

**From:** [Mark Whittaker](#)  
**To:** [Michele Sampson](#)  
**Subject:** RE: Proposed language for UX-30 CoC  
**Date:** Friday, April 03, 2009 12:42:47 PM  
**Attachments:** [Proposed language \(2\)-msw.doc](#)

---

Michele,

Attached are my comments on your draft of the UX-30 CoC. Please call if you have any questions or want to discuss any items.

Thanks

Mark Whittaker, CHP  
Energy Solutions  
(803) 758-1898  
(803) 252-9770 fax  
[mswhittaker@energysolutions.com](mailto:mswhittaker@energysolutions.com)

---

**From:** Michele Sampson [mailto:[Michele.Sampson@nrc.gov](mailto:Michele.Sampson@nrc.gov)]  
**Sent:** Friday, March 27, 2009 3:30 PM  
**To:** Mark Whittaker  
**Subject:** Proposed language for UX-30 CoC

Mark,

I have attached a draft of proposed language for the UX-30 CoC. Please take a look at it and let me know if you have any comments regarding the transitional provisions from AF to B(U)F.

Thank you,  
Michele Sampson

5(a) Packaging

- (1) Model No.: UX-30
- (2) Description

Overpack for 30-inch uranium hexafluoride (UF<sub>6</sub>) cylinders. The overpack is a right circular cylinder constructed of two stainless steel shells with the volume between the shells filled with 6-inch thick foam (7.8 - 9.8 PCF). A stepped and gasketed horizontal joint permits the top half of the overpack to be removed from the base. The package "halves" are secured with ten indexed, cross-locking "ball lock" pins. The overpack is 43.5" in diameter by 96" long. The maximum gross weight of the package is 8270 lbs.

Two types of 30 inch uranium hexafluoride cylinders may be carried in the UX-30 overpack. These are (1) an ANSI N14.1 Standard 30B cylinder, or (2) an ANSI N14.1 Standard 30C cylinder.

The ANSI N14.1 Standard 30C cylinder is essentially a 30B cylinder equipped with a Valve Protective Cover (VPC) that bolts over and protects the cylinder valve during transport. The VPC is a special design feature that provides additional assurance against the inleakage of water to the containment system and is an enclosure that retains any leakage.

- (3) Drawings

The Model No. UX-30 packaging is fabricated in accordance with EnergySolutions Drawing No. C-110-B-57922-0002, Sheets 1 through 3, Rev. 4.

(b) Contents

- (1) Type and form of material

- A. Unirradiated uranium, **which may include uranium derived from highly enriched uranium**, in the form of UF<sub>6</sub>, with a U-235 mass percentage not to exceed 5 weight percent.
- B. **Reprocessed uranium, in the form of UF<sub>6</sub>**, with a U-235 mass percentage not to exceed 5 weight percent. The fission product gamma activity shall not exceed 4.4 X 10<sup>5</sup> MeV Bq/kgU. The alpha activity from neptunium and plutonium shall be less than 3.3 X 10<sup>3</sup> Bq/kgU.

Deleted: or derived

- (2) Maximum quantity of material per package

5,020 pounds UF<sub>6</sub> contained in an ANSI Standard N14.1 30B or 30C cylinder. The maximum H/U atomic ratio for the UF<sub>6</sub> is 0.088. The total activity in the package may not exceed 10<sup>5</sup> A<sub>2</sub>.

Formatted: Indent: Left: 71.5 pt

- (c) Criticality Safety Index (CSI)

**This condition is not applicable to transport of UF<sub>6</sub> with up to 1 weight percent U-235.**

Formatted: Indent: Left: 0 pt, Hanging: 37.7 pt

Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30B cylinder

5.0

Criticality safety index for the UX-30 overpack containing a standard ANSI N14.1 30C cylinder

0.0

6. The ANSI standard 30B, 30-inch diameter UF<sub>6</sub> cylinder, must be fabricated, inspected, tested and maintained in accordance with a) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication or b) American National Standard N14.1-2001 or an earlier version of ANSI N14.1 in effect at the time of fabrication and ISO 7195:1993(F). Cylinders must be fabricated in accordance with Section VIII, Division I, of the ASME (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code and be ASME Code stamped.
7. The ANSI N14.1 Standard 30C cylinder (new or retrofitted cylinders) must be fabricated, inspected, tested, and maintained in accordance with ANSI N14.1-2001 Addendum 2-2004.
8. When the optional 4 lid lifting clips are used instead of the top lugs, the top lid (cover) must be lifted with a spreader bar (saddle).
9. In addition to the requirements of Subpart G of 10 CFR Part 71:
  - (a) Prior to each shipment, the weather/dust seal gasket between the upper and lower shells must be inspected and must be replaced if inspection shows excessive wear or any defects to the gasket.
  - (b) Each packaging must meet the Acceptance Tests and Maintenance Program of Chapter 8 of the application, as supplemented.
  - (c) The package shall be prepared for shipment and operated in accordance with the Operating Procedures of Chapter 7 of the application, as supplemented.
  - (d) Prior to each shipment, the stainless steel components of the packaging, **which include the ball-lock pins**, must be visually inspected. Packagings in which stainless steel components show pitting, corrosion, cracking, or pinholes are not authorized for transport.
10. The 30-inch diameter UF<sub>6</sub> cylinder valve and plug threads may be tinned with ASTM B32, alloy 50A or Sn50 solder material, or a mixture of alloy 50A or Sn50 with alloy 40A or Sn40A material, provided the mixture has a minimum tin content of 45 percent.
11. Transport by air is not authorized.

~~12.~~ Packagings may be marked with Package Identification Number USA/9196/AF-96 until February 28, 2011 and must be marked with Package Identification Number USA/9196/B(U)F-96 after February 28, 2011. Any package transporting greater than a Type A quantity of UF<sub>6</sub> must be marked with Package Identification Number USA/9196/B(U)F-96.

Deleted: 12. The criticality safety index provisions of Condition 5(c) do not apply to transport of UF<sub>6</sub> with up to 1 weight percent U-235.¶

Deleted: 13

~~13.~~ The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.

Deleted: 14

14. Revision No. 23 of this certificate may be used until April 30, 2010.

Deleted: 15

15. Expiration date: February 28, 2011.

Deleted: 16