



ENVIRONMENTAL EVALUATION GROUP

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

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September 17, 2002

Mr. Steve Zappe, WIPP Project Leader
NMED Hazardous Waste Bureau
2905 Rodeo Park Drive East – Bldg. 1
Santa Fe, NM 87505

Dear Mr. Zappe:

Attached are the EEG comments on the WIPP Class 2 permit modification request (PMR) transmitted to NMED under a letter dated June 27, 2002 (“Add Waste Containers”). The EEG believes addition of these waste containers will not increase health or safety hazards at the WIPP, and will be of aid to the WIPP mission. However, there are several details regarding the PMR that the EEG believes should be addressed before this PMR is implemented. These are described in the comments.

Sincerely,

Matthew Silva
Director

MKS:JKC:SW:BW:pf

cc: Dr. Triay, CBFO



The following comments address the Class 2 Permit Modification Request (PMR) submitted by the WIPP permittees on June 28, 2002 entitled "Add Waste Containers". The EEG believes that adding the container types as proposed in this PMR will increase operational flexibility and will not significantly alter considerations related to health, safety, and the environment for the WIPP. However, there are some issues that should be resolved prior to adding these containers to the WIPP Hazardous Waste Facility Permit (HWFP). The EEG comments point out at least some of these issues.

1. The "Basis" section states that (p. A-3):

This modification clarifies that containers not in good condition will be overpacked, repaired/patched, or transferred to a container in good condition.

The EEG does not believe that the WIPP facility has either the facilities or the procedures in place, or has performed the training necessary for safely performing transfer of waste between containers. This PMR also does not address specific HWFP prohibitions against opening waste containers (§ F-1, M1-1d of the HWFP). The EEG believes that the permittees should show that facilities, procedures, and training are in place at the WIPP for transferring waste between containers before the NMED accepts the portions of this permit modification that allows such transfers.

There are current procedures for overpacking primary containers (drums into SWB or TDPs and SWBs in TDOPs). However, there is no suitable overpack for a TDOP except perhaps the TRUPACT-II ICV that it is contained in. There are problems in using an ICV as an overpack (see our comments under Section e.2). The EEG believes that the best solution is to return any unacceptable TDOP or other container to the shipping site or an alternate location rather than to instigate a practice of opening containers and transferring wastes to other containers.

2. The "Discussion" section of the PMR notes that direct loading of 85-gallon drums have yet to be approved as transportation payload containers by the Nuclear Regulatory Commission (NRC). The NRC has approved 85-gallon drums as overpacks in the HalfPACT Safety Analysis Report. The EEG believes the current lack of NRC acceptance for direct-loaded 85-gallon drums is not a sufficient reason to reject direct-loaded 85-gallon drums.

The following comments are on the permittees' proposed text revisions, and are numbered according to the PMR's numbering system.

- a.2. Module III.C.1.c, describing ten-drum overpacks (TDOPs) is altered in part by adding text to state that TDOPs have "...a gross internal volume of 160 ft³ (4.5 m³)" (p. A-4). This value affects the storage volume allowances in the HWFP, particularly Module III Tables I.A.1 and I.A.2, which have not been addressed in this PMR.

These Tables express TRUPACT-II volumes based on the Standard Waste Box (SWB) volumes that provide the current maximum volumes for TRUPACT-II loads. Two SWBs can be loaded into each TRUPACT-II, so that the TRUPACT-II waste volume was assumed to be 132.6 ft³ (twice the 66.3 ft³ volume of an SWB). Currently in the Permit the volume of the TDOP is interpreted as being the volume of the ten 55-gallon drums that are allowed to be included. However, in a direct-loaded TDOP the entire internal volume of the TDOP must be used. This increases the TRUPACT-II waste volume by nearly 30 ft³, which would be greater than a 23% volume increase¹ Thus, if the currently-allowed four TRUPACT-IIs in the WHB storage unit all contained direct-loaded TDOPs, 640 ft³ of waste would be considered to be present, and the 530.4 ft³ limitation for waste in that unit (Table I.A.1) would be exceeded. The same would be true for the Parking Lot Unit; 12 TRUPACT-IIs loaded with TDOPs would exceed the Table I.A.2 limit of 1591 ft³ by some 375 ft³.

The EEG notes that one possible solution to this issue would be to increase the waste storage volume allowed in the storage areas to match the proposed new TRUPACT-II waste volumes. The NMED and the permittees may remember that the initial attempt to add direct-loaded TDOPs to the HWFP was a Class 2 PMR submitted May 1, 2001. That PMR was rejected due to circumstances other than the proposed volume increase that was the basis for the submittal. The storage volume increase appeared to the EEG to be an important part of that PMR, and would be an equally valuable, and perhaps a necessary, addition to this one.

Other parts of the HWFP would be affected by the TDOP increase in the maximum storage capacity of a TRUPACT-II. For example, Section M1-1c(1) states "The volume of waste in containers in four TRUPACT-IIs is 530.4 ft³ (15m³)", which would not be correct if direct-loaded TDOPs are in the TRUPACT-IIs. The rejected May 1, 2001 TDOP PMR may have addressed these other sections as well.

¹ The EEG performed a calculation of the volume of TDOPs based on the dimensions provided in Table 2.1-26 of the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC; Revision 19a), which lists an "approximate" 70½ - inch internal height and 71½ - inch internal diameter (these are apparently the values used by the permittees). Assuming a 3-digit accuracy for these values, the volume would be 164ft³-a 23.3% difference, still clearly less than the critical 25% volume increase discussed later in this comment..

