CRITIQUE OF DOE/EIS-0081D

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WEST VALLEY PROGRAM OFFICE
Office of Waste Operations and Technology, NE-320
Nuclear Waste Management and Fuel Cycle Programs
U.S. Department of Energy
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Testimony of:

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I testify as an individual and for no institute or organization. As a public health scientist and biostatistician-epidemiologist for more than 30 years, I have published more than 300 papers and my latest book, SCIENTIFIC STRATEGIES TO SAVE YOUR LIFE (just published by Marcel Dekker, Inc.), deals in detail with studies of the hazards of low-level ionizing radiation. For more than 20 years, I have been Director of Biostatistics at Roswell Park Memorial Institute for Cancer Research in Buffalo, New York (for 7 years as Acting Chief of Epidemiology) and before that was at Cornell University Medical College and Johns Hopkins.

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FROM: DR. IRWIN D. J. BROSS

SUBJECT: CRITIQUE OF DOE/EIS-0081D

PURPOSE:

The purpose of this critique is to demonstrate the need for judicial intervention to protect the health and safety of Western New Yorkers from the potentially catastrophic hazards of the West Valley Demonstration Project (WVDP).

Nominally an Environmental Impact Statement is supposed to identify the radiological hazards of the project and to give plans which would avoid or minimize these hazards. However, DOE/EIS-0081D is a fraudulent document. There is no consideration of the actual health hazards (only fictitious calculations that do not even identify these hazards). Moreover, there is no specific contingency planning to deal with the actual radiological hazards of the West Valley project.

The purpose of this critique is to show that from a scientific standpoint the document is incompetent--it was prepared by persons who seem to know nothing about the actual health effects of low-level ionizing radiation (the figures used are a decade out of date and are now recognized as scientifically invalid). The critique will also show that from a public health standpoint, the DOE/EIS is irresponsible.

When the WVDP, the most dangerous radiological project ever attempted, is planned in this unscientific and incompetent way, the DOE/EIS is itself a clear danger to the health and safety of both workers and the public. As DOE has previously demonstrated in its West Valley operations, it pays absolutely no attention to anything said or submitted at the hearings that are not judicial or evidentiary-type hearings. It is therefore essential that judicial and evidentiary-type hearings be conducted on the radiological health hazards of the West Valley Demonstration Projects--before it starts and not after a disastrous loss-of-containment accident has resulted from the actual operations.

DANGER TO WESTERN NEW YORKERS

Table B.2 (page B-9) gives the inventory of more than 30,000,000 curies in Tank 8D2 that makes the West Valley Demonstration Project (WVDP) potentially the most dangerous radiological project ever undertaken. There are three incontrovertable factors that make this project so dangerous to the health and safety of Western New Yorkers. The first is the extremely dangerous isotopes in the inventory--6,700,000 curies of Strontium-90 for example. The second is the geographic factor--West Valley is located in a well watered area not far from Lake Erie and metropolitan areas. The third factor is the lack of any proven technology for coping with the intractable sludge in Tank 8D2 and the greatly increased chance of making bad mistakes with unproven technology. These three factors result in a non-neglible risk of a serious loss-of-containment

accident. Such an accident could produce an environmental catastrophe affecting the entire Northeast quarter of the North American continent.

Any competent Environmental Impact Statement must deal with the factors that make the WVDP uniquely dangerous, must assess the risks of a serious loss-of-containment accident, and must at least outline the precautions and procedures that would be needed to prevent such an accident or to minimize the adverse health effects if one should occur. Although the DOE/EIS contains tables or text confirming what has been said here about all the three factors, it does not consider or even mention the possibility that the operations of the WVDP could result in a loss-of-containment accident. There is no specific consideration whatsoever of the steps that could be taken to avoid such an accident in the WVDP or to minimize the adverse effects on the health and safety of the Western New Yorkers. It is precisely this failure of DOE to consider the potential risks of a loss-of-containment accident which greatly increases the chance that such an accident would occur during the WVDP operations.

