U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

May 11, 2020

Ms. Andrea Kock, Director
Division of Fuel Management,
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11545 Rockville Pike, Mail Stop T4A60
Rockville, MD 20852-2738

Dear Ms. Kock:

In accordance with the Memorandum of Understanding between our agencies, I request that you review the attached Japanese Certificate of Competent Authority J/2009/AF-96 (Rev. 1), dated August 3, 2018, for the GP-01 package and make a recommendation concerning our revalidation of the package for import and export use.

To assist you in your review, a copy of the package design safety report for the GP-01 package along with other supporting documents have been provided to your staff electronically from our applicant, TN Americas LLC. TN Americas indicates a need for revalidation to support a shipment in April 2021.

If you have any questions or need any additional safety information, please feel free to contact Michael Conroy of my staff at (202) 366-3597 or via email at Michael.Conroy@dot.gov.

Sincerely,

Richard W. Boyle,
Radioactive Materials/ Research & Development
Division of Sciences, Engineering and Research
Office of Hazardous Materials Safety

Enclosures

IDENTIFICATION MARK
J/2009/AF-96(Rev.1)

COMPETENT AUTHORITY
OF
JAPAN

CERTIFICATE FOR APPROVAL OF PACKAGE DESIGN FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

ISSUED BY

NUCLEAR REGULATION AUTHORITY
1-9-9, ROPPONGI MINATO-KU
TOKYO, JAPAN

CERTIFICATE FOR APPROVAL OF PACKAGE DESIGN FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

This is to certify, in response to the application by Nuclear Fuel Industries, Ltd., that the package design described herein complies with the design requirements for a package containing spent fuel elements, specified in the 2012 Edition of the Regulations for the Safe Transport of Radioactive Material (International Atomic Energy Agency, Safety Standards Series No.SSR-6) and the Japanese rules based on the Act on Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors.

This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported.

COMPETENT AUTHORITY
IDENTIFICATION MARK : J/2009/AF-96(Rev.1)

August 3, 2018
Date

青木一哉
Kazuya Aoki

Director, Division of Licensing for
Nuclear Fuel Facilities

Secretariat of Nuclear Regulation Authority
Competent Authority of JAPAN
for Package Design Approval

1. The Competent Authority Identification Mark : J/2009/AF-96(Rev.1)

2. Name of Package : GP-01

3. Type of Package : Type A package containing Fissile

4. Specification of Package
   (1) Materials of Packaging : See the attached Table-1

   (2) Total Weight of Packaging : 730 kg or less

   (3) Outer Dimensions of Packaging
      (i)Length : Approximately 1140 mm
      (ii)Width : Approximately 830 mm
      (iii)Height : Approximately 1060 mm

   (4) Total Weight of Package : 1300 kg or less

   (5) Illustration of Package : See the attached Figure (Bird's-eye view)

5. Specification of Radioactive Contents : See the attached Table-2

6. Description of Containment System
   The inner receptacle which is the containment boundary of this package consists of the body, the lid and the O-ring. The O-ring is made of silicon rubber.

7. For package containing Fissile Materials
   (1) Restrictions on Package
      (i)Restriction Number "N" : No restriction
      (ii)Array of Package : No restriction
      (iii)Criticality Safety Index (CSI) : 0

(2) Description of Confinement System

Confinement system consists of the inner receptacle which maintains the fuel pellets contained in the package.

(3) Assumptions of Leakage of Water into Package

The criticality analysis of this package is carried out on the assumption that the fuel zone is immersed in water under normal conditions and under accident conditions.

(4) Special Features in Criticality Assessment

There is no special device.

8. For Type B(M) Packages, a statement regarding prescriptions of Type B(U) Package that do not apply to this Package

Not applicable.

9. Assumed Ambient Conditions

(i)Ambient Temperature Range :−40℃～38℃

(ii)Insolation Data : Table13 of IAEA Regulation (No.SSR-6)

10. Handling, Inspection and Maintenance

(1) Handling Instructions

(i) Package should be handled carefully in accordance with the schedule and procedures established properly taking all possible safety measures.

(ii) Package should be handled using appropriate lifting devices such as forklift or crane.

(iii) When packaging is stored outdoors, appropriate measures should be taken, avoiding the direct exposure to the weather.

(2) Inspections and Maintenance of Packaging

The following inspections should be performed not less than once a year (once for every ten times in a case where the packaging is used not less than ten times a year) and defect of packaging should be repaired, if any, in order to maintain the integrity of packaging.

i) Visual inspection

ii) Subcriticality inspection

iii) Lifting inspection

iv) Maintenance ofvalve and gaskets of containment system

(3) Actions prior to Shipment

The following inspections should be performed prior to shipment.

(i) Visual Inspection
(ii) Contents Inspection
(iii) Surface Contamination Inspection
(iv) Dose Rate Inspection
(v) Subcriticality Inspection
(vi) Weight Inspection
(vii) Lifting Inspection

(4) Precautions for Loading of Package for Shipment

Package should be securely loaded to the conveyance at the designated tie-down portion of the packaging so as not to move, roll down or fall down from the loading position during transport.

