

302

FORM NRC-7
(1278)
10 CFR 110

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY GAO
B-180225(R0362)

APPLICATION FOR LICENSE TO EXPORT NUCLEAR
MATERIAL AND EQUIPMENT (See Instructions on Reverse)

1. APPLICANT'S USE		a. DATE OF APPLICATION May 29, 1987		d. APPLICANT'S REFERENCE TNH 477		2. NRC USE		a. DOCKET NO. 11003971		b. LICENSE NO. XNSM02335	
3. APPLICANT'S NAME AND ADDRESS						4. SUPPLIER'S NAME AND ADDRESS (Complete if applicant is not supplier of material)					
a. NAME Transnuclear, Inc.						a. NAME National Nuclear Corp.					
b. STREET ADDRESS One North Broadway						b. STREET ADDRESS 1904 Colony Street					
c. CITY White Plains				STATE NY		ZIP CODE 10601		c. CITY Mountain View			
STATE CA				ZIP CODE 94043		d. TELEPHONE NUMBER (Area Code - Number - Extension) (Please call 703-820-2450 upon issuance)					
5. FIRST SHIPMENT SCHEDULED		6. FINAL SHIPMENT SCHEDULED		7. APPLICANT'S CONTRACTUAL DELIVERY DATE		8. PROPOSED LICENSE EXPIRATION DATE		9. U.S. DEPARTMENT OF ENERGY CONTRACT NO. (If Known)			
Upon issuance of license		N/A		same as item 5		three years from date of issuance					
10. ULTIMATE CONSIGNEE						11. ULTIMATE END USE (Include plant or facility name)					
a. NAME RBU-Reaktor Brennelement Union, GmbH						Return of property to ultimate consignee and owner (see attached end use statement)					
b. STREET ADDRESS P.O. Box 110060						11a. EST. DATE OF FIRST USE					
c. CITY - STATE - COUNTRY D-6450 Hanau 11 West Germany						13. INTERMEDIATE END USE					
12. INTERMEDIATE CONSIGNEE						13a. EST. DATE OF FIRST USE					
a. NAME Korea Nuclear Fuel Company						Acceptance testing procedures (see attached end use statement)					
b. STREET ADDRESS 150 Deogjing-Dong, Jung-GU						15. INTERMEDIATE END USE					
c. CITY - STATE - COUNTRY Taejon, Chungnam 300-31, Korea						15a. EST. DATE OF FIRST USE					
14. INTERMEDIATE CONSIGNEE						15. INTERMEDIATE END USE					
a. NAME											
b. STREET ADDRESS											
c. CITY - STATE - COUNTRY											
16. NRC USE						17. DESCRIPTION (Include chemical and physical form of nuclear material; give dollar value of nuclear equipment and components)					
Uranium in the form of uranium dioxide enriched to 3.5 w/o maximum						18. MAX. ELEMENT WEIGHT 10.063		19. MAX. WT. % 3.5		20. MAX ISOTOPE WT. .195	
8706230262 870529 PDR XPORT XNSM-2335 PDR										21. UNIT Kgs	
22. COUNTRY OF ORIGIN - SOURCE MATERIAL				23. COUNTRY OF ORIGIN-SNM WHERE ENRICHED OR PRODUCED				24. COUNTRIES WHICH ATTACH SAFEGUARDS (If Known)			
25. ADDITIONAL INFORMATION (Use separate sheet if necessary)											
26. The applicant certifies that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information in this application is correct to the best of his/her knowledge.											
27. AUTHORIZED OFFICIAL				a. SIGNATURE DAVID A. GRAY <i>David A. Gray</i>				b. TITLE TRAFFIC COORDINATOR			

KNFC-Fuel Fabrication Plant

Hanau, March 2, 1987

End use statement

1. Object of this statement are unirradiated test rods for the rod scanner with the type designations 3 NT 1.2 to 3 NT 6.2 and 3 NT 8.2
Dimensions and materials can be seen in the attached description

2. The a.m. test rods are the property of RBU

3. The test rods were shipped on Oct. 22, 1986 from Frankfurt Airport to San Francisco/USA.

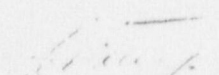
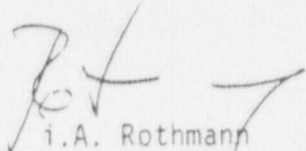
Consignee: National Nuclear Corporation
1904 Colony Street
Mountain View
California 94043
USA

The test rods will be used for the acceptance test of a non destructive dimensions and enrichment measuring device (Rod scanner)
The test rods will remain with NNC until July/August 1987.