Unlike the inconsequential risks that the DOE/EIS actually considers (e.g., an airplane flying into the tank), there is a considerable risk of a loss-of-containment accident. For risk calculations based on general past performance, there is a long and dismal record of DOE mismanagement of its programs. This is documented in the July 29, 1981 report of the General Accounting Office (GAO). GAO reviewed four DOE program areas (Occupational Safety, Emergency Preparedness, cility Design Safety, and Environmental Monitoring) and found serious short-

comings in all of them. GAO concluded that the "specific problems (in these areas) warrant immediate corrective action." These areas are, of course, crucial to the DOE/EIS. Similarly, the past record of West Valley technological decision-making shows one bad mistake after another. This is why a corporate investment of less than $10,000,000 has necessitated a $700,000,000 remedial program (with the taxpayers picking up the tab). On the basis of the past record, a loss-of-containment accident might seem almost inevitable under DOE management.

What is perhaps even more ominous, risk calculations based on the specific operations proposed in the DOE/EIS show that there would be a high risk of a loss-of-containment accident if these plans are implemented in the West Valley Demonstration Project. For example, the most crucial step in the WVDP operations is what the DOE/EIS calls "removal of the high-level liquid wastes from the storage tanks". The proposed operations discussed in B.1 of the EIS are simplistic in the extreme. Basically high pressure nozzles would be used to stir up the wastes in 8D2 so that the tank could be pumped out like a flooded cellar. While the composition and nature of the sludge is in fact unknown (as is admitted later in the section), it is very unlikely that the sludge can be pumped out like an ordinary liquid. For instance, there is a complicated internal structure in the tank. The sludge is probably cladded to this structure. Hence, any high-pressure operations that could loosen the sludge could also collapse the structures and cause a loss-of-containment accident.

What is particularly disturbing is that the DOE/EIS assumes that the removal of the high-level wastes will be a quick-and-easy

operation in its estimates of worker and public exposures. Yet elsewhere the DOE/EIS admits that there is no proven technology for the job and that it may not even be possible to get the sludge out of the tank. There is no consideration (or even mention) of the main danger in this job--a loss-of-containment accident. There is no recognition that such an accident could be an environmental disaster which in the long term could produce more deaths and disabilities in Western New York and Canada than the A-bombs produced at Hiroshima and Nagasaki. There is no suggestion of even the simplest precautions against such an accident (e.g., the secondary containment plan previously presented to Argonne).

HEALTH EFFECTS OF LOW-LEVEL IONIZING RADIATION

The key to a realistic appraisal of the radiological impact of the West Valley Demonstration Program is a clear understanding of the nature of low-level radiation hazards and up-to-date and scientifically valid estimates of the health effects of low-dose exposures. There is nothing in DOE/EIS-0081D to suggest that any of the preparers, reviewers, or DOE administrators involved in the preparation of the document know anything about current research on low-level radiation or have any competence in public health matters. The section of Health Effects occupies less than 6 pages in a document running over 300 pages and includes nothing more than the outdated and erroneous "official" estimates (which are in line with the DOE and the official Interagency position that "low-level radiation is harmless").

Since the actual risks are anywhere from 30 to 200 times greater than the "official" risks, all of the calculations in the DOE/EIS would be meaningless for this reason alone. As previously noted

(Schedule A), DOE calculations consistently employ this meaningless ("Mickey Mouse") arithmetic.

The "official" figures are based on obsolete data on populations exposed to high levels of ionizing radiation (e.g., Japanese A-bomb survivors or sick persons given high-dose therapeutic radiation) and on discredited methods of analysis. For example, in a recent Science article, BEIR III Chairman, Dr. Edward Radford, reports on the dosimetry errors in the A-bomb data that:

> "As I have pointed out elsewhere, this leads to an increase of the BEIR III coefficients of about 2 for males and about 4 for females; use of cancer incidence for risk evaluation changes these factors to 4 and 7 respectively. Thus it is in correcting a misinterpretation of the Japanese results by the BEIR III report that the new dose information has the greatest significance." (Schedule B)

There is no longer any reason to use dubious data and discredited methods of extrapolation to get estimates of radiation health effects in 1981. There are now more than 20 studies of populations actually exposed to low doses of ionizing radiation where direct and valid estimates of risks can be made. These are listed in Schedule C. The scientific advantages of the new studies, some by federal agencies, are detailed in Schedule D.

