written notice, the official sample shall be submitted to a mutually agreed-upon laboratory for analysis. Except for HEU metal buttons, the laboratory's results shall be conclusive and binding upon both Parties provided such results are both within the range set forth in the applicable attachment and the range of the Parties' results. If the laboratory's results are outside the range of the Parties' results, the Parties shall accept the results of the Party that are nearest to the laboratory's results. If the disagreement concerns HEU metal buttons the Parties shall consider, where appropriate, whether specifications would be met if the lots of HEU were combined pursuant to Attachment 3, footnote 1.

4. If the laboratory's results confirm that the HEU metal buttons, Low Enriched Uranyl Nitrate, or natural uranyl nitrate as Blendstock Material is within specifications, the receiving Party shall be deemed to have accepted the HEU metal buttons, Low Enriched Uranyl Nitrate, or natural uranyl nitrate as Blendstock Material as of the moment the laboratory notifies the Parties of the results and title shall vest with the receiving Party.

5. Costs of resolving the dispute shall be paid by the receiving Party if the laboratory's result finds the HEU metal buttons, Low Enriched Uranyl Nitrate, or natural uranyl nitrate as Blendstock Material is within specification limits (including any applicable variations), and the supplying Party shall pay the laboratory cost if the laboratory's result is not within specification limits. As used in this Section, the phrase "laboratory cost" means the laboratory's charges, plus the additional cost, if any, of the packaging, handling, and transporting of the official sample to and from the laboratory.

6. Without limiting its rights to pursue a material non-conformance dispute, the receiving Party shall handle the alleged nonconforming Material as necessary and in accordance with safeguards and security requirements, and in a manner to protect the community and environment against health and safety hazards.

B. Other Disputes

1. TVA and DOE agree to use their best efforts to resolve any dispute arising under this Interagency Agreement prior to initiating formal dispute resolution. If a dispute on any matter other than conformance of the Material to the required specifications arises, either Party shall notify the other in writing, addressed to the appropriate Contracting Officer, within fifteen (15) Business Days of determining that a dispute exists. The written notice shall detail the relief that is requested and the basis for such relief. The Contracting Officer representing the other Party shall respond within twenty (20) Business Days with a written statement and explanation of its position.

2. If the dispute is not resolved within forty-five (45) Business Days after receipt of the written notice by the Contracting Officer representing the receiving Party, the Parties will use their best efforts to informally resolve the disagreement between themselves by elevating the dispute upward through the Agencies. The Parties may agree to participate in Alternate Disputes Resolution (ADR) procedures authorized pursuant to 5 USC 571, et. seq. at any time after receiving the written Contracting Officer determination statement.

3. If the Parties elect to participate in ADR procedures, at the outset, the Parties shall mutually establish procedures by written agreement.

4. The Parties may agree to use any procedure that is authorized under the Administrative Disputes Resolution Act, as amended, including but not limited to, informal ADR mechanisms, conciliation, facilitation, mediation, fact-finding, minitrials, arbitration (binding or nonbinding) and use of ombudspersons, or any combination thereof.

ARTICLE 30 - DELAYS

A. If the performance of all or any part of the work of this Interagency Agreement is delayed or interrupted by DOE's action or failure to act within a reasonable time or the time specified in this Interagency Agreement, then DOE shall be responsible for any increase in TVA's Actual Cost of performance caused by the delay. DOE shall only be responsible for increased costs that are the result of DOE's delay. DOE shall not be responsible for delay costs if performance would have been delayed or interrupted for a cause beyond its control as set forth in Article16, Force Majeure. TVA shall provide DOE a cost proposal detailing the cost of the delay, within sixty (60) days of either progress resuming or DOE's request, whichever comes first.

