

June 15, 2006

U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Attn: Document Control Desk

Subject: Submittal of Proposed Revised Wording for Revision 41 of Certificate of Compliance No. 9225 for the NAC-LWT Cask

Docket No. 71-9225

- References:
1. Model No. NAC-LWT Package, Certificate of Compliance (CoC) No. 9225, Revision 40, U.S. Nuclear Regulatory Commission (NRC), December 30, 2005
 2. Safety Analysis Report (SAR) for the NAC Legal Weight Truck Cask, Revision 37, NAC International, June, 2005
 3. Submittal of a Request for an Amendment of CoC No. 9225 for the NAC-LWT Cask to Incorporate as Approved Contents the Australian Nuclear Science and Technology Organization's (ANSTO) Spiral Fuel and MOATA Plate Bundles, NAC International, April 17, 2006
 4. Request for Additional Information (RAI) for Review of the Certificate of Compliance No. 9225, Revision 41, for the Model No. NAC-LWT Package, U. S. NRC, June 2, 2006
 5. Responses to RAI on the Amendment Application for CoC No. 9225 for the NAC-LWT Cask to Incorporate as Approved Contents the ANSTO Spiral Fuel and MOATA Plate Bundles, NAC International, June 9, 2006

In accordance with References 3 and 5, NAC International (NAC) herewith submits proposed revised wording for Revision 41 of the Certificate of Compliance (CoC) No. 9225 for the NAC-LWT cask.

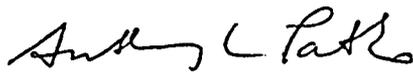
The proposed revised wording incorporates as approved contents up to 42 spiral fuel assemblies (also referred to in the application as Mark III spiral fuel) and up to 42 MOATA plate bundles, or any combination of both up to a total of 42 assemblies/bundles contained in ANSTO basket modules, as requested in Reference 3 and supplemented by Reference 5.

Attached to this transmittal letter is a list of the proposed changes organized by page number and item number of CoC #9225, based on Revision 40 of the CoC.

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If you have any comments or questions, please contact me on my direct line at 678-328-1274.

Sincerely,



Anthony L. Patko
Director, Licensing
Engineering

Attachment

Proposed Changes for Revision 41 of
Certificate of Compliance No. 9225
for the NAC-LWT Cask

**Proposed Changes for Revision 41 of Certificate of Compliance No. 9225
for the NAC-LWT Cask (changes are highlighted)**

Page No.	Description of Change																																
1-21	CoC heading – 1.b.: Revision Number 41 Remove previous revision bars throughout																																
3	5.(a)(3)(ii), Drawings (continued) – add the following four new drawings: LWT 315-40-139, Rev. 0 Transport Cask Assembly, ANSTO Fuel LWT 315-40-140, Rev. 0 (Sheets 1-2) Weldment, 7 Cell Basket, Top Module, ANSTO Fuel LWT 315-40-141, Rev. 0 (Sheets 1-2) Weldment, 7 Cell Basket, Intermediate Module, ANSTO Fuel LWT 315-40-142, Rev. 0 (Sheets 1-2) Weldment, 7 Cell Basket, Base Module, ANSTO Fuel																																
11	5.(b)(1), Type and form of m aterial (continued) (x) – table to be changed as follows: <table border="1" data-bbox="381 946 1450 1342"> <thead> <tr> <th>Parameter</th> <th>LEU⁽¹⁾</th> <th>MEU⁽¹⁾</th> <th>HEU⁽¹⁾</th> </tr> </thead> <tbody> <tr> <td>Maximum ²³⁵U content per Element</td> <td>≤ 190 g</td> <td>≤ 190 g</td> <td>≤ 190 g</td> </tr> <tr> <td>Maximum Uranium content per Element</td> <td>≤ 1000 g</td> <td>≤ 475.0 g</td> <td>≤ 211.1 g</td> </tr> <tr> <td>Minimum Fuel Tube Thickness</td> <td>0.130 cm</td> <td>0.130 cm</td> <td>0.130 cm</td> </tr> <tr> <td>Minimum Clad Thickness</td> <td>0.025 cm</td> <td>0.025 cm</td> <td>0.025 cm</td> </tr> <tr> <td>Maximum Outer Diameter</td> <td>9.535 cm</td> <td>9.535 cm</td> <td>9.535 cm</td> </tr> <tr> <td>Minimum Nominal Inner Diameter</td> <td>5.88 cm</td> <td>5.88 cm</td> <td>5.88 cm</td> </tr> <tr> <td>Minimum Initial Enrichment</td> <td>19 wt% ²³⁵U</td> <td>40 wt% ²³⁵U</td> <td>90 wt% ²³⁵U</td> </tr> </tbody> </table> <p>⁽¹⁾ The maximum burnup and minimum cool time shall be consistent with the decay heat limits in Item 5.(b)(2)(ix) and shall be determined using the operating procedures in Section 7.1.4 of the application.</p>	Parameter	LEU ⁽¹⁾	MEU ⁽¹⁾	HEU ⁽¹⁾	Maximum ²³⁵ U content per Element	≤ 190 g	≤ 190 g	≤ 190 g	Maximum Uranium content per Element	≤ 1000 g	≤ 475.0 g	≤ 211.1 g	Minimum Fuel Tube Thickness	0.130 cm	0.130 cm	0.130 cm	Minimum Clad Thickness	0.025 cm	0.025 cm	0.025 cm	Maximum Outer Diameter	9.535 cm	9.535 cm	9.535 cm	Minimum Nominal Inner Diameter	5.88 cm	5.88 cm	5.88 cm	Minimum Initial Enrichment	19 wt% ²³⁵ U	40 wt% ²³⁵ U	90 wt% ²³⁵ U
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13	5.(b)(1), Type and form of material (continued) – add: (xiv) Irradiated Spiral Fuel Assemblies consisting of 10 intact curved uranium-aluminum alloy fuel plates between an inner and an outer aluminum shell. The maximum burnup and minimum cool time shall be consistent with the decay heat limits specified in Item 5.(b)(2)(xv) and shall be determined using the procedure for 18 W DIDO MEU fuel in Section 7.1.4 of the application. Spiral fuel assembly specifications are listed below.																																