One major advantage is that some studies, such as the Portsmouth Naval Shipyard (PNS) study (CDC/NIOSH), are on healthy workers exposed to the Nuclear Regulatory Commission ALARA levels. In other words, the

PNS estimates are directly pertinent to the WVDP worker exposures. The NRC ALARA levels are assumed "safe" in the DOE/EIS. Yet government studies such as PNS and the Big Smoky Bomb Tests (CDC) have confirmed the results of our earlier studies of myeloid leukemia in men exposed to diagnostic x-rays: The doubling dose is about 5 rem. Thus, the 5 rem/year dose to workers currently permitted annually by the NRC is unsafe for workers--a point further discussed in Schedule D.

DOE SUPPRESSION OF RADIOLOGICAL HAZARDS

It should be noted that the gross underestimate of low-level radiation hazards is not due to a casual DOE mistake; it reflects a longstanding DOE policy. DOE not only refuses to use current scientific estimates of health effects (which are 30 to 200 times greater than the "official" estimates), it has actively attempted to suppress the scientific research that developed these estimates--including Dr. Thomas Mancuso's study of the health effects for workers at the Hanford reprocessing plant. The DOE efforts to sustain the myth that "low-level radiation is harmless" by force are detailed in testimony from both sides at a Congressional hearing (Serial No. 95-179). The Chairman, Paul Rogers, gave this instance of DOE mismanagement of health effect research:

> Mr. Rogers. It's the most disordered, unstructured mess that I have looked into in some time. If our research programs are being carried on in this manner, where you just take a study from one scientist and give it to some other group without even knowing who the principal investigator will be or his qualifications,

> this is a very inefficient, poor way of managing a research program and it is not a competent way to spend tax dollars. We are going to have to go into this in some detail, and I will ask other committees to do so as well. We may also ask the Department of Justice to look into this whole matter. Certainly you may comment.
>
> Dr. Liverman. After your comment, what's left to say?
>
> (Dr. Liverman was testifying for DOE).

It is characteristic of the DOE/EIS-0081D that the Health Effects section fails to mention the fact that the scientific community cannot even agree on the order of magnitude of the radiation risks (so the specific numbers are clearly unreliable). Apparently, the only risks known to the preparers and reviewers are the discredited "official risks", so any housewife in West Valley knows more about health effects of low-level ionizing radiation than the authors of the DOE/EIS.

The hazard to the public and to nuclear workers from the gross underestimates of the actual radiation risks used in the EIS are not so much the meaningless "Mickey Mouse" arithmetic of the report as in the fatuous attitude and engineering that seems to go with these numbers. DOE and its staff believe in the myth that low-level radiation is "harmless". This is the myth that led inevitably to the long series of progressively worse management decisions at West Valley. This chain of bad decisions produced the mess that WVDP is supposed to remedy. Section B.1 of the DOE/EIS is just one example of this deliberate disregard for actual radiological impacts in the decision-making. The health and safety of the citizens of Western New York are endangered when this

potentially catastrophic project is managed by persons who seem to have no understanding of the radiological dangers. The DOE report seems to have been written by "children playing with nuclear firecrackers", persons incapable of writing a competent EIS on one hand or of effectively managing the West Valley Demonstration Project on the other.

DOE MISMANAGEMENT OF NUCLEAR PROGRAMS

Perhaps the greatest practical danger to the health and safety of Western New Yorkers arises from the fact that DOE is managing the WVDP. The program would be a difficult undertaking at best because there is no proven technology to do the job and the on-the-job development and testing of new technologies is always a risky business. The WVDP is the kind of project that requires the best possible management, managers who are particularly aware of and sensitive to the enormous potential for environmental disaster. Unfortunately, it is under an agency which has the worse managerial record of any federal agency--not an easy distinction to achieve.