B. If the performance of all or any part of the work of this Interagency Agreement is delayed or interrupted by TVA's action or failure to act within a reasonable time or the time specified in this Interagency Agreement, then TVA shall be responsible for any increase in DOE's Actual Cost of performance caused by the delay. TVA shall only be responsible for increased costs that are the result of TVA's delay. TVA shall not be responsible for delay costs if performance would have been delayed or interrupted for a cause beyond its control as set forth in Article16, Force Majeure. DOE shall provide TVA a cost proposal detailing the cost of the delay, within sixty (60) days of either progress resuming or TVA's request, whichever comes first.

C. Delays in delivery by either party as a result of providing non-conforming material shall not relieve the delaying party of its obligations to deliver in accordance with Attachment 1, except as otherwise provided in this Interagency Agreement.

ARTICLE 31- TAXES

TVA agrees that it will promptly pay such taxes, levies, and assessments, if any, as may be lawfully imposed upon its property or interest in the property transferred under this Interagency Agreement from DOE to TVA.

ARTICLE 32- OFFICIALS NOT TO BENEFIT

No member or delegate to Congress or resident commissioner shall be admitted to any share or part of this Interagency Agreement or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this Interagency Agreement if made with a corporation for its general benefit.

ARTICLE 33- NONWAIVER OF DEFAULTS

The failure of DOE to take any action with respect to any default by TVA hereunder, or the failure of TVA to take any action with respect to any default by DOE hereunder shall not constitute a waiver of any of the respective rights of DOE or TVA under this Interagency Agreement.

ARTICLE 34-INTERNATIONAL SAFEGUARDS

The Secretary of Energy has committed that the disposition of U.S. surplus HEU shall, to the extent practical, be accomplished in a manner that permits international verification of the peaceful disposition of the material. DOE and TVA understand that some of the disposition activities encompassed by this Interagency Agreement, particularly those involving HEU down-blending, may entail a safeguards or verification regime of the International Atomic Energy Agency.

ARTICLE 35- ACCOUNTS, RECORDS, AND INSPECTIONS

A. *Accounts.* DOE and TVA shall maintain a separate and distinct set of accounts,

records, documents, and other evidence showing and supporting all Actual Costs incurred or anticipated to be incurred, anticipated and realized savings derived from TVA's use of off-specification fuel assemblies as provided in Article XIII, Sharing of Savings, revenues (if any) or other applicable credits (if any), fixed fees paid, and the receipt, use, and disposition of all Material coming into the possession of the party under this Interagency Agreement. The system of accounts employed by DOE and TVA shall be in accordance with generally accepted accounting principles consistently applied. Within one year of the execution of this Interagency Agreement, the parties will review the system of accounts employed by each and approve or suggest reasonable modifications to the other's system of accounts. If modifications are suggested, the party receiving the suggested modifications shall accept them or propose alternatives. Approval of the other's system of accounts shall not be unreasonably withheld.

B. *Inspection and audit of accounts and records.* Upon five (5) days written notice, all books of account and records required to be kept by this Interagency Agreement shall be subject to inspection and audit by the other party during working hours, before and during the period of retention provided for in (D) below, and proper facilities shall be made available for such inspection and audit.

C. *Audit of DOE and TVA 'S contractors' records.*

1. *Records.* DOE and TVA agree that they shall require their Contractors, under the terms and conditions of their contracts, to keep all records, documents, and other evidence the Contractor may need to support any termination proposal or equitable adjustment claim.

2. *Audits.* DOE and TVA agree with respect to the documents and accounts described in this Article, subsection C.1, above, to either conduct an audit of the contractor or subcontractor's costs or arrange for such an audit to be performed by the cognizant government audit agency through the appropriate Contracting Officer. Further, both TVA and DOE recognize and acknowledge that an audit of its contractor or subcontractor's records shall not be conducted if: (a) the items or services provided were completed prior to termination of its contract; and (b) the items or services were furnished under a firm fixed price contract, fixed price subject to adjustment, or unit price contract.

D. *Disposition of records.* All financial and cost reports, books of account and supporting documents, and other data evidencing costs allowable, revenues, and other applicable credits under this Interagency Agreement, shall be the property of the moving agency and shall not be disposed of unless both TVA and DOE agree in writing to the destruction of the financial and cost reports, books of account and supporting documents, and other data evidencing costs allowable, revenues, and other applicable credits.

