U. S. DEPARTMENT OF ENERGY
AND
TENNESSEE VALLEY AUTHORITY

MODIFICATION

THIS MODIFICATION, entered into as of this the 1st day of July 2013 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, on April 5, 2001, DOE and TVA entered into Interagency Agreement No. DE-SA09-01SR18976/ P-01N8A-249655-001, effective as of the same date, for blend-down of Highly Enriched Uranium (HEU), and

NOW, THEREFORE, Agreement No. DE-SA09-01SR18976/ P-01N8A-249655-001 is hereby further modified in the following particulars:

The purpose of this modification is to add 40 metric tons of LEU to this project beyond the amounts previously specified, revise the delivery schedule, and update current contract personnel as follows:

(1) Article 2 - Scope, paragraph A is changed as follows:

From: DOE agrees to deliver to TVA for processing and use in reactors: (1) LEU which is at a minimum equivalent to 301,000 Kg U at an assay of 4.95% in the form of Low Enriched Uranium 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 Kg U 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.

To: 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 Uranium 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.

(2) Article 2 - Scope, paragraph B is changed as follows:

From: TVA agrees to deliver to DOE: (1) a minimum of 289,400 Kg 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.

To: TVA agrees to deliver to DOE: (1) a minimum of 327,400 Kg 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.

(3) Article 4 – DOE DELIVERY OF LOW-ENRICHED URANYL NITRATE TO TVA, paragraph A is changed as follows:

From: DOE shall deliver to TVA at SRS all LEU derived from downblending approximately 8,624 KgU of irradiated uranium aluminum alloy fuel, 7,119 KgU of unirradiated uranium aluminum alloy fuel, and additional material from various other forms of HEU. Although estimated at approximately 302,260 KgU at 4.95%, the resultant LEU shall be at a minimum equivalent to 301,000 KgU at an assay of 4.95% in the form of uranyl nitrate solution. Delivery shall be F.O.B. Origin.

To: DOE shall deliver to TVA at SRS all LEU derived from downblending approximately 8,624 KgU of irradiated uranium aluminum alloy fuel, 7,119 KgU of unirradiated uranium aluminum alloy fuel, and additional material from various other forms of HEU. Although estimated at approximately 342,260 KgU at 4.95%, the resultant LEU shall be at a minimum equivalent to 341,000 KgU at an assay of 4.95% in the form of uranyl nitrate solution. Delivery shall be F.O.B. Origin.

(4) Article 7 - TVA Blendstock Material Delivery to DOE, paragraph A is changed as follows:

From: TVA shall deliver to SRS a minimum of 289,400 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.
To: 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.

(5) Article 23 – Notices and Addresses, DOE Point of Contact is changed as follows:

**From:**
National Nuclear Security Administration Contracting Officer  
National Nuclear Security Administration,  
Y-12 Nuclear Security Complex  
ATTN: Philip M. Kirby  
Jack Case Center, MS 8009  
Oak Ridge, TN 37831  
(865) 574-3233

**To:**
National Nuclear Security Administration Contracting Officer  
National Nuclear Security Administration,  
Y-12 Nuclear Security Complex  
ATTN: Connie D. Bayless  
Jack Case Center, MS 8009  
Oak Ridge, TN 37831  
(865) 241-3917

(6) Attachment 1- A is changed to reflect the increase in quantity.

From:

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<tr>
<th>A Fiscal Year</th>
<th>B Planned Low Enriched Uranium as Uranyl Nitrate¹</th>
<th>C Planned High Enriched Uranium</th>
<th>D Natural Uranium as UF₆</th>
<th>E Cumulative Equivalent Low Enriched Uranium at 4.95% U-235</th>
<th>F Natural Uranium as Uranyl Nitrate¹,²</th>
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To:

Attachment 1A—Annual Delivery Schedules for up to 87 MT LEU Addition (Mod 42)
(7) All other provisions of the Interagency Agreement remain unchanged as of the date written

IN WITNESS WHEREOF, this Modification is executed on the day and year first above written.

UNITED STATES OF AMERICA
NATIONAL NUCLEAR SECURITY
ADMINISTRATION

BY: PHILIP M. KIRBY
TITLE: Contracting Officer

TENNESSEE VALLEY AUTHORITY

BY: PAUL D. MULCAHY
TITLE: Contract Manager