**Proposed Changes for Revision 41 of Certificate of Compliance No. 9225
for the NAC-LWT Cask (changes are highlighted) (cont'd)**

Page No.	Description of Change																												
<p align="center">13 (cont'd)</p>	<p>Continuation of 5.(b)(1), Type and form of material (continued) (xiv)</p> <table border="1" data-bbox="388 442 1450 825"> <thead> <tr> <th data-bbox="388 442 1073 495">Parameter</th> <th data-bbox="1073 442 1450 495">Limiting Values</th> </tr> </thead> <tbody> <tr> <td data-bbox="388 495 1073 549">Maximum number of fuel plates per assembly</td> <td data-bbox="1073 495 1450 549">10</td> </tr> <tr> <td data-bbox="388 549 1073 602">Maximum ²³⁵U content per assembly (g)</td> <td data-bbox="1073 549 1450 602">160</td> </tr> <tr> <td data-bbox="388 602 1073 655">Maximum enrichment (wt.% ²³⁵U)</td> <td data-bbox="1073 602 1450 655">85</td> </tr> <tr> <td data-bbox="388 655 1073 708">Maximum assembly heat load (W)</td> <td data-bbox="1073 655 1450 708">157</td> </tr> <tr> <td data-bbox="388 708 1073 761">Maximum assembly weight (lb)</td> <td data-bbox="1073 708 1450 761">18</td> </tr> <tr> <td data-bbox="388 761 1073 815">Minimum plate thickness (cm)</td> <td data-bbox="1073 761 1450 815">0.124</td> </tr> </tbody> </table> <p>(xv) Irradiated intact MOATA plate bundles consisting of uranium-aluminum alloy fuel plates with aluminum cladding. The maximum burnup for the MOATA plate bundle is 30,000 MWd/MTU or 4.1 wt.% ²³⁵U depletion and the minimum cool time is 10 years. MOATA plate bundle fuel parameters are specified below:</p> <table border="1" data-bbox="388 1081 1450 1453"> <thead> <tr> <th data-bbox="388 1081 1073 1134">Parameter</th> <th data-bbox="1073 1081 1450 1134">Limiting Values</th> </tr> </thead> <tbody> <tr> <td data-bbox="388 1134 1073 1187">Maximum number of fuel plates per assembly</td> <td data-bbox="1073 1134 1450 1187">14</td> </tr> <tr> <td data-bbox="388 1187 1073 1240">Maximum ²³⁵U content per plate (g)</td> <td data-bbox="1073 1187 1450 1240">22.3</td> </tr> <tr> <td data-bbox="388 1240 1073 1293">Maximum enrichment (wt.% ²³⁵U)</td> <td data-bbox="1073 1240 1450 1293">92</td> </tr> <tr> <td data-bbox="388 1293 1073 1347">Maximum plate spacer thickness (cm)</td> <td data-bbox="1073 1293 1450 1347">0.18</td> </tr> <tr> <td data-bbox="388 1347 1073 1400">Maximum active fuel width (cm)</td> <td data-bbox="1073 1347 1450 1400">7.32</td> </tr> <tr> <td data-bbox="388 1400 1073 1453">Maximum bundle weight (lb)</td> <td data-bbox="1073 1400 1450 1453">18</td> </tr> </tbody> </table>	Parameter	Limiting Values	Maximum number of fuel plates per assembly	10	Maximum ²³⁵ U content per assembly (g)	160	Maximum enrichment (wt.% ²³⁵ U)	85	Maximum assembly heat load (W)	157	Maximum assembly weight (lb)	18	Minimum plate thickness (cm)	0.124	Parameter	Limiting Values	Maximum number of fuel plates per assembly	14	Maximum ²³⁵ U content per plate (g)	22.3	Maximum enrichment (wt.% ²³⁵ U)	92	Maximum plate spacer thickness (cm)	0.18	Maximum active fuel width (cm)	7.32	Maximum bundle weight (lb)	18
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<p align="center">17</p>	<p>5.(b)(2), Maximum quantity of material per package (continued)</p> <p>(xi) For DIDO fuel as described in Item 5.(b)(1)(xi) – Replace by:</p> <p>Up to 42 DIDO fuel elements with a maximum decay heat not to exceed 25 watts per DIDO fuel element, provided the top basket fuel element active fuel region is spaced a minimum 3.7 inches from the bottom of the cask lid. Spacing of the active fuel may be accomplished by fuel element hardware, lid spacer, or a combination thereof. Maximum decay heat is 1.05 kilowatts per package. At a top basket active fuel region to cask lid spacing of less than 3.7 inches, the maximum decay heat not to exceed 1.8 watts per DIDO fuel element and a total of 756 watts per package.</p>																												