E. *Reports.* DOE and TVA agree to furnish, or have its contractor(s) furnish, such progress reports and schedules, financial and cost reports, and other reports

concerning the work under this Interagency Agreement as requested by the other Party.

F. *Contracts and Subcontracts.* DOE and TVA agree to require the inclusion of provisions similar to those in paragraphs (A) through (F) and paragraph (H) of this clause in all contracts and subcontracts (including fixed-price or unit-price contracts, subcontracts, or purchase orders) of any tier entered into hereunder where, under the terms of the subcontract, costs incurred are a factor in determining the amount payable to the contractor or subcontractor. Except for paragraphs (C. 1) and (C.3) of this clause, the provision incorporated by this paragraph F into contracts and subcontracts apply only to the extent costs incurred are a factor in determining the amount payable to the contractor or subcontractor. Parties may mutually agree to modify the terms of this article if appropriate to accommodate reasonable record retention requirements of TVA or TVA's contractors.

G. *Internal audit.* DOE and TVA agree to conduct an internal audit and examination satisfactory to the other party of its Contractor's records, operations, expenses, and the transactions with respect to claims to be allowable under this Interagency Agreement annually and at such other times as may be mutually agreed upon. The results of such audit, including the working papers, shall be made available to the other agency's Contracting Officer.

H. *HEU Blenddown Report.* TVA shall submit to the DOE Headquarters Program Officer by January 31 of each year during the duration of this Interagency Agreement a written report detailing the quantities of HEU that have been down-blended and the quantities and enrichments of LEU that have been produced as a result thereof in the preceding calendar year. TVA shall submit a final such report within 120 days of the termination of this Interagency Agreement for any reason. A copy of these reports shall be provided concurrently to the DOE Contracting Officer.

I. *Attorney GeneraL* (1) The Attorney General of the United States, or an authorized representative, shall have access to and the right to examine any of the Parties' Contractor's or subcontractor's directly pertinent records involving transactions related to this Interagency Agreement. (2) This paragraph may not be construed to require the Agencies, Contractors, or Subcontractors to create or maintain any record that it does not maintain in the ordinary course of business or pursuant to a provision of law.

ARTICLE 36-CONFIDENTIALITY OF INFORMATION

A. To the extent that work under this Interagency Agreement requires that either party be given access to proprietary business, technical, or financial information, both parties agree to treat such information as confidential and agree not to appropriate such information to its own use or to disclose such information to third parties unless specifically authorized in writing by the other party. The foregoing obligations, however, shall not apply to:

1. Information which, at the time of receipt is in the public domain;

2. Information which is published after receipt or otherwise becomes part of the public domain through no fault of the parties;

3. Information which either party can demonstrate was in its possession at the time of receipt thereof and was not acquired directly or indirectly through performance of this Agreement.

4. Information a party is required to disclose by applicable law, regulation, or other court order.

B. The parties agree that each of them shall treat proprietary information in accordance with the provisions of 18 U.S.C. 1905. The parties agree to mark as 'Proprietary" all information to be safeguarded by the other party. Under 18 U.S.C. 1905, officers and employees of the Government are subject to criminal liability in the event certain proprietary information is disclosed, unless such disclosure is authorized by law. In view of such criminal liability, each Party agrees that it shall be entitled to recover from the other party, its officers and employees, only such gains wrongfully acquired, directly or indirectly, from unauthorized disclosure of any such proprietary information covered by this Agreement.

C. In the event that any party is required by applicable law, regulation or other court order to disclose any proprietary information of the other party, such party shall use its best effort (1) to ensure that the disclosure is made on a confidential basis and shall seek a protective order when to do so would not conflict with applicable law and (2) in cooperation with such other party, to protect such information from further disclosure.

