

JUL 09 1985

TEMUS LETTER RE VENTS

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Charles J. Temus
Nuclear Packaging Inc.
1010 South 336th Street
Federal Way, WA 98003

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HMiller
PDR (1)

Dear Mr. Temus:

Enclosed for your information is a copy of a letter, which was recently sent from the State of South Carolina Department of Health & Environmental Control to Chem-Nuclear Systems, Inc., concerning the need for passive vents on all high integrity containers (HICs) intended to be used for the transportation to and burial of low-level radioactive waste at the Barnwell, SC burial facility. Attached to the letter is a "Guide for Passive Vent Design Submittals," which provides additional information in the form of "General Design Criteria" and descriptions of the type of information sought by SC in vendor submittals concerning the passive vent designs for HICs. Accordingly, we will apply the SC criteria and requirements in our technical review of HIC designs as described in all topical reports submitted for NRC approval, even though a given topical report submittal may be directed toward applications for the Hanford, WA site rather than SC. This is in keeping with our intent to apply a uniform set of acceptance criteria to all HIC design reviews.

If you have any questions on this matter, please contact me at (301) 427-4748.

Sincerely,

Original Signed By

Michael Tokar
Engineering Branch
Division of Waste Management

Enclosure:
As stated

cc: LBHigginbotham
DNussbaumer

WM Record File

WM Project 85

Docket No. _____

PDR ✓

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June 20, 1985

CERTIFIED MAIL

Mr. Leslie Poppe
Director of Licensing
Chem-Nuclear Systems, Inc.
P.O. Box 726
Barnwell, South Carolina 29812

Dear Mr. Poppe:

The Department, with concurrence of the U.S. Nuclear Regulatory Commission, has made the decision to require passive ventilation systems in all high integrity containers. This decision is based on past events of gas buildups of unknown origin in containers received at the burial facility.

While it is recognized that the installation of a properly engineered vent does not prevent the problem of unexpected gas generation from occurring, it provides a means to minimize the effects on handling, personnel safety and the long-term integrity of the container.

Therefore, regardless of size or composition, all high integrity containers will require the installation of passive vents. Lids and gaskets that relieve pressure buildup through slow leakage are not considered adequate.

Designs and provisions for passive vent systems on all containers for which a Certificate of Compliance has been issued shall be submitted for review and approval by the Department no later than September 30, 1985, in accordance with the enclosed guide.

Certificates of Compliance will be amended accordingly. Failure to provide these designs and meet Department approval will result in revocation of the Certificates of Compliance.

Mr. Leslie Poppe
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June 20, 1985

Should there be any questions concerning this matter, please do not hesitate to contact Mr. Virgil Autry at (803) 758-7951.

Very truly yours,

Heyward G. Shealy, Chief
Bureau of Radiological Health

HGS:VRA:kn

Enclosure

cc: Mr. Donald A. Nussbaumer
Office of State Programs, USNRC

GUIDE FOR PASSIVE VENT DESIGN SUBMITTALS

High Integrity Containers

A. General Design Criteria:

Venting systems for high integrity containers (HIC) shall be designed to minimize degradation of the container's integrity but maximize venting of gas buildups. The design should take into account, as a minimum, the effects of burial loads, compression, clogging and/or puncturing, vibration, container drops, radiation, thermal cycling, biodegradation, and corrosion. Vents shall be located in such a manner to avoid being damaged during loading, handling, and disposal.

B. The following information shall be submitted for evaluation of passive vent designs for high integrity containers.

1. A detailed section drawing showing the design and location of the vent. If the same design and location is to be used for containers of different sizes, only one drawing will be necessary.
2. A detailed description of the vent, its composition, and how it is to be installed or incorporated into the container.
3. An evaluation of the effectiveness of the vent in relieving gas buildups to include the rate, quantity, and types of gases it will handle, and the effects of internal liquids or moisture on the vent performance.
4. An evaluation of the vent on the overall effect on the integrity of the container, handling, and any precautions to be taken when placing the container in the trench and backfilling.
5. At least one filled container shall be tested to evaluate the performance of the installed vent. The test shall represent, as accurately as possible, the conditions for which the container will be subjected, e.g. loading, handling, pressure, stacking, transportation, etc. The results of this test shall be submitted.