4. It is planned that the test rods be shipped from NNC to KNFC, Taejon, South Korea, in August 1987.

End user: Korea Nuclear Fuel Company
150 Deogjing-Dong, Jung-Gu, Taejon
Chungnam
300-31, Korea

As in the USA the test rods will be used for the acceptance test of the rod scanner at the KNFC-plant. It is planned that the test rods be shipped back to Western Germany after finishing the acceptance in Dec. 1988.

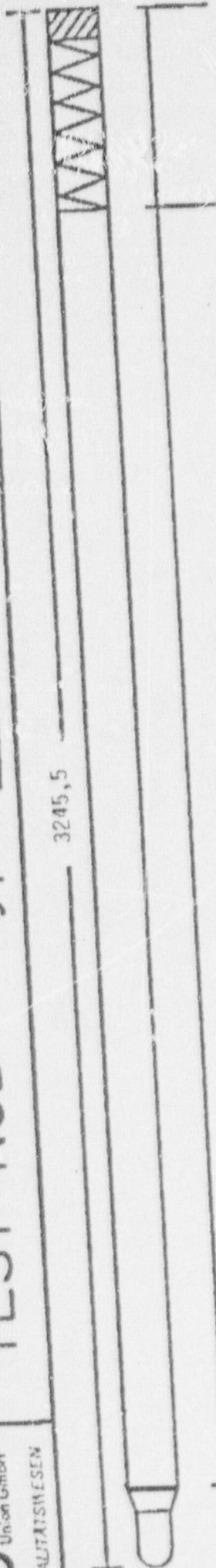

ppa. Schöning
i.A. Rothmann

TEST ROD Type: 3NT8.2

3245,5

3033

Revision	Datum
umf. 01	Blank
	Blatt Nr.:



Description of defects

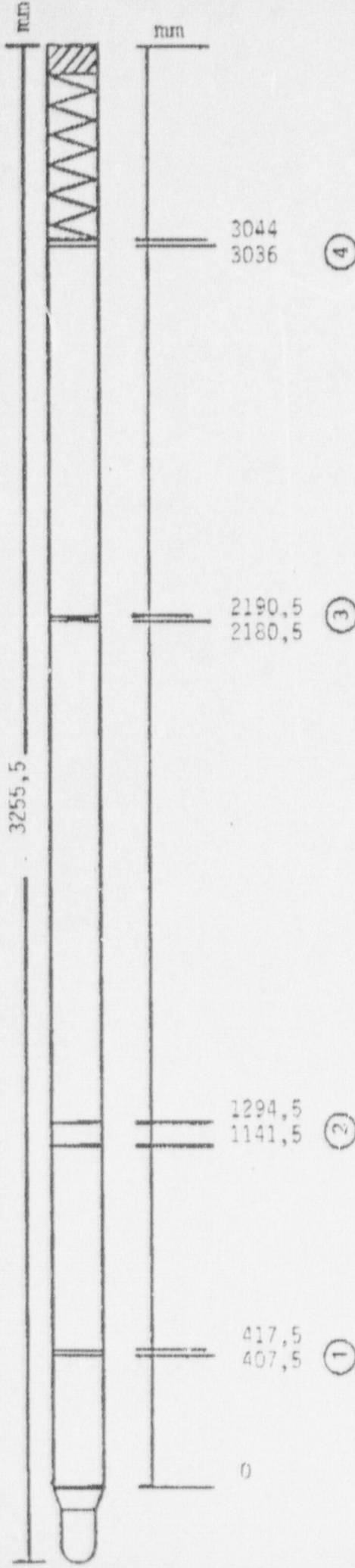
Rod description

Tube material: Zry 4
 Rod diameter: 9,5 mm
 Pellet diameter: 8,05 mm
 Active fuel length: 3033 mm
 Weight UO₂: 1637 g
 Weight: U 235: 2,9 g
Zones:
 Homogeneous rod with 2 % U 235

Remarks: Weight U : 1445 g

TEST ROD Type: 3NT 2.2

Revision	1	Datum	
Umfang	Start	Erstfertig	



Rod description

Material: Zry 4
 Cladding diameter: 9,5 mm
 Fuel pellet diameter: 8,05 mm
 Fuel pellet length: 3036 mm
 Weight UO₂: 1639 g
 Weight U 235: 29 g
 Weight U: 1445 g
 Heterogeneous rod with 2 & U 235