ARTICLE 37- SECURITY

A. Responsibility. It is the responsibility of all parties to safeguard all classified information, and special nuclear material. The parties shall, in accordance with applicable security regulations and requirements, be responsible for safeguarding all classified information and protecting against sabotage, espionage, loss or theft of classified documents and material in the parties' possession in connection with the performance of work under this Interagency Agreement.

B. Regulations. The parties agree to comply with all applicable security regulations and requirements in effect during performance of this Interagency Agreement.

C. Definition of Classified Information. The term "classified information" means Restricted Data, Formerly Restricted Data, or National Security Information.

D. Definition of Restricted Data. The term "Restricted Data" means all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of

special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to Section 142 of the Atomic Energy Act of 1954, as amended.

E. Definition of Formerly Restricted Data. The term "Formerly Restricted Data" means all data removed from the Restricted Data category under Section 142 d. of the Atomic Energy Act of 1954, as amended.

F. Definition of National Security Information. The term "National Security Information" means any information or material, regardless of its physical form or characteristics, that is owned by, produced for or by, or is under the control of the United States Government, that has been determined pursuant to Executive Order 12356 or prior Orders to require protection against unauthorized disclosure, and which is so designated.

G. Definition of Special Nuclear Material (SNM). SNM means: (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which pursuant to the provisions of Section 51 of the Atomic Energy Act of 1954, as amended, has been determined to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.

H. Security Clearance of Personnel. TVA shall not permit any individual to have access to any classified information, except in accordance with the Atomic Energy Act of 1954, as amended, Executive Order 12356, and the DOE's regulations or requirements applicable to the particular level and category of classified information to which access is required.

I. Criminal Liability. It is understood that disclosure of any classified information relating to the work or services ordered hereunder to any person not entitled to receive it, or failure to safeguard any classified information that may come to TVA or any person under TVA's control in connection with work under this Interagency Agreement, may subject TVA, its agents, employees, contractors, or subcontractors to criminal liability under the laws of the United States. (See the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et sep. 18 U.S.C. 793 and 794; and E.O. 12356)

J. Subcontracts and Purchase Orders. Except as otherwise authorized in writing by the Contracting Officer, TVA shall insert provisions similar to the foregoing in all contracts, subcontracts, and purchase orders under this Interagency Agreement.

ARTICLE 38 — FOREIGN OWNERSHIP, CONTROL, OR INFLUENCE

A. DOE must determine that activities conducted under this Interagency Agreement will not pose an undue risk to the common defense and security as a result of access to classified information, access to a significant quantity of special nuclear material, or

access to restricted areas on DOE sites. TVA shall require all contractors and subcontractors requiring access to classified information, access to a significant quantity of special nuclear material, or regular access to restricted areas on DOE sites to complete the representation required by DEAR 952.204-73, Foreign Ownership, Control or Influence over Contractor (July 1997).

B. TVA shall also provide the DOE Contracting Officer with written notice of any changes in the extent and nature of Foreign Ownership, Control or Influence (FOCI) which would affect the answers to the questions presented in DEAR 952.204-73. Further, notice of changes in ownership or control which are required to be reported to the Securities and Exchange Commission, the Federal Trade Commission, or the Department of Justice shall also be furnished concurrently to the DOE Contracting Officer.

C. In those cases where there are changes involving FOCI, DOE shall determine whether the changes will pose an undue risk to the common defense and security. In making this determination, DOE shall consider proposals to avoid or mitigate foreign influences

D. TVA agrees to insert terms that conform substantially to the language of this article in all contracts and subcontracts, at any tier, that will require access to classified information, a significant quantity of special nuclear material, or access to restricted areas on DOE sites.

E. Information submitted as required pursuant to this article shall be heated by DOE to the extent permitted by law, as business or financial information submitted in confidence to be used solely for purposes of evaluating FOCI.

F. DOE may terminate this Interagency Agreement for default either if TVA fails to meet obligations imposed by this article, e.g. provide the information required by this article, comply with instructions about safeguarding classified information, or make this article applicable to subcontractors, or if, in DOE's judgment, TVA creates a FOCI situation in order to avoid performance or a termination for default. DOE may terminate this Interagency Agreement for convenience if a TVA contractor becomes subject to FOCI and for reasons other than avoidance of performance of the contract, cannot, or chooses not to, avoid or mitigate the FOCI problem.

