



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

89000908

OCT 23 1989

NOTE TO: File
FROM: Brian E. Thomas, Project Manager
SUBJECT: OCTOBER 2, 1989 MEETING BETWEEN HLWM AND OGC ON DEVELOPMENT OF AN "INTERPRETIVE RULE" ON THE MEANING OF "SUBSTANTIALLY COMPLETE CONTAINMENT (SCC)"

On October 2, 1989, a meeting was held between members of the staff of the Division High-Level Waste Management (HLWM) and the Office of the General Counsel (OGC) to discuss plans and schedules for the development of an "interpretive rule" on the meaning of SCC by OGC. A copy of the meeting notice and OGC's draft interpretive rule are provided by Attachment 1 and 2 respectively.

The attendees were:

R. Browning, HLWM	R. Weller, HLEN
B. J. Youngblood, HLWM	C. Peterson, HLEN
J. Bunting, HLEN	K. Chang, HLEN
J. Holonich, HLPD	J. Wolf, OGC
B. Thomas, HLPD	

The development of an interpretive rule is one of three basic parallel approaches outlined by HLWM for dealing with the reduction of regulatory and technical uncertainties embodied in the regulatory requirement for substantially complete containment. The other two approaches are:

1. The development of a scoping paper that outlines the necessary technical background as a precursor to the selection and exercise of an uncertainty reduction method and that may result in the development of a rulemaking (to be submitted to NMSS Director - April 1990); and
2. The involvement of the staff in technical interactions with DOE regarding DOE waste package design development program (continuing).

This meeting was brought about as a result of the need to: 1) assess the feasibility of developing an interpretive rule; and 2) initiate the development of an integrated production schedule for both the interpretive rule and the SCC scoping paper.

After some discussion regarding an interpretive rule, Mr. Browning, Director of HLWM, concluded that there is no need to pursue its development any further. He stated that an interpretive rule would merely restate the qualitative definition of SCC at greater length and, considering the DOE position as stated in the SCP, it would not effectively address HLWM's desire for further clarification of the meaning of the SCC requirement.

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Consequently, the staff would continue to pursue the development of technical interactions accompanied by further guidance on the meaning of SCC to DOE. The mechanism for providing such guidance is to be determined upon completion of a staff assessment of the feasibility of providing a quantitative criteria as a means of reducing uncertainties with the SCC requirement.



Brian B. Thomas, Project Manager

Attachments: As stated

cc: R. Browning, HLWM
B. Youngblood, HLWM
J. Linehan, HLPD
R. Weller, HLEN
C. Peterson, HLEN
K. Chang, HLEN
J. Wolf, OGC

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- J. Linehan, HLPD
- R. Weller, HLEN
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- K. Chang, HLEN
- J. Wolf, OGC

DISTRIBUTION

Central File	B.J. Youngblood	R.E. Browning	J. Bunting
LSS	J. Linehan	R. Ballard	On-Site Reps
CNWRA	NMSS R/F	HLPD R/F	B. Thomas

NOTE: This "Note-to-File" has been submitted to J. Wolf (OGC) for his approval and was not concurred upon because he disagreed with the last sentence on Page No. 2. However, the HLWM staff agrees that, although OGC does not agree with it, this document adequately reflects the position taken at the meeting.

OFC :HLPD	:HLPD	:HLEN	:OGC	:	:	:
NAME: BThomas/wd:	JHolonich:	JBunting	:JWolf	:	:	:
DATE: 10/10/89	: 10/10/89	: 10/10/89	: 10/ /89	:	:	:

OFFICIAL RECORD COPY

MEETING NOTICE

Date: Monday, October 2, 1989

Time: 9:30 - 11:30 a.m.

Location: 4-B-13

Background: The Division of High-Level Waste Management has outlined three basic approaches for dealing with reduction of the regulatory and technical uncertainties embodied in the regulatory requirement for "Substantially Complete Containment (SCC)," 60.113(a)(1)(i)(A). The approaches are:

1. The development of an "interpretive" rule on the meaning of "Substantially Complete Containment" by the Office of the General Counsel (schedule TBD).
2. The development of a scoping paper that outlines the necessary technical background as a precursor to the selection and exercise of an uncertainty reduction method and that may result in the development of a rulemaking (to be submitted to NMSS Director - April 1990).
3. The involvement of the staff in technical interactions with DOE regarding DOE waste package design development program (continuing).

Purpose: For HLWM Division management, technical staff and OGC to discuss plans and schedules for development of an "interpretive rule" on the meaning of SCC.

A preliminary draft copy of the interpretive rule by OGC is attached for your reference in preparation for the planned discussion.

