

**STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT**

**IN THE MATTER OF THE INTENT
TO APPROVE A CLASS 3 MODIFICATION
TO THE HAZARDOUS WASTE FACILITY
PERMIT FOR THE WASTE ISOLATION
PILOT PLANT, CARLSBAD, NEW MEXICO
U.S. EPA NO. NM4890139088**

No. HWB 02-01 (M)

HEARING OFFICER'S REPORT

I. INTRODUCTION

Applicants Department of Energy (DOE) and Westinghouse TRU Solutions (“Applicants” or “permittees”) seek a modification to their hazardous waste facility permit for the Waste Isolation Pilot Plant (WIPP) located 26 miles east of Carlsbad in Eddy County, New Mexico. The requested modification is to establish new drum age criteria (DAC) for taking a representative headspace gas sample based on additional packaging configuration groups. The New Mexico Environment Department (NMED) Hazardous Waste Bureau (Bureau) supports the issuance of the permit modification with conditions necessary to protect public health and welfare and the environment.

This matter was heard on August 26, August 27 and August 28, 2002, in Santa Fe, New Mexico. The Bureau was represented by Charles Noble of NMED’s Office of General Counsel, and the Bureau’s position was presented by staff member Steven Zappe and Bureau contractor Robert Thielke. Those present on behalf of the Applicants included attorneys Pete Domenici, Jr., Lorraine Hollingsworth, Gary King and James Pigg; environmental manager Robert Kehrman; and technical advisor Dr. Murthy Devarakonda. Lindsay Lovejoy appeared for the Office of the New Mexico Attorney

General. Matthew Silva appeared for the Environmental Evaluation Group. Don Hancock appeared for the Southwest Research and Information Center. Deborah Reade participated during the hearing on behalf of Citizens for Alternatives to Radioactive Dumping. Public comment was offered by Coila Ash, Penelope McMullen, Joni Arends and Deeanza Ruybal.

The record proper includes, *inter alia*, the administrative record (including a revised draft permit distributed on August 20, 2002); the notice of public comment period and public hearing; a request for hearing; the notice of hearing determination, hearing officer assignment and delegation of authority; entries of appearance for each of the parties; notices of intent to present technical testimony; the transcript of the hearing, in 3 volumes; hearing exhibits and sign-in sheets; the notice of transcript filing; post-hearing submittals from the parties; and this Report.

Essentially, the current WIPP Permit Hazardous Waste Analysis Plan (WAP) requires the use of headspace gas sampling to comply with the Resource Conservation and Recovery Act. Headspace gas sampling is performed to determine volatile organic compounds within the headspace gas once it has reached a steady-state of diffusion throughout the container. The length of time that a container has to sit before that headspace gas is sampled is called the drum age criteria value or “DAC.” This value reflects the number of days it takes for the volatile organic compounds to diffuse throughout the drum or other container. The criteria established in the original permit were 142 days for category S5000 waste (debris waste) and 225 days for S3000 and S4000 waste (solid and soil wastes). Applicants have requested a permit modification that would allow the use of drum age criteria values for particular drum containment

configurations, depending upon the size of vent holes in the inner liner, the number of layers of confinement within the drum, and the type of filter used when the drum is vented.

II. SUMMARY OF TESTIMONY

[The technical witnesses also “adopted” their written testimony as that testimony was summarized or written out in the attachments to the parties’ Notice of Intent to Present Technical Testimony. These documents are part of the record, and I have not further summarized them here. I have also not set out the detailed description of the permit language or conditions; this appears in the findings and conclusions.]

A. For the Applicant

1. Robert F. Kehrman

Mr. Kehrman is employed in Carlsbad, New Mexico, with Westinghouse TRU Solutions. He is responsible for permit modifications, including the one at issue here.

Mr. Kehrman first gave a general overview of the WIPP facility: The WIPP facility was authorized by Congress in 1979 as a facility to demonstrate the safe disposal of transuranic waste that is generated by the United States defense industry. Facility construction occurred between 1981 and 1990. The facility is a mined geological repository for the placement of transuranic waste, which often is also hazardous waste, in a bedded salt formation 2,150 feet below the surface of the earth.