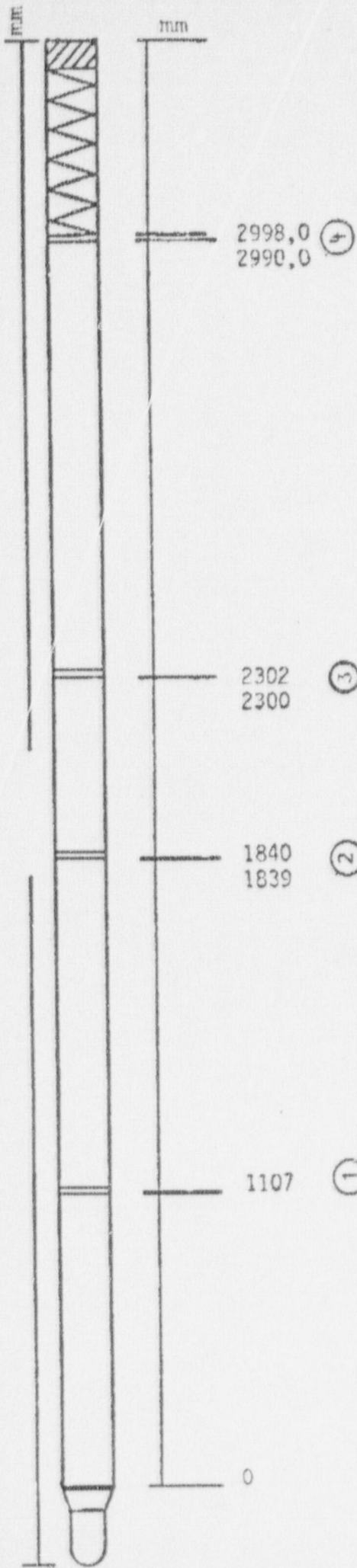
Description of defects

- ① OSP + 10 % rel.dev. \leq 2,2 % U 235
- ② OSC + 2 % rel.dev. \leq 2,04 % U 235
- ③ CSP - 10 % rel.dev. \leq 1,8 % U 235
- ④ Al₂O₃ Pellet

OSP = Off Spec. Pellet OSC = Off Spec. Column

TEST ROD Type: 3NT12 (E)

Revision	1	Det. am.
Umsatz	Blatt	Blatt-Nr.:



Rod description

Tube material: Zry 4
 Rod diameter: 9,5 mm
 Pellet diameter: 8,05 mm
 Active fuel length: ca. 2987 mm
 Weight UO₂: ca. 1615 g
 Weight U 235: 10,1 g
 height u : 1423 g
 Zones:
 Homogeneous rod with 0,71 & U 235

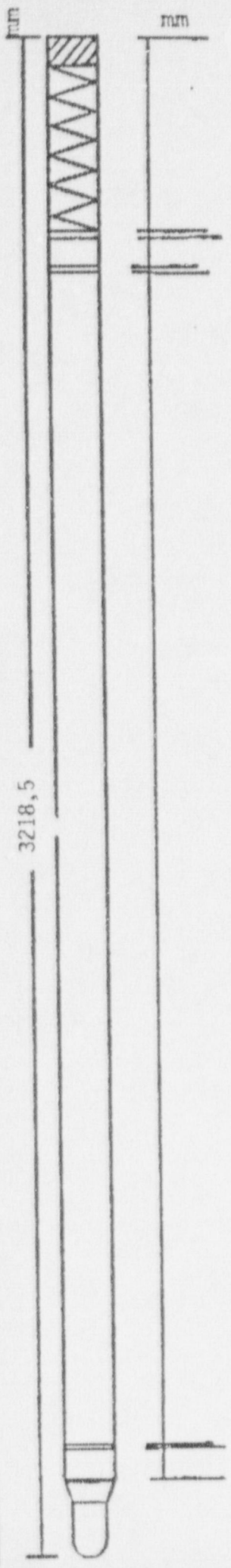
Description of defects

- ① Gap 0,5 mm
- ② Gap 1,0 mm
- ③ Gap 2,0 mm
- ④ Al₂O₃ Pellet
- (E) Spare rod

TEST ROD

Type: 3NT 3.2

Revision	1	Datum
Umfahrt	Blatt Blatt-Nr.:	