The simplest way to deal with the management issues--which are crucial to the potential health hazards from WVDP--is to go directly to a recent report on DOE mismanagement of its nuclear installations. Taken together with the potential for disaster in the WVDP, the report is frightening (Schedule E):

> Rep. Pat Schroeder (D-Colo.) has released a General Accounting Office (GAO) report that charges the Department of Energy is failing to meet adequate health and safety standards at its nuclear facilities. He says:

> "You can't allow DOE to police itself and still expect the health of the public to be protected. GAO's study clearly states that major changes have to be made before we can rest easy about the safety of DOE facilities."

GAO found serious shortcomings in four DOE functions. Of particular pertinence is Occupational Safety:

> "--Is DOE's program adequate to assure the employees at DOE's nuclear facilities are provided with safe and healthful working conditions? The short answer is 'No'."

On Environmental Monitoring:

> "--How does DOE assure itself that information concerning radiological releases from DOE's nuclear facilities is accurate and reliable? GAO's answer is that DOE has little assurance."

In its report GAO recommends a "major reorganization of DOE's safety and health program".

When DOE's past performance in these areas is so badly flawed as to be incompetent and to provide little assurance of protection for either workers or the public, its ability to provide an assessment of the future hazards of the West Valley Demonstration Project is highly questionable. DOE has consistently underestimated, ignored, or otherwise failed to adequately deal with the radiological hazards at it current installations and does the same thing in its West Valley assessment.

UNDERESTIMATION OF RADIATION EXPOSURES

To estimate radiological impact on a human population, there are two distinct factors that enter as a product term. The first is the risk of a health effect (e.g., lung cancer) per unit dose (e.g., rem). The second is the amount of radiation exposure of a population (e.g., person-rem). As previously noted, the risk of health effects has been greatly underestimated in DOE/EIS-0081D. However, the underestimation of exposures of workers and the public is even worse. Because a product term is involved, the actual impacts are underestimated by factors of 100 to 10000, so the numbers in the DOE/EIS are so remote from reality as to be meaningless. The use of such numbers in decision-making (e.g., in choice of options) is extremely dangerous to the public health and safety, particularly when a potentially catastrophic project like WVDP is being planned. The decisions will not be based on science but on fantasy.

Just one example of the absurdity of the DOE exposure estimates will be considered here but it should suffice. The most critical step in the proposed program is the one called "removal of liquid high-level waste" and discussion in section B-1. This is the phase of the operations where the work directly involves the inventory of 30,000,000 curies in Tank 8D2. It is the most hazardous part of the operations both for workers and for the public because of the risk of loss-of-containment accident for Tank 8D2.

The radiological impacts that DOE estimates for the waste retrieval phase of operations are given on page B-16 and B-17. For

occupational and population doses respectively, they are at most 35 person-rem and 46 person-rem. It might seem a little surprising to anyone unfamiliar with DOE "Mickey Mouse" arithmetic that specific (and very low) numbers like these could be obtained for operations where all of the essential engineering information for calculating exposures is missing. In section B.1.4, under "Development Needs", there is a list of "areas of resolution"--information currently not available but presumably to be developed during the project. No less than 5 different areas of information, each one essential for a meaningful assessment of radiological impacts of this phase of the operations, are lacking at the present time:

> B.1.4 Development Needs
>
> A number of uncertainties remain concerning removal of the wastes from the tanks. Some of these uncertainties can and must be resolved by experimental work conducted before removal operations are undertaken. Others are unlikely to be resolved by any feasible prior experimental work and must, therefore, be taken into account in the planning and design of the equipment and operation. Areas of resolution include:
>
> - Structural analysis of the neutralized-waste tank.
> - Characterization of the physical properties of the sludge.
> - Chemical and radiological analyses of the wastes.
> - Development and testing of methods and equipment to be used in sluicing and in other operatons such as coring of the vault roof and installing new tank openings. A mockup of the neutralized-waste tank will be tested using simulated waste.
> - Safety analysis (of tanks, pipes, pumps, etc.) based on detailed removal-from-tank operations.