The Department of Energy had to obtain numerous permits prior to opening the facility for the receipt of transuranic waste, including approval from the Environmental Protection Agency regarding the radioactive aspects of the waste, and approval from the New Mexico Environment Department under the New Mexico Hazardous Waste Act and

the Resource Conservation and Recovery Act in the form of a hazardous waste facility permit.

The WIPP facility began operations in March of 1999 for non-mixed transuranic waste. The first mixed transuranic waste--waste that contains both radioactive and hazardous constituents--was placed at the facility in September of 2000. To date, the facility has received over 1,100 shipments of transuranic waste. Waste arrives at about a rate of 25 shipments per week.

Mr. Kehrman next discussed the objective of the permit modification request: to allow the generator sites to select a drum age criterion from a pre-established table when certain conditions specified in the proposed draft permit are met. One of the requirements of the current permit is that the volatile organic compounds--gases that volatilize out of the waste and accumulate in the headspace of the drums or containers--be sampled for the purposes of determining their type and concentration. Such samples are required by RCRA to be representative of the wastes. The permit defines a representative headspace gas sample as a sample of the headspace after the headspace has reached a minimum of 90 percent of the steady-state value. Reaching 90 percent of steady-state value involves chemical and physical processes within the container, and depends on how the waste is packaged. That time before steady-state is reached is called the drum age criterion, and it is the number of days a generator must wait before sampling the headspace of a container to assure that that headspace gas sampled is representative of the type and concentration of VOCs within the container.

Mr. Kehrman next addressed how waste is packaged. The actual waste within a container can be any of a number of items. Generally, these waste items are contained

within plastic bags. In the draft permit, these are referred to as inner bags or inner layers of confinement; the bags are intended to confine radioactive particles. Depending on the specific operations at a generator site, there may be multiple inner bags, made of plastic. In addition, within a drum or a container, there may be a liner bag, another plastic bag that fits the dimensions of the container. In addition, many containers also contain a rigid liner, generally a polyethylene shell of 90 mils (roughly a tenth of an inch thick). That shell is placed in these containers to protect the container from some of the objects that might be placed in the container when the container is handled. The drum or container itself is generally made out of carbon steel, or some similar metal, with a lid.

Currently, the permit requires the sampling of the volatile organic compounds in the drum either in the headspace or below the lid of the rigid liner. The permit requires that every container of waste, prior to shipment to WIPP, has to be vented. If there is a rigid liner, there must be a hole in the rigid liner, and the container itself must have a filter vent to allow the passage of gas without allowing the passage of radioactive particulate.

In the permit and in the permit modification, one of the key characteristics of determining the DAC is knowing the waste type. For the purposes of the drum age criterion, waste is divided into two types, homogeneous solids and debris waste. In the current permit, that drum age criterion is established by the permit at a specific number: 142 days for debris waste and 225 days for homogeneous solid waste. They are seeking a modification to change those days so that the generator can specify drum age criterion based on specific packaging characteristics. A 90 percent steady-state value must be met in all cases of sampling, but the modification would define specific sampling scenarios.

Three sampling scenarios are proposed: unvented drums, unvented drums that are sampled at some later time out of the headspace of the drum, and drums that are vented when they are packaged. In addition, the permit modification proposes look-up tables. The permit modification does not change the permit requirement to assure that the sample is representative, or that the sample be taken at 90 percent of the steady-state value for the area being sampled. The permit does not change the requirement for that sample to be used to determine the type and concentration of the volatile organic compounds that are in the container. Finally, this permit modification does not change the fundamental methodologies that are proposed for taking those samples out of those containers.

Mr. Kehrman then described how a generator site would refer to a look-up table in a specific situation. Under the proposed modification to the permit, a generator would first determine its packaging configuration: the type of waste being sampled and the number of layers of confinement the waste is packaged in. If there is a liner with a lid, the generator will then determine the size of the vent hole in the lid determine the filter diffusivity. For newly generated waste, or repackaged waste, the permit calls for the generator to document the relevant factors in the packaging configuration, and use a drum age criteria selected from one of the tables in the proposed permit. The permit does not allow the generator to rely on “acceptable knowledge” or historical knowledge of the waste to select these values. If the generator does not observe these values during the process of either packaging newly generated waste, repackaging retrievably stored waste or venting unvented waste, then the generator must use the default values established by the permit.

