



SCIENTIFIC ECOLOGY GROUP, INC.

February 25, 1994

71-9222

Mr. Cass R. Chappell, Section Leader
Cask Certification Section
Storage and Transport Systems Branch
Division of Industrial and Medical Nuclear Safety, NMSS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Ref: Certificate of Compliance No. 9222, Revision 2, Scientific Ecology Group, Inc.,
14-215 Shipping Package

Dear Mr. Chappell:

I have finalized revisions of SEG Drawing STD-02-077 and SEG Document STD-R-02-016 per my conversation with Dr. Carl Withee of your staff on February 24, 1994. These documents were held in open revision form until final resolution of your requests for additional information. Please find enclosed eight (copies) of the following for your review.

1. "Safety Analysis Report for the 14-215 Radwaste Shipping Cask" Scientific Ecology Group Document No. STD-R-02-016 Revision 4, sheets 1- 130, 2-59, and 8-3.
2. "14-215 Cask Assembly," Scientific Ecology Group, Drawing No. STD-02-077, Revision 9 sheets 1 and 2.

If you have any questions concerning the application please contact me at (615)376-8156

Sincerely,

Timothy B. Ramsey
Senior Engineer

ltr-94-010-ms

9403090237 940225
PDR ADOCK 07109222
C PDR

*NT01
1/3
Delate LA*

P.O. Box 2530
1560 Bear Creek Rd.
Oak Ridge, Tennessee 37831-2530
(615) 481-0222

P.O. Box 2308
Carlsbad, New Mexico 88220
(505) 887-1673

1234 Columbia Dr. S.E.
Richland, Washington 99352
(509) 736-0626

WESTINGHOUSE
HITTMAN NUCLEAR
INCORPORATED

Document Number:
STD-R-02-016

Rev:
4

Rev Date:
2-25-94

Title: SAFETY ANALYSIS REPORT FOR THE 14-215
RADWASTE SHIPPING CASK

Rev.	Rev Date	Prepared By	Checked By	Director Engineering	Technical Product Specialist	Q.A. Manager	EWR
0	12-11-87	<i>R. J. ...</i>	<i>AKS</i> 12/10/87	<i>Ray</i> <i>Ray</i>	<i>R. J. ...</i>	<i>Ken ...</i> <i>Ken ...</i>	EWR 87-025
1	3-24-88	<i>R. J. ...</i>	<i>G. BORIS</i>	<i>Ray</i> <i>Ray</i>	<i>R. J. ...</i>	<i>Ken ...</i>	ECN 88-033
2	3-20-90			<i>Ray</i> <i>Ray</i>	<i>Ray</i> <i>Ray</i>	<i>Judy B.</i> <i>Ken ...</i>	ECN 90-011
3	5-16-90			<i>Ray</i> <i>Ray</i>	<i>Ray</i> <i>Ray</i>	<i>Ken ...</i> <i>Wald</i>	ECN 90-013
4	2-25-94			<i>Ray</i> <i>Ray</i>	<i>Ray</i>	<i>Kathleen</i> <i>Hodges</i>	DCN 93-212

INFORMATION ONLY

FEB 25 1994

Where:

$$F_{vy} = (.6) (130,000) = 78,000 \text{ psi}$$

$$A = \frac{\pi (1)_z}{4} = .785 \text{ in.}_z$$

$$P_y = 2 (78,000) (.785) = 122,460 \text{ lbs.}$$

Rated binder capacity is 100,000 lbs. Bolt yield capacity is the minimum at 112,665 lbs. The resulting Margin of Safety is:

$$\text{M.S.} = \frac{P_y}{P} - 1 = \frac{112,665}{100,000} - 1 = \underline{+ 0.13}$$

1.4 Bolt Strength (optional 1-1/4" x 5 threads per inch Acme thread)

Bolt yield capacity is (based on a minimum yield stress of 125,000 psi)

$$P_y = F_{vy} A$$

Where:

$$F_{vy} = \text{Tensile yield stress, } 125,000 \text{ psi}$$

$$A = \text{Tensile stress area}$$

$$= \frac{\pi (D - \frac{.9743}{n})^2}{4}$$

Where:

$$D = \text{Nominal bolt diameter}$$

$$n = \text{No. of threads per inch}$$

$$= \frac{\pi (1.25 - \frac{.9743}{5})^2}{4}$$

$$= .874 \text{ in}^2$$

$$P_y = 125,000 (.874) = 109,250 \text{ lbs}$$

Rated binder capacity is 100,000 lbs. Bolt yield capacity is 109,250 lbs.