3007,5
 2999,5
 2899
 2889

- ①
- ②
- ③

Rod description

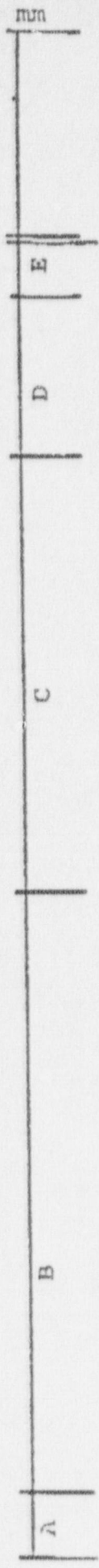
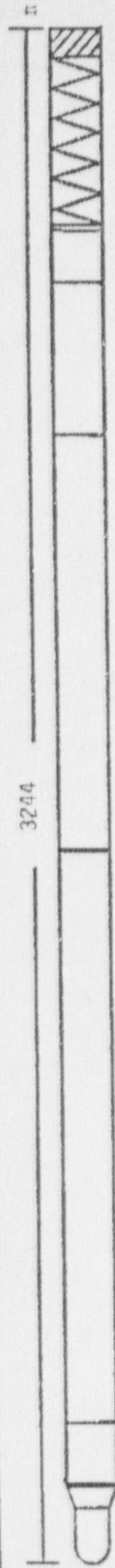
Tube material: Zry 4
 Rod diameter: 9,5 mm
 Pellet diameter: 8,05 mm
 Active fuel length: 2999,5 mm
 Height UC: 1620 g
 Height U 235: 50 g
 Height U : 1428 g
 Notes:
 Homogeneous rod with 3,5 % U 235

Description of defects

- ① OSP -20 % rel. dev. $\hat{=}$ 2,8 % U 235
- ② OSP + 10 % rel. dev. $\hat{=}$ 3,85 % U 235
- ③ Al₂O₃ Pellet

TEST ROD Type: 3NT 5.2

Revision	1	Datum
umfaßt	Blatt	Blatt-Nr



3033
 3025
 2866
 (1)

2348

1703

79,5

0

Description of defects

(1) : Al₂O₃-Pellet

Rod description

Tube Material:	Zry 4
Rod diameter:	9,5 mm
Pellet diameter:	8,05 mm
Active fuel length:	3025 mm
Weight UO ₂ :	1635 g
Weight U 235:	21 g
Weight U :	1441 g
<u>ONES:</u>	
A:	0,71 % U 235
B:	1,2 % U 235
C:	2,5 % U 235
D:	1,2 % U 235
E:	0,71 % U 235

TEST ROD

Type: 3NT4.2

Revision	4	Datum	
umleit	Blatt	Blatt-Nr	



Rod description

Tube material:	Zry 4	
Rod diameter:	9,5 mm	
Pellet diameter:	8,05 mm	
Active fuel length:	3031	mm
Weight UO ₂ :	1631	g
Weight U:	25	g
Weight U 235:	1438	g
Zones:		
A:	0,71	8 U 235
B:	1,2	8 U 235
C:	2,0	8 U 235
D:	2,5	8 U 235
E:	1,2	8 U 235

Description of defects

- ① one OSP with 1,2 & U 235
- ② one OSP with 1,32 & U 235 (= + 10 & rel.dev.OSI as the 3rd Pellet near the Zone boundary
- ③ one OSP - 10 & r.d. (1,8 & U 235)
- ④ one OSP as the 1st Pellet near the Zone boundary with + 30 & rel.dev. (3,25 & U 235)
- ⑤ AL₂O₃ Pellet

OSP = Off Spec. Pellet: OSC = Off Sec. Column

TEST ROD Type: 3NT6.2

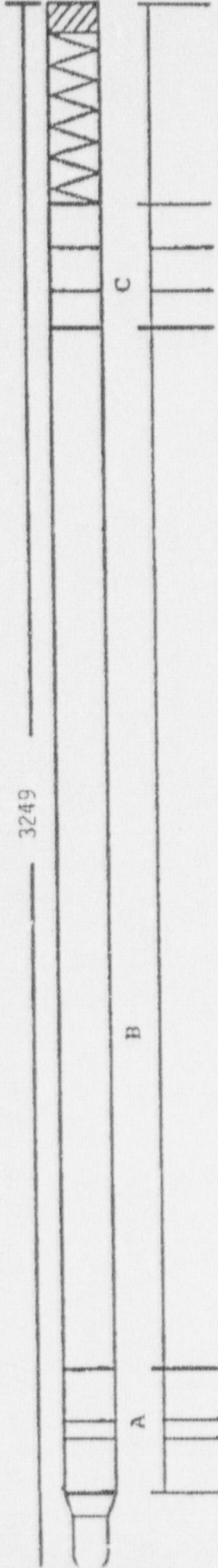
Revision 1

Datum

umfeßt Blatt

Blatt-Nr.:

3249



1 305
153
509,5

2526
2730,5
2882
3035,5

mm

Rod description

be material: Zry 4
 d diameter: 9,5 mm
 inlet diameter: 8,05 mm
 tive fuel length: 3035,5 mm
 ight UO₂: 1639 g
 ight U 235: 51 g
 ight U : 1445 g
 nes:

C: 2,5 % U 235
 : 2,0 % U 235

Description of defects

- 1 : OSC - 4 % rel. dev. $\hat{=}$ 2,4 % U 235
- 2 : OSC + 4 % rel. dev. $\hat{=}$ 2,6 % U 235

OSC $\hat{=}$ Off Spec. Column