Mr. Kehrman then described how the information supporting the specific values was developed: The values in the current permit were based on a 1995 study performed by scientists and engineers at the Idaho National Engineering and Environmental Laboratory. That study constructed a numerical model for calculating the time it would take for the headspace of the drum to reach 90 percent of the steady-state value. That particular model recommended only two values, and those two values were 142 days for debris waste and 225 days for solid waste. Those two values were the values that the New Mexico Environment Department put in the permit when it was issued.

In 2000, the scientists and engineers at the Idaho National Engineering and Environmental Laboratory revisited this model and how it is applied to packaging. DOE was in the process of obtaining permission from the Nuclear Regulatory Commission to use additional types of filters on their containers. In addition, the DOE was in the process of obtaining permission from the Nuclear Regulatory Commission to use different kinds of containers or different packaging configurations for the waste. The Nuclear Regulatory Commission approval was necessary in order to accommodate shipping the waste in TRUPACT-II, their shipping package. As those applications progressed through the Nuclear Regulatory Commission, the generators requested that they also update the hazardous waste facility permit to accommodate similar changes. In Idaho, the scientists and engineers updated the 1995 report using the same numerical methodology, but instead of outputting two specific values, they chose to output values that had variables such as rigid liner, vent hole diameter, filter diffusivity and packaging reconfiguration group. That resulted in a series of tables proposed as values here.

If this modification is approved, the adjusted DAC values would be available to all the generator sites; the generator sites that will benefit from the most are those that are in the process of generating new waste. Much of this waste is being generated through the decommissioning process, where facilities are being dismantled and old waste is being recovered, treated and then packaged to ship to WIPP. The Advanced Mixed-Waste Treatment Facility at the Idaho National Engineering and Environmental Laboratory is one example. This facility is being constructed to retrieve and process what will ultimately be on the order of a hundred thousand containers of waste for disposal at WIPP. Under the current permit process, if the generator retrieves the waste, treats it, and then packages it with no confinement layers or a rigid liner the generator will have to place the waste into a less-than-90-day storage area. However, because the generator would have to wait 142 days for debris waste or 225 days for homogeneous solid waste before headspace gas samples can be taken under the permit, the waste would have to be moved to a facility, essentially a hazardous waste storage facility, permitted by the State of Idaho under its hazardous waste program. This would require that the facility build a new storage building and obtain all the requisite permits for that building. While in storage, the hazardous waste regulations require that this generator perform inspections of the waste on some frequency, looking for leaks and spills. Generally, the minimum frequency for inspections would be one week. So on a weekly basis, operating personnel would have to inspect the containers of waste and the area around the containers of waste, then after 142 days could perform headspace gas sampling on those containers, and then subsequently, if all other requirements are met, ship those containers to the Waste Isolation Pilot Plant.

With the new DAC, because there are no confinement layers and/or rigid drum liner, under the proposal, the generator would only have to wait four days prior to taking that sample and then sending that waste to WIPP, assuming it meets all the rest of the requirements.

The Rocky Flats generator site will also benefit from this permit modification. Rocky Flats is scheduled to close by 2006. Closure includes removing all the buildings, all the laboratories, and all the plutonium production facilities that have existed at that plant for many decades. Currently, Rocky Flats is shipping legacy waste, the waste that they have in storage at that facility. They will soon start dismantling buildings, and those portions of those buildings determined to be transuranic waste can be placed in large containers, and instead of having to wait 142 days, they can meet a much shorter DAC in one of the tables.

Mr. Kehrman believes the modification meets the hazardous waste regulations and is protective of human health and the environment. The fundamental requirement of the permit to meet 90 percent of the headspace gas equilibrium value is what provides that protection.

The proposed permit modification also establishes conservative default packaging values, such that if a generator is unsure of the packaging configuration, the tables specify that the value to be used is that value associated with the greatest number of layers of confinement. If a filter is undocumented, then the most conservative filter value applies, such that the lowest diffusivity and the most restrictive packaging is assumed, leading to the longest drum age criteria.