The resulting Margin of Safety is:

$$\text{M.S.} = \frac{P_y}{P} - 1 = \frac{109,250}{100,000} - 1 = \underline{+ .09}$$

FEB 25 1994

- c. Reapply gasket adhesive to the gasket and appropriate surface and reattach in accordance with the adhesive manufacturer's instructions.

8.2.2.3 Gaskets which cannot be sealed or are obviously damaged must be replaced in their entirety. Damage may include cuts, nicks, chips, indentations, or any other defect apparent to the naked eye which would affect sealing integrity. Removal of the gasket, preparation of the lid surfaces, adhesive use and gasket installation shall be performed per Section 8.2.2.2.

8.2.2.4 All gaskets shall be replaced after 12 months of installation on the cask regardless of apparent condition or cask usage.

8.2.2.5 A leak test, according to Section 8.1.3, shall be performed upon completion of the annual gasket replacement. Interim individual gasket replacement (i.e., non-annual gasket replacement) only requires the replaced gasket sealing interface be leak tested.

8.2.2.6 Any painted surface in contact with the gasket shall be maintained in good condition. Any loose, chipped, or scratched painted surface which would affect seal integrity shall be repaired prior to further cask use.

8.2.3 Welds

8.2.3.1 All welds have been completely checked in accordance with ASME Code requirements using visual, magnetic particle and radiographic methods during fabrication. The cask drawing delineates these inspections. In-use inspections should not be required unless the cask has been involved in an accident or has been lifted improperly or in an overloaded condition. In those cases, inspection shall include the following:

- a. Drop or accident: All accessible cask body and lug welds and primary lid ratchet binder lug welds shall be magnetic particle inspected in accordance with ASME Code Section III, Division I, Subsection NB, Article NB-5000 and Section V, Article 7. These inspections may be performed with the painted finish in place.
- b. Improper or overloaded lift: All welds on the cask primary or secondary lid which were in use at the time of the improper or overload lift shall be magnetic particle inspected per the requirements delineated above.

**OVERSIZE
DOCUMENT
PAGE PULLED**

SEE APERTURE CARDS

NUMBER OF OVERSIZE PAGES FILMED ON APERTURE CARDS

2

9403220232

9403220230

APERTURE CARD/HARD COPY AVAILABLE FROM

RECORDS AND REPORTS MANAGEMENT BRANCH

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9403180148 DOC.DATE: 94/03/08 NOTARIZED: YES DOCKET #
 FACIL: STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Public Service 05000529
 AUTH.NAME AUTHOR AFFILIATION
 CONWAY, W.F. Arizona Public Service Co. (formerly Arizona Nuclear Power
 RECIPIENT AFFILIATION
 RECIP.NAME Document Control Branch (Document Control Desk)

SUBJECT: Forwards "PVNGS Unit 2 Steam Generator Insp Rept, Mid-Cycle Outage."

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 3+95
 TITLE: OR Submittal: General Distribution

NOTES: Standardized plant.

05000529 /

RECIPIENT ID CODE/NAME	COPIES LTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTR ENCL
PDV LA	1 1	PDV PD	1 1
POLICH, T	2 2	TRAN, L	2 2
INTERNAL: ACRS	6 6	NRR/DE/EELB	1 1
NRR/DORS/OTSB	1 1	NRR/DRC/HICB	1 1
NRR/DRPW	1 1	NRR/DESA/SPLB	1 1
NRR/DSSA/SRXB	1 1	NUDOCS-ABSTRACT	1 1
OC/LFDCB	1 0	OGC/HDS1	1 0
REG FILE 01	1 1		
EXTERNAL: NRC PDR	1 1	NSIC	1 1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 24 ENCL 22

R
I
D
S
/
A
D
D
S