ARTICLE 39-INTEGRATION

This Interagency Agreement contains the entire understanding between the parties, and there are no understandings, representations or warranties not set forth or incorporated by reference in this document.

IN WITNESS WHEREOF, the Parties hereto have caused this Interagency Agreement to be signed by their duly authorized officers as of the Execution Date.

TENNESSEE VALLEY AUTHORITY	U.S. DEPARTMENT OF ENERGY
By:_____	By:_____
Title:_____	Title:_____
Date: 4/05/01	Date: 2/08/01

Attachment 1—Annual Delivery Schedules

DOE Deliveries to TVA						TVA Deliveries to DOE
A Fiscal Year	B Planned Low Enriched Uranium As Uranyl Nitrate[1]	C Planned High Enriched Uranium[1,2] as Metal and Alloy	D Natural Uranium as UF_6	E Cumulative Equivalent Low Enriched Uranium at 4.95% U-235	F Natural Uranium As Uranyl Nitrate[1,3]	
2001			486,430			
2003	12,433	984		12,433	19,664	
2004	67,461	4,436		79,894	69,54364,025	
2005	62,339	5,434		163,594	55,010	
2006	60,260	3,839		268,322	24,665	
2007	28,391	4,828		369,565	15,085 0	
2008	24,376	3,062		480,985	0	
2009	0	117		556,591	0	
2010	0	0		559,416		
2011	0	0		565,860		
TOTAL	255,260[4]	22,700	486,430	565,860[4]	247,992	

Note; FY 2011 and total quantities in columns are projections. All other quantities shown in this table are actual values. All quantities shown in this table are rounded.

1. Specific monthly delivery schedules shall be mutually agreed to by DOE and TVA every six months commencing in April 2002.

2. Detailed HEU delivery schedules of Column C material shall be classified information.
3. Natural Uranium shipments may begin as early as January 2003. Monthly quantities shall be adjusted based on the actual average assays of HEU to be blended at SRS.
4. Assumptions:
   a. Total HEU blended at SRS = 15,743 KgU @ 64.78% average enrichment
   b. Maximum LEU from SRS = 237,943 KgU @ 4.95% enrichment
   c. Potential process variances at SRS = 4,943 KgU @ 4.95% enrichment
   d. Net nominal LEU from SRS = 233,000 KgU @ 4.95% enrichment
   e. Total nominal equivalent LEU @ 4.95% = 233,000 KgU from SRS + 235,000 KgU from HEU delivered to TVA.
   f. Minimum LEU from SRS = 226,500 KgU @ 4.95% enrichment

Attachment 1A—Annual Delivery Schedules for up to 87 MT LEU Addition

DOE Deliveries to TVA (KgU)					TVA Deliveries to DOE (KgU)
A Fiscal Year	B Planned Low Enriched Uranium as Uranyl Nitrate[1]	C Planned High Enriched Uranium	D Natural Uranium as UF_6	E Cumulative Equivalent Low Enriched Uranium at 4.95% U-235	F Natural Uranium as Uranyl Nitrate [1,2]
2009	9,789	N/A	N/A	9,789	10,057
2010	21,044			30,833	20,123
2011	14,227			45,060	11,220
2012	0			45,060	
2013	0			45,060	
2014	1,000			46,060	1,000
2015	6,000			52,060	6,000
2016	11,000			63,060	11,000
2017	11,000			74,060	11,000
2018	12,940			87,000	9,000
TOTAL	87,000	N/A	N/A	87,000	79,400

Notes:

1. Specific monthly delivery schedules shall be mutually agreed to by DOE and TVA every six months.
2. Monthly quantities for natural uranium shipments shall be adjusted based on the actual average assays of HEU to be blended at SRS.
3. FY 2008 – 2010 quantities are actual values, FY 2011 quantities are projetions