Generator sites will have a standard operating procedure to implement the new permit conditions. Through those procedures, the sites will identify the documentation to be recorded on the data sheets and how that documentation will be verified.

2. *Murthy Devarakonda, PhD.*

Dr. Devarakonda works for Westinghouse TRU Solutions as a technical advisor. A 1995 report was the basis for the drum age criteria used in the original permit application. Around 1999, they decided to look at different packaging configurations and different filter types. The exact same model was used, with different input parameters, to generate drum age criteria based on variables such as the liner hole size and filter type.

Dr. Devarakonda believes the 1995 model was adequate and accurate in representing the TRU waste for drum age criteria. It is a fairly robust model which is applicable both for the original permit application and the modification at issue.

The 2000 report looked at the packaging configurations for which new DACs were calculated. He was one of the co-authors of the 2000 report and was involved with the technical review of the final report. He did perform a detailed review of the input/output results as compared to the report. In the course of that review, he identified specific values to be adjusted, either to reflect a faster aging process, or for conservatism. In his opinion, the modeling that is the basis for the modification is valid and technically sound, and the values in the tables are based on the same equations as in the current DAC. The values are based on the exact same model and the same governing equations for transport of VOCs.

With one correction (“197” to “199”) the values reflect a drum age criteria that will provide a 90 percent steady-state through the headspace.

B. For the Hazardous Waste Bureau

1. Steven Zappe

Mr. Zappe is a hydrologist with the Hazardous Waste Bureau, and also the WIPP project leader for the Bureau.

The permittees first submitted a Class 1 modification to implement an expanded drum age criteria proposal in November 2000. Upon reviewing it he informally notified the permittees that it did not meet the standards for a Class 1 modification and would likely be rejected. The permittees then submitted a virtually identical request on December 7, 2000 as a Class 2 modification; they also requested a temporary authorization to be able to implement the drum age criteria portions of the modification prior to formal agency action.

The Bureau originally approved the temporary authorization on December 13th, however, following further analysis and public comment, they rescinded that temporary authorization on December 22nd. Permittees had not demonstrated that it was imperative to be able to do the work before there had been any opportunity for public input or comment in the normal Class 2 process. A request to reconsider this decision was not successful. A 60-day public comment period ended on February 9th, 2001; on March 26th, 2001 they issued a final decision denying the permit modification for failure to include any mechanism to ensure that the generator sites actually kept records that would allow them to document that they had chosen an appropriate DAC.

The Bureau suggested in the denial letter that they resubmit it as a Class 3 permit modification, so the permittees could take advantage of the notice of deficiency process. Permittees submitted another Class 2 modification on May 1st, 2001 that included a

revised request and a response to comments, and they attempted to address the public comment that had been received in the previous submittal. The Bureau established another 60-day public comment period that ended July 6th, 2001. They did not approve the modification request or deny it but, based on the public comment received and the nature of the edits they believed were necessary, they decided it was appropriate to elevate the modification to a Class 3, and they issued a draft permit for subsequent comment on May 13th, along with a public notice of a 45-day comment period and a potential for a public hearing.

Some of the elements of the May 1, 2001 permit request were included in the draft permit; some were not; and several conditions were proposed by the Bureau that had not been requested by the permittees. Perhaps the most significant condition imposed was to require that radiography and/or visual examination be used in conjunction with acceptable knowledge to determine and/or verify the appropriate packaging configurations and sampling scenario that would be used; and if that information was not available or was undocumented, that they had to make the most conservative assumption in selecting a drum age criteria from the tables. They also imposed requirements for training and put additional items into the checklists that are used during audits to ensure that those items were checked.