11. Issue Date and Expiry Date

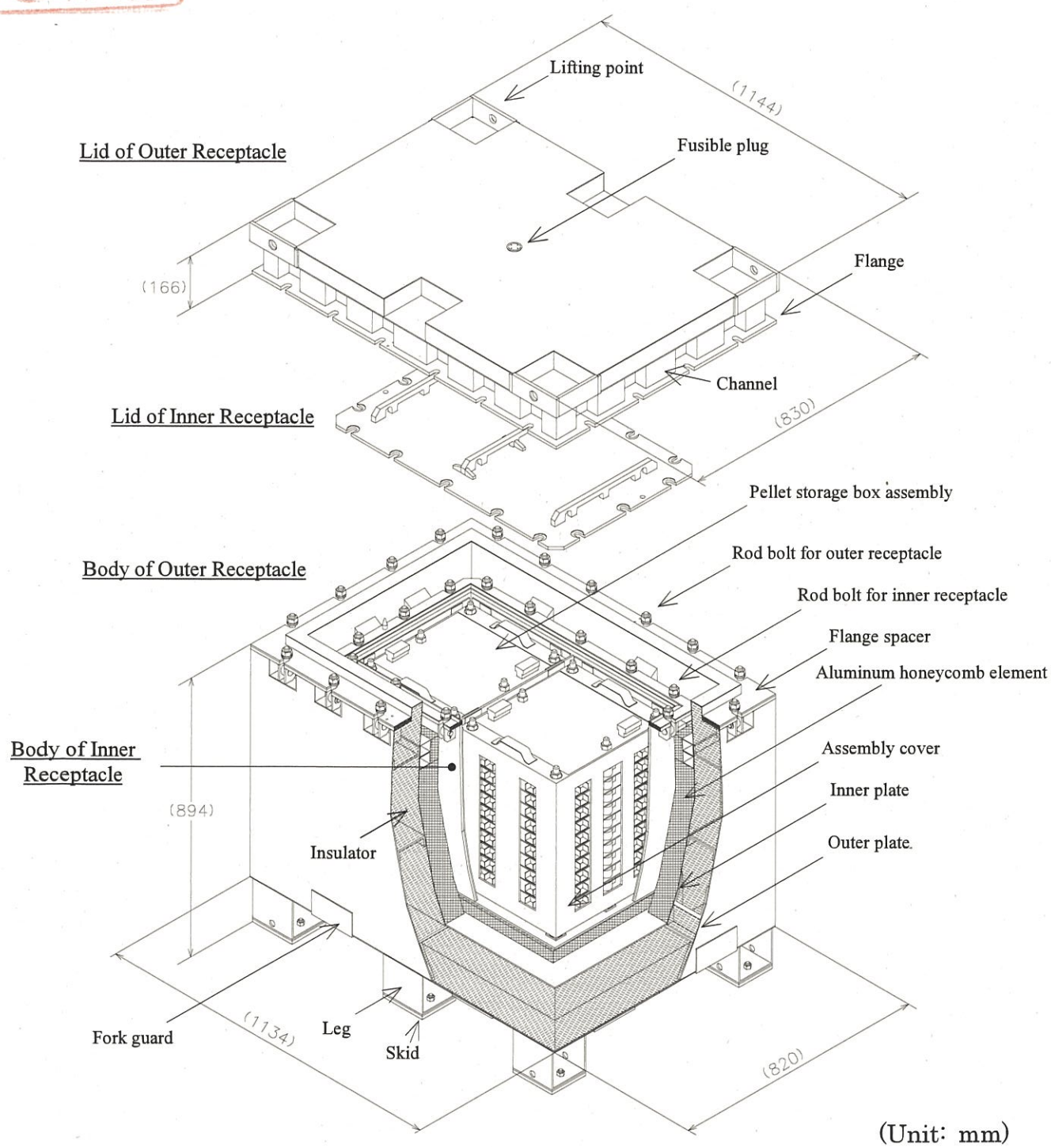
(i)Issue Date : Sep. 9, 2018
(ii)Expiry Date : Sep. 8, 2023

Table 1. Material of Packaging

Component	Material
Outer receptacle	Stainless Steel
Inner receptacle	Stainless Steel
Heat insulating material	Ceramic Fiber
Neutron absorber	Borated stainless steel
Shock absorber	Aluminum honeycomb
Rod bolt	Chrome molybdenum steel
Nut	Stainless Steel
Spacer, Skid, etc.	Fire-resistant rubber, Silicone rubber, Neoprene rubber, Urethane rubber

Table 2. Description of Nuclear Fuel Materials and so on

Description	Uranium oxide(UO_2, UO_3 and U_3O_8) or Uranium oxides mixed with gadolinia	
Physical State	Solid (Pellet)	
Weight	2 units of pellet storage box assembly(Type A) : 264kg or less 2 units of pellet storage box assembly(Type B) : 200kg or less Type A and Type B are not combined in one package	
Activity	Total	3.75×10^{10} Bq or less
	^{232}U	1.34×10^{8} Bq or less
	^{234}U	2.70×10^{10} Bq or less
	^{235}U	1.87×10^{9} Bq or less
	^{236}U	1.40×10^{8} Bq or less
	^{238}U	8.26×10^{9} Bq or less
	^{99}Tc	1.46×10^{6} Bq or less
Enrichment	5.0wt% or less	
Burn up Rate	Not Applicable	
Total Heat Generation Rate		
Cooling Time		
Impurity Specification of Enriched Uranium	^{232}U	$\leqq 0.0001$ μg/gU
	^{234}U	$\leqq 10\times10^{3}$ μg/g^{235}U
	^{236}U	$\leqq 250$ μg/gU
	^{99}Tc	$\leqq 0.01$ μg/gU
	If the ^{236}U measurement result is less than 125 μg/gU, measurements of ^{232}U and ^{99}Tc are not required.	



(Unit: mm)

General View of Type GP-01 Package