Attachment 2

SRS Low Enriched Uranyl Nitrate Solution Specifications

Element	Units	SPECIFICATION	EBC Factor
Aluminum	µg/g U	≤150	0.0001
Arsenic	µg/g U	≤50	NA
Barium	µg/g U	≤555	0.0001
Boron	µg/g U	EBC (1)	1.0
Cadmium	µg/g U	≤5	0.3172
Calcium + Magnesium	µg/g U	≤250	0.0002(Ca)
Carbon	µg/g U	≤400	NA
Cesium	µg/g U	EBC (1)	0.0031
Chlorine	µg/g U	≤200	0.0134
Chromium	µg/g U	≤150	0.0008
Cobalt	µg/g U	≤80	0.0089
Copper	µg/g U	≤200	0.0008
Dysprosium	µg/g U	EBC (1)	0.0818
Europium	µg/g U	EBC (1)	0.4250
Fluorine	µg/g U	≤100	NA
Gadolinium	µg/g U	EBC (1)	4.3991
Hafnium	µg/g U	EBC (1)	0.0082
Iron	µg/g U	≤400	0.0006
Lead	µg/g U	≤200	NA
Lithium	µg/g U	EBC (1)	0.1439
Manganese	µg/g U	≤200	0.0034
Mercury	µg/g U	≤2	NA
Molybdenum	µg/g U	≤200	0.0004
Nickel	µg/g U	≤150	0.0011
Phosphorus	µg/g U	≤200	0.0001
Potassium	µg/g U	≤50	NA
Samarium	µg/g U	EBC (1)	0.5336
Silicon	µg/g U	≤200	0.0001
Selenium	µg/g U	≤10	NA
Silver	µg/g U	≤100	0.0083
Sodium	µg/g U	≤50 (2)	NA
Sulfur	µg/g U	≤200	NA
Tantalum	µg/g U	≤200	0.0016
Thorium	µg/g U	≤20	NA
Tin	µg/g U	≤200	0.0001
Titanium	µg/g U	≤200	0.0018
Tungsten	µg/g U	≤200	0.0014
Vanadium	µg/g U	≤200	0.0014

Element	Units	SPECIFICATION	EBC Factor
Zinc	µg/g U	≤200	0.0002
Zirconium	µg/g U	≤100	NA
Total Chemical Impurities	µg/g U	≤1500	Total EBC ≤4.O
Uranyl Nitrate Concentration	g U/I	115±20	NA
Nitric Acid	Normality	0.1-0.7	NA
^{232}U	µg/g U	≤2.OE-03	NA
^{234}U	µg/g U	≤2.OE+03	NA
^{235}U	wt. % of U	4.95(+.04%/-.05%)	NA
^{236}U	µg/g U	≤2.5E+04	NA
Plutonium/Neptunium Activity	Bq/g U	≤40	NA
Fission Product Gamma Activity	MeV Bq/ Kg U	≤4.4 E+05 Total	NA
Tc-99	µg/g U	≤5	NA

1. The impurity level shall be limited such that the EBC does not result in a Total EBC >4.0.

2. Individual uranyl nitrate batches may exceed the sodium specification if the average sodium concentration for every five batches is s50 µg/g U. A batch is approximately 11,000 gallons of LEU solution corresponding to the capacity of the blend tank.

Attachment 3

HEU Metal Button Specifications [1]