- e.2. Section F-4d is altered as follows (p. A-8; proposed addition in redline and double underline):

Should a breach of a waste container occur at the WIPP that results in external contamination exceeding the small area "spot decontamination levels, the affected container(s) (e.g., breached and contaminated) will be placed into an available overpack container (e.g., 85-gal drum, SWB, TDOP) except that TDOP's will be decontaminated, and repaired/patched or transferred to a container in good condition.

Transferring up to 4.5 m³ of transuranic mixed waste from a TDOP to other containers would seem to require special considerations for which there is no basis in the current HWFP, nor for which there are considerations in this PMR. The transfer would need to be performed in a separate enclosed area with negative pressure and HEPA-filtered air, and other precautions related to health and safety considerations should be considered. The EEG is unaware of any WIPP facilities or procedures to implement such a transfer.

Other parts of Attachment F would also need to be altered in order to perform waste transfer from a TDOP. For example, Section F-1 states (under the "Containers" subsection, p. F-5):

TRU mixed waste containers, containing off-site waste, will not be not opened at the WIPP facility.

Other parts of the HWFP would also need to be altered. Section M1-1d contains a similar statement:

TRU mixed waste containers, containing off-site waste, are never opened at the WIPP facility.

During the July 23, 2002 quarterly meeting between the EEG, New Mexico state agencies (including NMED), and the DOE, a permittee representative suggested that the inner containment vessel (ICV) of a TRUPACT-II could be sacrificed and used as an overpack for a TDOP. However, there are currently no approved methods for lifting a fully loaded ICV, for adding a filter-vent to an ICV, for loading an ICV onto a facility pallet, or for emplacing an ICV in the underground. On the other hand, §M1-1c(1) of the permit currently states, "The Permittees may initiate local decontamination, return unacceptable containers to a DOE generator site or send the TRUPACT-II to the third party contractor. Decontamination activities will not be conducted on containers which are not in good condition, or which are leaking." The EEG

believes that the best solution is to return any unacceptable TDOP to the shipping site or an alternate location..

- e.3. Table F-6 is amended to add one TDOP to the list of overpack containers maintained in Building 481 (p. A-17). While the EEG agrees that this addition is beneficial to the WIPP and the HWFP, the NMED should be aware that Table F-6 also contains at least one other change that would more properly be submitted as a separate Class 1 change (replacement of the currently specified "Laerdal 3000 QRS" heart monitor/defibrillator by a "Zoll 1600" on p. A-14). There may be other changes to the Table also.
- g.2. Section M1-1b, Description of Containers, adds to the description of 85-gallon containers (p. A-20). Another WIPP-related document, the *HalfPACT Safety Analysis Report* (NRC-Docket No. 71-9279; Revision 1) states (Section 1.1, p. 1-2):

Hereafter, the term "85-gallon drum overpacks" is used to refer to 79-, 83-, or 85-gallon drum overpacks.

It seems likely that these same various drum sizes would be meant to fit under the term "85-gallon drum" as used in the WIPP HWFP. If this is the case a similar statement would seem to be a necessary addition to either the 85-gallon drum description or at a more appropriate location in the HWFP.

- g.3, g.5, and g.6 These sections also contain language about allowable volumes and transferring waste between containers. Please see the previous comments on these issues.
- g.8. Figure M1-15 (in Attachment B to the PMR shows the filter vent will be in the lid of 100-gallon drums, but a note on the drawing states "FILTER VENT LOCATION NOMINAL. MAY ALSO BE LOCATED IN DRUM BODY". Filters placed on the drum body are at risk of dislocation during drum handling. The EEG believes that filter vents for 55-, 85-, and 100-gallon drums should be restricted to the lid portion of these containers.

The EEG made a similar comment in relation to 55-gallon drums only, in comments to an earlier Class 2 PMR. From Comment 3 of the attachment to a June 22, 2001 letter from the EEG to the NMED:

One example is the August 8, 2000 Class 1 modification, which added text to HWFP Attachment M1-1b that allows filters to be placed on "the body" of 55-gallon drums as well as the lid (p. A-6). Filters were originally placed on the lid in part because in that position the rim of the drum

provides protection for the filter; on the body of the drum a filter would obtrude into the environment so that it can be bumped, pulled, or pressed against, any of which could break the integrity of the drum's containment system. The possibility of such physical disruption was not discussed in the Class 1 modification, nor was data showing that drums with filters on the body would meet the Type A container specifications required by the HWFP.

The EEG reminded the NMED of the comment in an October 9, 2001 letter, and the language in the February 2002 version of the HWFP was changed to eliminate the allowance of filters on the body of drums. The EEG believes that 85-gallon drums are directly analogous to 55-gallon drums in this regard.

- g.9. Table M1-2 shows that a four-pack of 85-gallon drums may weigh as much as 4,500 lbs (proposed version on p. A-25), or 1,125 lbs per 85-gallon drum.. This allowance was for 85-gallon drums used as 55-gallon overpacks; the intent was apparently to allow for the maximum of 1000 lbs gross weight allowed for 55-gallon drums, plus the weight of the 85 gallon drum.

55-gallon drums and 100-gallon drums have a gross weight limit of 1,000 lbs per drum. The limits on drum weight loading are in the TRAMPAC, not the HWFP. However, since no NRC-approved drum loadings for 85-gallon drums are in place, the NMED may want to consider whether a similar limitation, i.e., 1000 lbs. gross weight, should be placed on direct-loaded 85-gallon drums. Using the limits for overpacked 85-gallon drums would be a 12.5% increase in the allowable load for direct-loaded 85-gallon drums.

This suggestion is offered under the assumption that the same design and design testing is used for all three drum classes, and that a 1000-lb. gross weight capacity was established at that time. The permittees may have more information that would eliminate the concern expressed in this comment.

- h.3 Table M2-1 has similar weight limits as Table M1-2 and EEG's comments above will apply here as well.