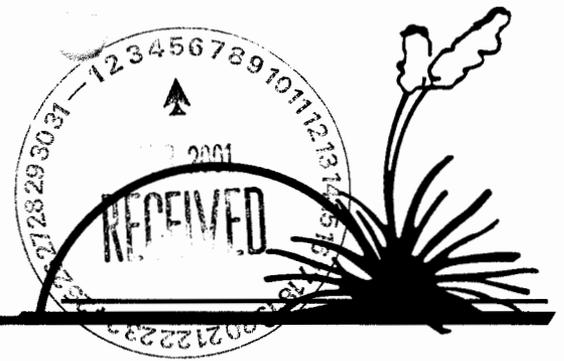


CARD

Citizens For Alternatives To Radioactive Dumping

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April 2, 2001

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Comments on the Department of Energy's Proposed Class 2 Modification to the Waste Isolation Pilot Plant Hazardous Waste Operating Permit: DIGITAL RADIOGRAPHY AND COMPUTED TOMOGRAPHY (DR/CT)

Citizens for Alternatives to Radiographic Dumping (CARD) urges the New Mexico Environment Department to deny this Class 2 Modification Request because it is both incomplete and not protective of human health and the environment.

I. Currently, among other tests and observations, the WIPP operating permit requires that characterization of all waste containers intended for disposal at WIPP be confirmed by Real Time Radiography (RTR) or Visual Examination (VE). Containers that are initially confirmed by RTR must then be checked, for Quality Control (QC) by (among other things) independent replicate scans with independent review of those scans, VE, and review of 1% of the radiography tapes for containers actually sent to WIPP. Therefore, there are at least 3 different types or levels of review and oversight of the original RTR. This is particularly important, since Debris Waste is not routinely sampled and analyzed for prohibited items and RTR is the only way most containers are checked for prohibited items after the original characterization by Acceptable Knowledge (AK).

The current modification request is not protective of human health and the environment because it essentially eliminates the different types of review, sometimes eliminates one whole level of review, and collapses all three types of review into only one: review of the data of previous scans.

There would be NO independent replicate scans. WID/DOE claim they are not necessary with the new technology. However, the applicants provide no data to prove that the initial DR/CT scans and computer manipulation will always be done perfectly so the data will always represent what is in the drum. There is no mention of the potential for the original machine or operator to make a mistake.

At the original permit hearing the drum that was used as an example of RTR was matched up with incorrect documentation so that what was on the RTR tape was not what was described in its documents. This same type of human error could occur with DR/CT. For instance, tapes could be mixed up so that the tape that was reviewed was not the correct tape for the drum listed. If the drum is not re-scanned during checking, no one would know and the incorrect scan would simply be reviewed over and over again with no idea that it is wrong. Other types of problems could occur with the original scan and digital procedures that would not then be caught since there would be no re-scanning done during checking. Human error is the major cause of mistakes in most large projects such as WIPP, yet the applicants apparently do not even acknowledge the potential for human error—let alone quantify it. This makes this part of the modification request incomplete.

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I believe that WID/DOE indirectly acknowledge the reduction of capability with the collapse of QC review levels into one single level by their proposal that "...the independent replicate scan and an independent observation requirements are...met using independent review and interpretation of the digital record from at least two randomly selected containers per batch or two per day, whichever is less frequent." (pg. A-6). Their proposal doubles the rate required for this review from that required by the original permit language. If their new technology is so perfect and flawless and losing the independent scan causes no loss in QC, why do they feel the need to double the rate for review? In fact, doubling the rate for review of the same data does NOT make up for the loss of this independent scan.

II. Although the DR/CT technology seems quite promising, as usual, the applicants are getting ahead of themselves by requesting use of this technology at this time. They have provided some interesting anecdotal examples from industry of how good this technology could be, but do not have any adequate systematic studies on how it would work for this application. The only completed study they cite is the study done under the Rapid Commercialization Initiative (RCI) described on page A-10. Here the modification requests states that "[t]he ability of DR/CT technology to allow the operator to accurately identify the contents of waste containers was rigorously evaluated during the Rapid Commercialization Initiative (RCI)." In fact this study was not at all "rigorous". Although different waste types were in each drum, only 8 drums were evaluated—hardly representative or statistically significant of the waste containers at even one site, let alone the whole complex. Five of these drums were actual waste drums and 3 were "simulated" test drums. However, although one of the two reasons for doing RTR and VE is to find prohibited items in the containers, **not a single container had even one prohibited item in it.** Therefore, this test gives **no data** on the ability of DR/CT to find prohibited items in waste containers intended for disposal at WIPP. Again, this part of the modification request is incomplete.

III. The applicants say their modification request is driven by their desire to eliminate routine VE because of the potential for releases during the VE procedure and to reduce the creation of more waste. In fact, though, they are actually leaving a large amount of VE in their procedures. True, there would be no more routine VE for checking RTR, but VE would still be used during repackaging of waste (a much greater amount of potential exposure to workers than the small amount of VE done to check RTR) and whenever a prohibited item is found or whenever AK is questionable or indicates potential problems with a container. If the applicants' motivation is truly to reduce potential exposure to workers rather than to eliminate QC oversight, they would initiate robotic VE throughout the complex. Although the infrastructure for this would possibly be expensive to create, it could be built over time and it would eliminate virtually all exposure to workers when drums are opened for inspection and repackaging. It could be used by DOE for other applications as well so that all glove-box work could eventually be done robotically. I do not believe this is at all beyond DOE's procedural or budget abilities and is the most efficient method of meeting ALARA standards.

If the new DR/CT technology turns out to be as good as it purports to be, I proposed that the applicants use it for all initial radiography on the WIPP waste, but keep the same QC checks that are now in the permit, i.e. re-scans and independent observations of drums, VE, checks of original scan data for 1% of containers, etc. This technology could solve some of the problems we have currently with RTR. However, WID/DOE have not given adequate information to show what this technology can do with the application for which they intend to use it. They have also not taken human or machine error into consideration. Their modification request is therefore incomplete. Even if the DR/CT technology gives excellent resolution and views into the containers, the Applicants' attempt to eliminate the multiple types and levels of QC oversight would reduce the actual ability to catch problems and mistakes that might exist during the original procedure. Therefore the permit modification request is also not protective of human health and the environment.

Sincerely,



Deborah Reade
(CARD)

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Subject: WIPP permit modification (DR/CT)

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Hello Steve--

Here are my comments for CARD on DOE's latest permit modification. Hard copy will follow in the mail.

Deborah

April 2, 2001

Steve Zappe
New Mexico Environment Department