Element	Units	Specification	ESC Factor
Aluminum	µg/g U	≤700	
Arsenic	µg/g U	≤250	
Barium	µg/g U	≤2900	
Boron	µg/g U	EBC [2]	1.0
Cadmium	µg/g U	≤26	
Calcium + Magnesium	µg/g U	≤1450	
Carbon	µg/g U	≤1950	
Cesium	µg/g U	EBC [2]	0.0031
Chlorine	µg/g U	≤900	
Chromium	µg/g U	≤600	
Cobalt	µg/g U	≤390	
Copper	µg/g U	≤1000	
Dysprosium	µg/g U	EBC [2]	0.0818
Europium	µg/g U	EBC [2]	0.4250
Fluorine	µg/g U	≤340	
Gadolinium	µg/g U	EBC[2]	4.3991
Hafnium	µg/g U	EBC[2]	0.0082
Iron	µg/g U	≤1800	
Lead	µg/g U	≤1200	
Lithium	µg/g U	EBC[2]	0.1439
Manganese	µg/g U	≤1200	
Mercury	µg/g U	≤12	
Molybdenum	µg/g U	≤1150	
Nickel	µg/g U	≤600	
Phosphorus	µg/g U	≤950	
Potassium	µg/g U	≤200	
Samarium	µg/g U	EBC [2]	0.5336
Selenium	µg/g U	≤62	
Sodium	µg/g U	≤250	
Silicon	µg/g U	≤800	
Silver	µg/g U	≤550	
Sulfates, nonmetallic	µg/g U	≤900	
Tantalum	µgS/g U	≤1150	
Thorium	µg/g U	≤10	
Tin	µg/g U	≤1150	
Titanium	µg/g U	≤1150	
Tungsten	µg/g U	≤1150	
Vanadium	µg/g U	≤1150	
Zinc	µg/g U	≤1150	

Attribute	Units	Specification	EBC Factor
Zirconium	μg/g U	≤500	
Total Chemical Impurities	μg/g U	≤6590	
^{235}U	weight percent	≤100	
^{99}Tc	μg/g U	≤32	
Plutonium/Neptunium Activity	Bq/g U	≤600	
Total Gamma Activity [3] (fission and decay products)	MeV Bq/ Kg U	≤2.37 E+08	

1. DOE and TVA agree that it may be necessary to combine some lots of HEU metal to meet these specifications. DOE shall deliver the HEU metal buttons broken into pieces weighing no more than 1.5 KgU each.

2. The total Equivalent Boron Content (EBC) of the eight elements noted in the table above shall not exceed 12 □g/g U. The EB in accordance with ASTM C-1233, "Standard Practice for Determining Equivalent Boron Contents of Nuclear Materials."

3. The total gamma activity for just the fission products with atomic no. less than 200 is to be 2.70E + 06 MeV Bq/kg U or less.

Attachment 4
Natural Uranyl Nitrate Solution Specifications

Element	Units	Specification
Aluminum	µg/g U	≤20
Arsenic	µg/g U	≤5
Barium	µg/g U	≤50
Boron	µg/g U	EBC
Cadmium	µg/g U	EBC
Calcium + Magnesium	µg/g U	≤40
Carbon	µg/g U	≤75
Chlorine	µg/g U	≤60
Chromium	µg/g U	≤30
Cobalt	µg/g U	≤10
Copper	µg/g U	≤20
Fluorine	µg/g U	≤40
Iron	µg/g U	≤60
Lead	µg/g U	≤5
Manganese	µg/g U	≤5
Mercury	µg/g U	≤1
Molybdenum	µg/g U	≤10
Nickel	µg/g U	≤30
Phosphorus	µg/g U	≤25
Potassium	µg/g U	≤10
Rare Earths (Sm,Gd,Eu,Dy,Hf)	µg/g U	EBC
Silicon	µg/g U	≤40
Selenium	µg/g U	≤2
Silver	µg/g U	≤5
Sodium	µg/g U	≤10
Sulfur	µg/g U	≤30
Tantalum	µg/g U	≤10
Thorium	µg/g U	≤10
Tin	µg/g U	≤10
Titanium	µg/g U	≤10
Tungsten	µg/g U	≤10
Vanadium	µg/g U	≤10
Zinc	µg/g U	≤10
Zirconium	µg/g U	≤10
Total Chemical Impurities	µg/g U	≤250
Equivalent Boron Content	µg/g U	≤2
U-235	wt% of U	0.700
Uranyl Nitrate Concentration	g U/l	425±25
Nitric Acid	Normality	0.1-0.5