Attendees: R. E. Browning
B. J. Youngblood
J. Bunting
J. Holonich
B. Thomas
R. Weller
C. Peterson
J. Wolf

DRAFT INTERPRETIVE RULE ON SUBSTANTIALLY COMPLETE CONTAINMENT
j.r.w. 9-8-1989

SUPPLEMENTARY INFORMATION: Under applicable law, the disposal of high-level radioactive waste and spent nuclear fuel in a geological repository is subject to the licensing and related regulatory authority of the Nuclear Regulatory Commission. Among other things, the Commission has been directed to provide, in its technical requirements and criteria for approval or disapproval of license applications, for the use of a system of multiple barriers in the design of the repository. Nuclear Waste Policy Act of 1982, Section 121(b)(1)(B), 42 U.S.C. 10141 (b)(1)(B).

In accordance with this mandate and other provisions of law, the Commission has promulgated regulations that specify the procedures and technical requirements applicable to such waste disposal.

The Commission has provided for several barriers in the design of the repository, including (of present significance) the waste package. The waste package is defined to mean the waste form and any containers, shielding, packing and other absorbent materials immediately surrounding an individual waste container.

Under the Commission's regulations, a design requirement for the waste package is that under specified conditions and for a specified duration, containment of high-level radioactive waste (and spent nuclear fuel) will be "substantially complete."

In the Commission's opinion, its intentions with respect to the interpretation of the term "substantially complete [containment]" were clearly expressed. However, it became evident as the Department of Energy developed its site characterization plan for the Yucca Mountain (Nevada) site, that such intentions were not generally understood. In order to avoid any such misunderstanding in the future, the Commission has concluded that it would be desirable to focus upon the containment requirement and repeat its prior analysis and explanation. The purpose of this interpretive rule is to accomplish this objective. No change of Commission position is involved, and accordingly the Commission is not soliciting public comment.

To understand the rule in its present form it is necessary, first, to examine the containment requirement that appeared in the Commission's proposed technical criteria, 46 FR 35280, July 8, 1981. The language published for comment was that:

... The engineered system shall be designed so that ...
assuming anticipated processes and events the waste packages

will contain all radionuclides for at least the first 1,000 years after permanent closure.

We think it could hardly be more clear that the Commission's policy, as proposed, was that the waste packages should be designed for 100% containment under the assumed conditions.

Several of the comments received by the Commission took exception to this proposal, on the grounds that compliance with the 1,000-year containment requirement could not be verified. The Commission responded to this concern in two ways. First, the Commission pointed out that although the containment requirement itself was expressed in absolute terms, the proposed regulation would require the applicant to demonstrate compliance with "reasonable assurance," i.e., assurance, making allowance for the time period and hazards involved, that the outcome will be in conformance with the pertinent objectives and criteria. Second, we modified the language of the rule to require "substantially complete" containment rather than containment of "all" radionuclides. We did not conceive of this modification as a substantive change in the regulation; both under the proposed and final rule, it was our position that the design, given the design basis conditions (anticipated processes and events), should achieve containment of all radionuclides, but that the applicant was required to do only that which was reasonable - given the uncertainties involved - to demonstrate compliance.

We can do no better than to repeat what we originally said (at 48 FR 28194, 28202, June 21, 1983):

... The commenters failed, in part, to recognize, that under the specified standard of proof (see Reasonable Assurance, below), the applicant would not be forced to carry an impossible burden. Nevertheless, since the Commission does not expect proof that literally all radionuclides will be contained, the performance objective now requires design so that containment of HLW within the high-level waste packages will be "substantially complete" for the specified period.

We became aware that our position with respect to containment was not universally understood on the occasion of the Department of Energy's issuance of its consultation draft site characterization report for the Yucca Mountain site. [In that document they used controlled release concept. We said they had it wrong. They fixed it. It's now ok.]

The concerns that led the Commission to propose performance requirements for specific barriers should always be kept in mind as they are applied. First, these requirements, acting independently of one another, are intended to provide confidence that the wastes will be isolated at least for as long as they are most hazardous. Containment must therefore be demonstrated in a manner that will enhance that confidence. Second, we were concerned that the physical and chemical processes which isolate

the waste are especially difficult to understand in the area close to the emplaced waste. Containment must therefore contribute to reducing the uncertainties about repository performance through limiting the source term. 46 FR 35281-82. The emphasis upon containment dictates that the Department of Energy design the waste package conservatively so as to improve overall system performance and to facilitate the ability to demonstrate overall system performance. In reviewing an application, those considerations will continue to govern.