The public comment period ended June 27, 2002; several comments were received. The general sentiment of those comments was that NMED should deny the permit modification request, either because it was technically inadequate and unsupported, or because it had not been demonstrated that it was necessary, and all but two of the commenters requested a public hearing as well. One commenter also

requested that missing sampling results or other data that was alluded to either in the modification request or in the attached reports be provided. Another requested results of surveys of the generator sites to identify their packaging configurations. Some people requested an explanation of why the modeling results from '95 and 2000 appeared to be different. There were requests that the permittees perform additional modeling and that the Environment Department itself conduct independent modeling or independent verification of those results. There was a concern about how the airtight seals had been demonstrated and how they can be maintained if a sample is taken through the liner lid itself. They addressed the potential for future modification requests as they relate to different packaging configurations. There was a request to make mandatory a 90-mil rigid liner as opposed to removing the language that would specify how thick it was. There were concerns about appropriate requirements for record keeping, so that all the information required to determine the appropriate DAC was collected. There were questions about how unvented containers are managed at generator sites. There was broad concern over whether acceptable knowledge was sufficient to be able to determine the necessary information to establish a drum age criteria. The biggest question was whether radiography itself was able to provide the information necessary, for example, to determine the number of layers of confinement and vent hole diameter.

The permittees also filed comments on the draft permit, in four general areas. The first was to allow the drum age criteria to be used for newly generated waste, such that during packaging the necessary information for determining the packaging scenario, the liner vent hole size and the other information, would be acquired and recorded during that time. They also asked that that be done for retrievably stored waste as if it were being

repackaged, because, essentially, it would be using the same technique to gather that information -- opening the drums, removing the contents and cataloging how the waste was repackaged as it was put in the new drum. The third was that if a drum was unvented, they could punch through both the drum lid and the liner lid, and document the diameter of that hole to establish a drum age criteria under either scenario one or scenario two. Finally, for retrievably stored waste, they did not want to provide great latitude on using any information to assign other than a default drum age criteria that would be selected from the table, based upon a presumed conservative value for the size of the liner vent hole and being able to choose the filter diffusivity based upon looking at the filter on the drum itself.

The Bureau took into account all the comments they had received, both from the permittees and from the public, to develop a proposed final permit. This revised permit was distributed to all parties by e-mail late on August 19, 2002 to give them an opportunity to review it before the hearing. Mr. Zappe then described each of the changes made and its justification. He also described the conditions imposed on the granting of the permit modification and its justification. Finally, he described the additional changes he supported based on comments made during the hearing. With the changes he had discussed, it is his opinion that the proposed final permit, as modified, will be protective of the human health and environment.

3. Robert Thielke

Mr. Thielke is employed by Trinity Engineering Associates in Golden, Colorado, as a project manager and technical specialist.

He evaluated whether the drum age criteria proposed by DOE and incorporated in the revised draft permit are appropriate based on the methodologies that were the basis for the approval of the DAC in the original WIPP permit.

Initially, he evaluated the 1995 report by Connolly, et al. Then he reviewed the 2000 BWXT Idaho report to determine if the equations used in the 2000 report were equivalent to the 1995 report: was the model used to calculate the drum ages in the 2000 report equivalent to the model used to calculate the drum ages in the 1995 report?

His evaluation indicated that the 1995 report has four basic driving equations: the permeability through a polymer liner, diffusion through the polymer liner vent hole, diffusion through the vent liner and solubility in the poly drum liner. On the first three factors, there was a direct correlation between the 2000 report and the 1995 report. Regarding the poly liner solubility for the VOCs, the 2000 didn't specifically address the equations, but a consideration of the inputs to the model and the drum ages shows that this term was accounted for.

He reviewed the inputs and outputs of the model runs to identify any differences between the DAC times proposed and those calculated by the model. He agrees with DOE's rationale for the DAC values in the table that are more conservative values than the output values indicated. In summary, he agrees with the DAC values proposed by DOE and incorporated in the proposed final permit, with the one change proposed at hearing (“197” to “199”).

C. For the Southwest Research and Information Center

Don Hancock

Mr. Hancock testified that Southwest Research and Information Center has opposed this modification for almost two years as not being needed, not being technically

supported, not being necessary, being too complex and difficult to implement without errors, and not protecting public health and the environment. The fact that the modification request has gone through so many changes is itself an indication that it's not a simple change.

Changes and improvements have been made from the May 13th draft, and further improvements have been made during the hearing. Nonetheless, there still haven't been satisfactory answers to several technical questions. They continue to believe that public health and environment will be better protected by denying the permit modification.

