

Gallardy, Vivian

From: Conroy, Michael (PHMSA) <Michael.Conroy@dot.gov>
Sent: Tuesday, January 10, 2017 3:08 PM
To: Garcia Santos, Norma
Subject: [External_Sender] FW: FW: LEUPA - Conditions - URGENT
Attachments: Certificado de Aprobacion Adenda 1 - LEUPA Spanish English.pdf

Importance: High

Norma –

I just received this response from Edlow:

From: Marilena Conde [mailto:mconde@edlow.com]
Sent: Tuesday, January 10, 2017 2:59 PM
To: Conroy, Michael (PHMSA)
Subject: FW: FW: LEUPA - Conditions - URGENT
Importance: High

Hello Michael,

He has included the new certificate for the LEUPA cask.

Best regards,

Marilena Conde
Vice President
Marketing and Administration
EDLOW INTERNATIONAL COMPANY
Tel: 202-483-4959
Cell: 703-944-7949
email: mconde@edlow.com

From: Roberto Barrios [mailto:Barrios@invap.com.ar]
Sent: Tuesday, January 10, 2017 2:52 PM
To: Marilena Conde
Cc: Ana Arosa; Jose Ausas; Matias Gonzalo Marquez
Subject: Re: FW: LEUPA - Conditions - URGENT

Sorry now the certificate is attached

>>> Roberto Barrios 10/01/2017 16:49 >>>

Dear Marilena:

First of all we hope a Happy New Year for you and your colleges.

1. About the questions of DOT-NRC received, please note that we have an important part of our technicians on vacation up to January 23. With the group that is now working we prepare that required answers written in red in point 2.

2) Replying to the questions you sent in December, we have the following comments:

Model No. LEUPA package with the following conditions:

1. Plastic moderating material is prohibited for air shipment.

Our criticality calculations, which include plastic for wrapping, have verified that the maximum allowed quantity of material will not become critical in any of the considered scenarios. We consider that plastic material can be included in the package, provided that its mass is lower than the one used in the criticality analysis.

2. The acceptance criteria for components in drawing Nos. 0908-LE01-3AEIN-015-A, 0908-LE01-3AEIN-017-A, 0908-LE01-3AEIN-018-A, and 0908-LE01-3AEIN-019-A, as described in the "Acceptance criteria table," document No. 0908-LE00-3BEIN-026-B, "Inspection and Maintenance Manual," are modified as follows:

"There must not be any signs of corrosion, and their identification should be read clearly. Fixing welds should not be cracked."

This modification is accepted and may be included in the documentation we will send you promptly.

3. In addition to the operation steps described in document No. 0908-LE00-3BEIN-017, "Operation Manual," Section 7.2.8, "Transport of Empty Package," for shipments of empty packages, the package user shall confirm that the empty package meets the limits for internal non fixed contamination specified in TS-R-1, 2009 Edition, paragraph 425(c) for empty packagings.

This modification is accepted and may be included in the documentation we will send you promptly.

4. In addition to the operation steps described in document No. 0908-LE00-3BEIN-017, "Operation Manual," Section 7.2.7, "Transport," Step 1.f, for shipments of loaded packages, the package user shall verify that the transport index (TI) does not exceed 10.

This modification is under consideration and may be included in the documentation we will send you promptly.

5. In addition to the operation steps described in document No. 0908-LE00-3BEIN-017, "Operation Manual," Section 7.2.2, "Loading of Fissile Substances in Inner Cans," shall confirm per TS-R-1, paragraph 506, that in addition to the radioactive and fissile properties, any other dangerous properties of the contents of the package, such as explosiveness, flammability, pyrophoricity, chemical toxicity and corrosiveness, shall be taken into account.

a. For uranium metal powder, pieces, and/or grains:

i. Prior and during shipment, the size of uranium metal must be above a critical size to prevent pyrophoricity, in the unintended presence of moisture or oxygen.

Uranium metal powder, pieces and/or grains size can be limited to reduce surface area. Which would be the critical size you propose for these forms?

ii. In each inner can, uranium metal powder, pieces, and/or grains must be shipped in a vacuum dry and inert atmosphere, to prevent the presence of flammable gas prior or during shipment.

Can design appropriate to transport Uranium metal in powder, pieces and/or grains in inert atmosphere is not provided with the documentation attached to the certificate. We would like to highlight that up to 20% enriched Uranium metal can be transported. If you consider that the shipped Uranium metal should be restricted even more, we can analyze your opinion.

b. Plastic in any form, potentially producing flammable gas (e.g., hydrogen) and/or water vapor by thermolysis and/or radiolysis, is prohibited for shipment. – This condition is similar to the one related to criticality safety.

During our thermal analysis, the LEUPA packaging was heated up to 800°C and kept at that temperature for more than the required time. After this test, plastic wraps were visually inspected and no damage to it was observed. We consider that this test is proof that no flammable gases are generated in accidental conditions. We would like a justification for your limitation on the plastic content.

c. Besides proposed condition 5.a., for shipments including uranium metal powder, pieces, and/or grains, the “container of the inner containers” as shown in document No. 908-LE01-3AEIN-10-A, “Packaging Main Body,” must be maintained in a vacuum dry and inert atmosphere to prevent the presence of oxygen or flammable gas during shipment.

Some clarification is required; it is not clear for us if this condition applies to any content of only to Uranium metal powder, pieces and/or grains. We think that this atmosphere is not necessary when transporting non-pyrophoric material.

NEW CERTIFICATE

As the reported weight of the empty package (packaging) was unclear in the original certificate, ARN issued a modified certificate named RA/0103/B(U)F-96 (Version Original-Adenda 1). Attached you will find a copy of this certificate in Spanish and in English. The modified documentation for the attached certificate are issued, however this last round of questions may require modifications to this documentation and would have to be reissued. These modifications can be done upon mutual agreements on those corrections

Please note that just in case it is necessary we are available to have a telephone conference with the NRC-DOT technicians.

Best regards

Roberto

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