How then were the calculations made when the information needed is unavailable. Here is what is said on page B-2:

> "Where information was lacking it was necessary to make assumptions to analyze the environmental impacts. The assumptions were conservative so as to overstate, rather than understate, the impacts."

DOE's notion of a conservative assumption does not correspond with the usual public health evaluation where it is the worst case that is conservative. For example, the proposal in B.1.3.3 for removal of nuclear wastes assumes that all that is necessary for removal of the sludge is to stir it up and pump it out. This scenario is so wildly optimistic as to be both ridiculous and highly dangerous. If there were no more to this project than pumping out a flooded cellar, then of course there is little reason for workers to be exposed to radiation. If everything were to go perfectly, there would be little exposure to the public. The "conservative" DOE estimates are made on these two unlikely assumptions. There is no factual evidence to support either assumption and there is the record of DOE operational experience to support the opposite assumptions. Under ideal and perfect conditions the DOE estimates might be realized, but this is not an appropriate way to analyze radiological risks for an environmental impact statement. The next section details why the actual result of the proposed method of removing the sludge is more likely to be a major environmental disaster.

However, even without a disaster, the exposure estimates would be increased by factors of 100 to 1000 if realistic assumptions were

made. The removal of the sludge is the most difficult part of the WVDP operations. The man-year estimates and exposure estimates used here would not even suffice for the very first step--sampling the tanks to get the information essential to proceed with the development of a removal technology. There is no proven technology for this purpose available and the new technology cannot be developed until the information previously noted as missing is obtained.

One example of a general (non-specific) assumption used in the calculations may suffice to illustrate the way DOE consistently underestimates by factors of 10 or more the actual exposures in these operations. The calculations start out by assuming the most optimistic (not the most conservative) assumptions about worker exposure. For example, it is assumed that NRC/ALARA exposures will be achieved (e.g., about 0.5 rem per worker/year). In actual fact, the direct reprocessing operations carried out by DOE come nowhere close to these figures.

It is true that NRC/ALARA over the entire range of nuclear operations averages one-tenth of the annual permissible 5 rem per year level. However, this 0.5 rem represents an average of a very few "dirty" operations (such as active reprocessing operations) diluted by the majority of "clean" operations (such as nuclear power plants). The WVDP reprocessing would be in the class of "dirty" operations (where DOE has consistently failed to meet even the 5 rem per year level). At West Valley and other "dirty" operations, "human sponges" had to be brought in to do the "dirty work" in order for the installation to operate at all. To conceal these excessive doses, installation averages are often

diluted by including large clerical staffs that do not have any nuclear exposures. However, the DOE/EIS estimates are for WVDP personnel who would be the hands-on workers for the extremely "dirty" Tank 8D2 operation.

The net effect is that realistic exposure estimates would be at least ten times higher than the DOE/EIS estimates even if the man-year estimates for the job were accurate. However, these man-year estimates should also be about 10 times greater for this phase of the operations. So even under optimum circumstances, the radiological impacts would be 100 times greater than the DOE/EIS figures. Moreover, as the next section details, the circumstances are very far from optimal.

HOW THE DOE/EIS PLAN WILL PRODUCE A MAJOR DISASTER

A careful reading of section B.1.3.3 together with a little common sense will reveal that the DOE plan for "Removal of Neutralized Wastes from Tank 8D2" is very likely to breach the tank and produce a major loss-of-containment accident. It is unnecessary to go into elaborate engineering details to understand how the proposed method of waste removal will jeopardize the structural integrity of the tank--something that DOE/EIS fails to consider and fails to include in the radiological impacts. All that is necessary is to have some picture of the peculiar structure of Tank 8D2 (Figure B.1), what is in this tank, what happens to metals in this environment, and the violent method proposed for removing the wastes.