He appreciates the fact that Mr. Noble proposed and the others agreed to a two-week extension of the written comment period. They are concerned, however, about the violation of the public notice requirement for a hearing schedule to be distributed at least two weeks in advance, and they hope it will not occur in the future.

D. For the Environmental Evaluation Group

Matthew Silva

Mr. Silva testified that the mission of the Environmental Evaluation Group is to provide an independent technical review for evaluation of the Waste Isolation Pilot Plant to assure the protection of the public health and safety of the people of New Mexico.

EEG did not support the revised draft permit as issued by NMED on May 13, 2002. However, EEG found that the May 13, 2002 draft was correctable. EEG considers the August 26, 2002 draft DAC permit much improved over the May 13, 2002 draft. Many of their concerns were adequately addressed, including the availability of input and output files associated with DAC value determinations; improvements in the flow chart for calculating DAC values; and the provision of software model documentation for calculating DAC values.

EEG developed its own model to verify the DAC conclusions regarding the sensitivity to each parameter. Moreover, EEG has satisfied itself that the conceptual model assumptions correctly reflect the physical situation, and the governing equations appear to have been appropriately used.

Further, several editorial changes recommended by EEG that improved the precision and clarity of the draft were also addressed by the Applicants and appear in the August 26, 2002 draft. Although several issues (lack of definition for inner bags and liner bags, incomplete combinations of such configurations, and difficulties with undocumented filter diffusivity language) have been identified during the hearing, EEG still finds that the August 26, 2002 draft permit modification as proposed by NMED to be a useful basis from which to amend the permit.

E. Public Comment

1. Coila Ash stated that she was disappointed in the posting of the public notice for the hearing. She believes the existing DAC is adequate and the proposed DAC will create more opportunities for mistakes. Problems could occur at the generator sites and not be known. The permit modification should be denied.

2. Penelope McMullen stated that the Sisters of Loretto oppose the modification and request that it be denied. The data do not provide adequate technical basis and are not sufficient to encompass all configurations. The criteria proposed include 70 values and could easily lead to mistakes. They are concerned that DOE will rely on old records as acceptable documentation when it is known these records are frequently inaccurate. Increased VOCs could endanger public health and the environment. The process of moving waste drums should not be hurried when this could compromise safety.

3. Joni Arends noted that the public had not received written notice of the public comment periods, and that this caused them grave concern because they did not know when they could speak. She wanted to know the remedy for this. [I discussed my remedy with her, and she said she appreciated it, but would still prefer prior notice.] Moreover, the DAC modification has come before the NMED three times, and the public never received the final language that was the subject of this hearing. DOE has not shown why a new DAC is needed. Increasing the DAC values from 2 to 70 increases the likelihood of mistakes and the likelihood that excess VOCs will be shipped to WIPP.

4. Deeanza Ruybal stated that she supports the proposed changes to the DAC. She understands this might allow the waste from Los Alamos to be moved to WIPP in a more timely fashion. She has a small child and lives in fear of another fire that might reach the waste. She believes the best place for the waste is at WIPP.

III. RECOMMENDATION

Based on the record as a whole, I recommend that the permit modification be granted in the form ultimately drafted with the corrections and clarifications made as a result of the hearing process.

IV. DISCUSSION/ANALYSIS

A. Notice and Process

Two complaints were heard at the hearing about notice and process: that no hearing schedule was sent to the parties two weeks prior to the hearing, as promised in the notice of hearing; and that the latest proposed revisions to the draft permit were distributed on August 19-20, just a week prior to hearing.

The first complaint is a valid one; no such notice was sent. I did not read the notice of hearing until very shortly before the hearing, and was not told that this promise was reflected there, on p. 4. Generally, although the applicable procedural regulations call for public comment to be taken at the end of the technical case, I have established a practice of requesting public comment at 11:30, 3:30 and 7:00 each day of a large public hearing, and honoring individual time constraints otherwise. Those who have not been to a hearing previously would not know this, of course, and best practice calls for the specific times of any public comment period to be called out in the public notice or in a pre-hearing scheduling order.

My remedy for this oversight was to take all public comment as it was offered, regardless of the number of interruptions in the technical case, and to affirmatively ask if there was any public comment to be given at 11:30, 3:30 and 7 each day. No one proposed another remedy, and all (four persons) who appeared to offer public comment were heard promptly.