**Proposed Changes for Revision 41 of Certificate of Compliance No. 9225
for the NAC-LWT Cask (changes are highlighted) (cont'd)**

Page No.	Description of Change
18	<p>5.(b)(2), Maximum quantity of material per package (continued) – add:</p> <p>(xv) For spiral fuel assemblies as described in Item 5.(b)(1)(xiv): Up to 42 intact spiral fuel assemblies that may be cropped by removing nonfuel-bearing hardware to fit the ANSTO basket. The maximum heat load per spiral fuel assembly is 15.7 watts. Spiral fuel assemblies are constrained to DIDO MEU cool time limits as a function of burnup. Minimum cool times, down to 270 days, shall be determined using the procedure presented in Section 7.1.4 of the application.</p> <p>(xvi) For MOATA plate bundles as described in Item 5.(b)(1)(xv): Up to 42 MOATA plate bundles. Maximum heat load per bundle is 3 watts. Minimum cool time is 10 years.</p>
19	<p>5.(c), Criticality Safety Index – change to read as follows:</p> <p>(1) For TRIGA fuel elements, TRIGA fuel cluster rods, metallic fuel rods, MTR fuel assemblies, up to 25 PWR fuel rods, up to 25 high burnup PWR or BWR rods, GA IFM, and uncanned intact PULSTAR fuel assemblies and elements, and up to 42 spiral fuel assemblies or up to 42 MOATA plate bundles, or any combination thereof not exceeding a total quantity of 42: 0.0</p> <p>11. – change to read as follows:</p> <p>11. When shipping PWR, BWR, MTR, DIDO assemblies, TRIGA fuel elements, TRIGA fuel cluster rods, individual PWR rods, or high burnup PWR or BWR rods, GA IFM, and PULSTAR fuel elements, spiral fuel assemblies and MOATA plate bundles, the neutron shield tank must be filled with a mixture of water and ethylene glycol which will not freeze or precipitate in a temperature range from -40°F to 250°F. The water and ethylene glycol mixture must contain at least 1% boron by weight.</p>
20	<p>12. – change to read as follows:</p> <p>12. A personnel barrier must be used when shipping PWR or BWR assemblies. Shipments of MTR, DIDO fuel assemblies, TRIGA fuel elements, TRIGA fuel cluster rods, individual PWR rods, high burnup PWR or BWR rods, TPBARs, or PULSTAR fuel elements, spiral fuel assemblies or MOATA plate bundles must use the ISO container or a personnel barrier.</p>

**Proposed Changes for Revision 41 of Certificate of Compliance No. 9225
for the NAC-LWT Cask (changes are highlighted) (cont'd)**

Page No.	Description of Change
<p align="center">20 (cont'd)</p>	<p>Add new Item 16 as follows:</p> <p>16. For shipment of ANSTO fuel:</p> <p>(a) ANSTO fuel (spiral fuel assemblies and MOATA plate bundles) must be shipped in ANSTO basket modules.</p> <p>(b) ANSTO basket modules may contain any combination of either spiral fuel assemblies or MOATA plate bundles up to a total of 42 assemblies/bundles.</p> <p>(c) Spiral fuel assemblies may be cropped by removing nonfuel-bearing hardware to fit the ANSTO basket.</p> <p>Former Items 16-19 become Items 17-20.</p> <p>New Item 19 is changed to read as follows:</p> <p>19. Revision 40 of this certificate may be used until June 30, 2007.</p>
<p align="center">21</p>	<p>Supplements dated: December 15, 2005, April 17, 2006, June 9, and June 15, 2006.</p>