The first sentence of B.1.3.3 suggests the incredibly simplistic approach that is proposed:

> "The first operation would involve turning over the contents of the neutralized-waste tank at a high rate of flow while slucing to mix the sludge with the supernate."

The section goes on to describe the use of submerged, rotatable sludging nozzles and 15000 L/min flow rates inside a structure whose current status is unknown but which is probably in a dangerously weakened condition:

> "It is assumed that the wastes would be mixed to the fullest extent possible in about 10 such tank turnovers, or in about 25 hours."

Now let us consider the state of Tank 8D2 while all of these "tank turnovers" are going on. As DOE acknowledges later no "Structural Analysis of the neutralized-waste tank" has been made but this agitation will certainly subject the structure to severe and turbulent forces. It is useful to know (though no one in DOE seems to know it) that the strength of materials is greatly affected by the very hot radiological environment of Tank 8D2. In much milder environments than a 30,000,000 curie inferno, radiation affects the structure of steels and other metals. Everyone has read in the newspaper about the troubles with warping and fracture of reactor rods and other nuclear hardware. In Tank 8D2 there are almost certain to be structural weak spots that could

give way under stress. If this were to happen, there could be a loss-of-containment accident.

It is also important to note the engineering history of Tank 8D2. First, the tank was never designed for this kind of operation. Second, the whole point of its design was to save money. This meant cutting corners. For instance, it was a bad mistake in retrospect to use carbon steel, but this saved a few dollars. Third, there was no intention to store the hot materials in this tank for longer periods--certainly not for the years that have now elapsed. It was only for temporary storage of liquids--not for the intractable sludge that has resulted from the excessively long storage. This plan to use high-pressure nozzles to violently agitate the sludge which is probably now in a semi-solid or even partially in a solid state suggests that DOE is looking for an easy way to do the EIS calculations rather than a realistic way to deal with the extremely difficult engineering problems that would be involved in the waste removal. Merely to do a structural analysis for 8D2 would be a very demanding task. To propose a plan involving violent agitation of the contents of 8D2 without any analysis which proved that the structure could withstand this agitation is irresponsible. It clearly shows that DOE does not give a damn about the public health and safety.

For a reader who would like a simplified picture of what would be likely to happen to Tank 8D2 if the DOE plan were implemented, the following image might help. Suppose that an ordinary kitchen blender were filled with a mix of soda water, ice cream, and some nuts and

bolts. Suppose that there is a fragile glass holder and that the agitation is at top speed. With a little imagination it is clear that the kitchen would be a mess from the shattered blender. When the analogous "waste removal" from Tank 8D2 caused structural collapse of supporting members or rupture of the weakened steel containment, the result would not be a messy kitchen, but an environmental disaster that would plague Western New York and Canada for centuries to come.

The 6,700,000 curies of Strontium-90, one of the deadliest fission products, is enough to poison the entire Northeast corner of North America. Sooner or later much of this Strontium-90 would get into Lake Erie (there has already been detectable radioactivity in Lake Erie from low-level leaks at West Valley). The half-lives of radioactive isotopes here is so long that we are talking about a geological time scale. On this time scale (as Argonne admitted) the local spill will eventually get into the drinking water of the entire region.

It would be difficult to contain the wastes after the fact since a large area around the spill would be extremely dangerous. If a secondary containment system were in place this would minimize the risks. However, DOE has no plans for such a protective system and the EIS doesn't even mention the possibility.

It goes without saying that a loss-of-containment accident would multiply by a millionfold the total population risk of 46 person-rem in Table B.6. Even taking probabilities into account, the radiological impact would be enormously increased. The failure of DOE to even consider the possibility of such an accident is one reason why the probability of such an accident would be substantial.