The second complaint has less merit, in my opinion. The corrections and clarifications made to the draft permit and distributed on August 19-20 were made in direct response to the comments received after the original draft permit was issued, and the revisions were distributed in order to reduce the number of disputed issues discussed or debated at the hearing. The Bureau was not required to make this effort before the hearing, and might have presented the revisions they were amenable to making at the hearing itself. The Bureau also clearly indicated with the use of multi-colored highlighting precisely which of the changes they had made, and the source of those

changes. Characterizing this effort as “not knowing what permit we’re going to hearing on” honors neither the intent nor the effect of the revisions that were made.

The Bureau did, with the other parties’ concurrence, extend the written public comment period two weeks beyond the hearing, when it had been scheduled to end at the end of the hearing. This extension should have remedied any lingering issues raised by the failure to issue a hearing schedule before the hearing, or raised by the Bureau’s last revisions to the draft permit.

B. Complexity

Ultimately, because the Bureau and the Applicants agreed to a number of further clarifications in the language of the permit, we do not have several drafting issues to resolve after the hearing, with the exception of possibly including a list of filters currently approved for use at generator sites in the Final Permit. I do not recommend its incorporation, insofar as it is the diffusivity of the filters and not the particular model numbers that is relevant to the determination of the appropriate DAC value. Additional models may be developed that meet the diffusivity ranges set out in the tables, and there is no reason to preclude their use.

It appears that the changes agreed to by the Bureau and the Applicants in their post-hearing submittals, with the exception of the filter list, address the changes proposed by the other parties in their post-hearing submittals. This includes the addition of definitions for liner bags and inner bags; the correction of one of the values from 197 days to 199 days; the clarification that drums are 55-gallon drums; the provision that any waste container that cannot be assigned a packaging configuration specified in the tables cannot be shipped to or accepted for disposal at WIPP; the addition of the site manager’s

review of the DAC to the checklist; and the requirement that if a filter is unknown or smaller than allowed, it must be replaced with a known filter of appropriate size prior to initiation of the relevant DAC period.

What does remain for consideration is the larger issue of complexity: the Applicants are proposing to increase the number of DAC values available from 2 to 70. Opponents to the modification believe this increase in complexity will lead to error, and that the Applicants have not demonstrated otherwise.

Although choosing from among 70 values does require more judgment than choosing from between 2 values, the reasons supporting the granting of the modification outweigh any hesitation to deny it based on complexity. As noted in the testimony, the shorter DAC values do not change the fact that headspace is sampled and analyzed for VOCs prior to shipment to WIPP. It is a question of how long it takes the VOCs to reach steady-state before sampling, and it was undisputed at hearing that currently the DAC values far exceed the time necessary to reach steady-state in certain packaging configurations. The extra waiting time would have real consequences: additional facilities must be built to store the items; and additional inspections must be made, with the associated potential for additional exposure during the inspections and the additional possibility of leaks and spills during storage. There are existing mechanisms in place in the original permit to address audits, compliance, reporting, training, and standard operating procedures such that the addition of look-up tables in ascertaining package-specific DAC values should allow the more efficient characterization of waste without posing a threat to health or the environment.

V. RECOMMENDED FINDINGS AND CONCLUSIONS

Having reviewed the parties' recommended findings of fact and conclusions of law, I believe the Bureau's most closely comport with my own understanding, and I recommend that the Secretary adopt them as his own.

Two changes are necessary to the draft Order; Director Lewis has recused himself based on the change of administration on January 1, 2003 and his lack of availability before then, so the signature line will be that of the Secretary's.

Additionally, insofar as the disputed matters remaining are few (the possible inclusion of the filter list and the issue of complexity), and a new Administration is imminent, I understand the Secretary is exercising his discretion under the procedural regulations not to eliminate the comment period but to shorten the comment period on this Report to ten days; this will be noted with the distribution of the Report.

VI. RECOMMENDED FINAL ORDER

A draft Final Order consistent with the recommendation above is attached and incorporated by reference.

Respectfully submitted,

Original signed by
FELICIA L. ORTH
Hearing Officer