



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

MAY 17 1991

Docket No. WM-102

U.S. Ecology, Incorporated
Mr. Oscar Wong
Suite 300
212 South Tryon Street
Charlotte, N.C. 28281

Dear Mr. Wong:

This letter is in response to the proposal made jointly by U.S. Ecology (USE) and the JGC Corporation (JGC) at the meeting held in NRC offices in Rockville, Maryland on May 8, 1991. The meeting was held in response to your May 6, 1991, letter. A typed version of the handwritten proposal presented to NRC at the meeting is enclosed.

As stated in the proposal, USE has requested that the boric acid waste stream, treated to a pH of a minimum of 9.0 with a waste loading not to exceed 40% by weight, be accepted as a formulation for treatment in the U.S. Ecology high strength bitumen process on an interim basis for a period of 12 months. The 12 month period proposed would extend from the time the NRC established specific criteria which are to be applied to bitumen solidified/stabilized waste forms. The term of this period would be renewable at the discretion of NRC. Also as stated in the proposal, USE agreed to work with the NRC in expeditiously resolving any outstanding issues on the use of bitumen for low-level radioactive waste solidification/stabilization.

Upon consideration of the USE/JGC proposal, we believe that the proposed reduction in boric acid waste loading and increase in the lower limit for pH, together with the test data submitted in the topical report and in response to requests for additional information on this waste stream formulation, provide sufficient basis to support a conclusion that the boric acid waste forms, produced in accordance with the stated restrictions, will satisfy the structural stability requirements of 10 CFR Part 61. Consequently, we intend to prepare a Technical Evaluation Report (TER) that will indicate our interim approval of the boric acid waste stream prepared in accordance with the restrictions stated above. The TER will also indicate that we have reached a negative finding on the other two waste streams currently under consideration; viz., the bead and powdered resins.

As staff indicated in the May 8, 1991 meeting, we expect USE to conduct further confirmatory tests within the 12 month period that will demonstrate that the uptake of water by the bituminized waste forms is, as asserted by USE, a skin affect that will not significantly affect the long-term performance of the waste forms. We would also expect the additional testing to confirm that the processing restrictions on maximum waste loading and minimum pH will provide dimensional stability and borate retention capability of the waste forms. With these considerations in mind, we intend to grant the interim approval for a period of 12 months that will extend from the time of issuance of the TER, not from the time of formal issuance of new criteria.

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As further indicated by staff at the above-cited meeting, we intend to work closely with USE (and others) to develop the improved acceptance criteria and testing recommendations for bituminized waste forms as expeditiously as possible. These criteria may be incorporated in a revision to the Technical Position on Waste Form which will be developed on a separate schedule.

It should be noted that notwithstanding NRC's decisions on the adequacy of the USE bituminized wastes, the sited States have regulatory authority concerning the conditions for acceptance of waste forms at their disposal facilities. It is, therefore, the licensees' responsibility to contact the State regulatory authorities to determine the acceptability of the bituminized wastes at their state's facilities.

If you have any questions on this matter, please contact me at (301) 492-0553 or Dr. Michael Tokar at (301) 492-0590.

(SIGNED) PAUL H. LOHAUS
 Paul H. Lohaus, Chief
 Low-Level Waste Management Branch
 Division of Low-Level Waste Management
 and Decommissioning
 Office of Nuclear Material Safety
 and Safeguards

Enclosure : As stated

Distribution:	Central File #	NMSS r/f	
RBangart	JGreeves JAustin	JSurmeier	PLohaus
JKennedy	RShewmaker MTokar	LLWD t/f	LLWM r/f
PDR YES <u> X </u>	Category: Proprietary	___ or CF Only	___
PDR NO	NO		
ACNW YES <u> X </u>			

SUBJECT ABSTRACT: PROPOSAL MADE JOINTLY BY (USE) AND THE (JGC)

OFC :LLWM*	:LLWM*	:LLWM* <i>PL</i>
NAME:RShewmaker/sw	:MTokar	:PLohaus
DATE:05/16/91	:05/16/91	:5/17/91

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PROPOSAL

May 8, 1991

USNRC

Reference: Docket No. WM-102

Subject: Interim Approval

Gentlemen:

In accordance with our discussions today, JGC and US Ecology request that NRC provide, as soon as possible, interim approval for bitumenized boric acid waste form at a pH of 9.0 or above and at a solids waste loading of 40% by weight or below.

We request that is interim approval remain in effect for one year from the establishment of the criteria which are to be used for evaluation of bitumenized waste forms. These criteria are intended to form the basis on which final approval is granted. We will work with NRC to resolve expeditiously any outstanding issues. The interim approval is renewable.

Enclosure

As further indicated by staff at the above-cited meeting, we intend to work closely with USE (and others) to develop the improved acceptance criteria and testing recommendations for bituminized waste forms as expeditiously as possible. These criteria which may be incorporated in a revision to the Technical Position on Waste Form and which will be developed on a separate schedule.

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PDR YES <u>X</u>				
PDR NO	Category: Proprietary	or	CF Only	
ACNW YES <u>X</u>	NO			

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PDR YES <input checked="" type="checkbox"/>	Category: Proprietary	or	CF Only
PDR NO <input type="checkbox"/>	NO		
ACNW YES <input checked="" type="checkbox"/>			

MT 5/16/91

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OFC :LLWM *[Signature]* :LLWM *MT* :LLWM

NAME:RShewmaker/sw :MTokar :PLohaus

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ACNW YES	NO	CF Only	

SUBJECT ABSTRACT: PROPOSAL MADE JOINTLY BY (USE) AND THE (JGC)

OFC :LLWM :LLWM :LLWM

NAME:RShewmaker/sw :MTokar :PLohaus

DATE: 5/10/91 : / /91 : / /91

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