DOE RESPONSE TO THIS CRITIQUE

From experience over the years with the DOE hearings on West Valley it is possible to anticipate the DOE response to this critique. Basically it will be a non-response. Unless there are typos or other non-essential errors in the critique, there will be no scientific response to any of the substantive points that have been made. There will be no remedy (other than cover-up) for the deficiencies that have been pointed out in the DOE/EIS. Instead, DOE will rely, as it always has, on the reluctance of the public to try to understand or deal with technical issues. It will simply reiterate its usual bland reassurances that there will be no danger to the workers and to the public. For more than 20 years the Atomic Energy Commission and successor agencies such as DOE have been making these reassuring noises.

The difference in 1981 (as compared to 1971 or earlier) is that there are biostatistical-epidemiological studies of what happened to workers and the public who were exposed to these supposedly "safe" levels of ionizing radiation (according to the bland assurances of the federal agencies). We have now counted and verified the excess cancer and other diseases in the populations exposed to these "harmless" doses. We now have solid factual evidence (more than 20 years after the fact because of the long latent periods involved) that the DOE and predecessor agencies have consistently and <u>as a matter of policy</u> misrepresented and grossly understated the actual radiological health hazards of nuclear programs. The radiological impacts in the DOE/EIS are derived with the same Mickey Mouse arithmetic that has consistently failed to protect the public health and safety in the past.

DOE is becoming aware that it no longer has much public credibility so it will embark on an all-out campaign to stroke the local citizens. It will, for instance, use that overused gimmick, the "health study", to provide false assurances that the public health will be protected. However, past experience with the "health studies" has been that all they can do is provide (after a 20-year latent period) evidence that humans were harmed or killed by low-level radiation--which doesn't prevent the adverse health effects. As the Portsmouth Naval Shipyard and other studies have shown, the scientific findings of serious health hazards does not even facilitate the claims for compensation or widows benefits for the workers. So "health studies" do not protect the public health and safety for the West Valley Demonstration Project, they can at best confirm that there has been no protection.

There is internal evidence that DOE does not really believe that the simplistic plan in section B.1.3.3 would work. If it were this easy to pump out Tank 8D2, there would be an alternative to the options listed on page 2-1 which would be quicker, easier, and cheaper than any of the positive actions listed. All that would be necessary would be to pump the contents of the tank into casks, transport the casks to an airstrip, have a military airlift to Idaho, and be rid of the deadly high-level wastes within a year or two. There would be no point in processing the wastes at West Valley and the airlift of the nerve gas cannisters shows the feasibility of the alternative transport route. This alternative would cost less than one-tenth the cost of the processing alternatives.

Why wasn't this alternative considered? Because DOE knows it would not work. The reason it is not feasible is that the simplistic plan in B.1.3.3 would not work. But while the scheme for waste removal from Tank 8D2 is too silly to be the basis for an airlift alternative, it is being used in the calculation of radiological impacts in the DOE/EIS. This shows that the DOE Environmental Impact Statement is a fraudulent document and that the DOE knows it.

THE NEED FOR JUDICIAL HEARINGS

The legal requirement of an environmental impact statement is intended to protect the public health and safety. For the West Valley Demonstration Project, potentially the most dangerous nuclear program ever attempted, the determination of the radiological impacts on human health and safety should not be a perfunctory or meaningless exercise. As has been repeatedly shown here, the DOE/EIS-0081D does not make a competent assessment of the actual risks of the project. Instead, DOE proposes operations which would recklessly endanger the health and safety of most of the citizens of Western New York.

To protect the public there should be a judicial or evidentiary hearing on the issues raised in this Critique. DOE should be required to produce testimony to support its estimates in DOE/EIS-0081D. If it fails to show that it had produced a meaningful EIS, then there should be no work on the WVDP until there is a realistic assessment of the radiological hazards of this project. In particular, there should be a specific contingency plan in place which would provide protection to

Western New Yorkers in the event of a loss-of-containment accident during operations--an obvious contingency completely ignored in the DOE/EIS.

Even without a hearing, this Critique will serve to establish the liability of DOE and its contractor, Westinghouse, for any and all risks which DOE/EIS-0081D failed to anticipate. In the event of a loss-of-containment accident, all preparers, reviewers, and administrators for DOE/EIS-0081D could be brought to book for criminally negligent homicide.