Testimony of Dr. J. Winston Porter
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Madame Chairman, my name is J. Winston Porter, and I am president of the Waste Policy Center in Leesburg, Virginia. The WPC is a private research and consulting organization which deals with management, policy, and technical issues in the areas of solid and hazardous waste management, as well as other environmental matters. From 1985 to 1989, I was the EPA's Assistant Administrator for Solid Wastes and Emergency Response.

It is a pleasure to be here today to provide testimony on the pace of the cleanup of federal Superfund sites. I will make a number of recommendations to improve this pace.

In my testimony I will draw on over 20 years of Superfund experience, including management of the EPA program as well as consulting activities with various federal agencies and states and numerous private parties. My professional background also includes the fields of chemical engineering and project management. I will start with a brief background statement, followed by my recommendations related to Superfund's study, remedy selection, and remedy construction phases in relation to improving the pace of the cleanup program.

Background

Briefly, the current status of EPA's Superfund program is that about two-thirds of the 1,550 national priority list sites have reached the construction completed (remedy installed) phase, about 400 sites are in the remedy design or construction phases, and approximately 150 sites are in the study phase.

In addition, many thousands of "emergency removals" have been conducted at Superfund sites in order to directly and cost effectively deal with obvious problem areas. This program has been perhaps Superfund's biggest success story.

It is also important to note that the EPA has a significant number of Superfund sites in the remedy construction phase for which both potentially responsible party (PRP) and federal funds are limited.

In addition to the EPA, both the Departments of Energy and Defense have major Superfund-related programs underway. The DOE work primarily involves a few dozen very large facilities, most of which have been components of the nuclear weapons

program. The DOD sites are much more numerous, although usually less complex, and include both Superfund and base closure activities.

So, a large amount of work is underway or has been completed by dedicated federal and state personnel as well as PRPs and various private contractors. Much has been achieved under the Superfund program, but much remains to be done. For this remaining work it is important to improve program efficiency in order to ensure timely and technically-sound cleanups in a more cost-effective manner.

As we strive to improve the Superfund program, let me first make several general observations which will serve as the bases for my later recommendations.

First, Superfund is not an "exact science." Science and technology are very important in addressing Superfund waste sites, but selecting a sound remedial action at a site requires a good dose of common sense and "engineering judgment" since no two sites are the same. The Superfund regulations themselves require decision makers to consider such elements as cost effectiveness, implementability, and state and community acceptance in selecting a remedy. These are not primarily technical issues.

Second, while much has been accomplished by Superfund, site study and remedial activities generally take too long and cost too much.

Third, the trend in recent years to use the Superfund program for only the most complex and hazardous sites is sound. Most waste sites in the country can now be managed under other EPA or state programs, brownfields activities, and various voluntary cleanup processes. The voluntary cleanup programs should, in particular, be emphasized.

Most of the following recommendations will be directed at the EPA Superfund program, but will also have important implications for other federal agencies. My comments will be divided into study, remedy selection, and construction phases.

The Study Phase

While the study projects related to Superfund sites are a decreasing part of the overall program, such activities are still very important to overall program success. Superfund projects usually begin with a "remedial investigation/feasibility study" (RI/FS). This complex study process is described in some detail in Superfund's primary regulation – the National Contingency Plan.

Very briefly, the RI portion calls for characterization of the site in terms of its natural features, as well as the amount and location of contamination and likely risks of such contamination to both public health and the environment. The FS part involves identification of alternative remedial actions, and then comparison of such alternatives against a set of nine remedy selection criteria.

Based on the RI/FS process, as well as substantial stakeholder input, EPA then selects a remedy for the site through a "record of decision" (ROD) process.

In general, the RI/FS process has become steadily more complex and lengthy over the years, for almost all types of sites. My recommendations for conducting faster, less costly, and more technically sound RI/FSs are as follows:

1. **Most importantly, timeframes for completing the study phase should be agreed to by the EPA and other key participants, such as PRPs.**

Unfortunately, at many sites the study work simply meanders around for many years without much focus or mid-course corrections, leading to wasted time and money, and ,in some cases, an unimaginative or non-cost-effective remedy selection. Frankly, part of this lengthy process has to do somewhat with the fact that Superfund has become something of a "jobs program" for various consultants, lawyers, and governmental agencies. All of these specialists are needed, but their work needs to be more directed toward results rather than complex processes.

Stated differently, there is often little sense of urgency in completing the study phase due, in part, to the lack of a senior "champion(s)" to complete the work. This is, or course, very frustrating to the communities involved. I would like to see such "completion champions" developed in both the governmental and private sectors at Superfund sites.

Some very complex federal and private sites will require longer study periods, but for most sites about 2-3 years should be adequate to produce a sound RI/FS.

To improve matters, early in the RI/FS process the EPA, PRPs, and other relevant organizations, should work together to set a clear goal to complete the study activities. This end date can be modified if necessary, but it is important for all to understand that, like almost every other type of engineering project, schedule (and budget) are key factors and should be adhered to.

There are a number of examples of the success of target setting in Superfund, but perhaps the most dramatic has been the DOE Rocky Flats Closure Project, near Denver. For this site the "completion contractor," Kaiser-Hill, and the DOE agreed upon a 2005 target date for all study and remedy implementation work to be completed. If successful, the contractor was to receive a completion bonus. Not only was the project completed on time, but billions of dollars and many decades of time were saved. This work, of course, required good cooperation among the DOE, EPA, the state of Colorado, local stakeholders, and the contractor. The firm completion target date greatly focused this cooperation.

Finally, this project illustrates the importance, for both study and construction work, of the site personnel developing what I have referred to as a **"culture of completion."**

2. When the RI/FS process begins one of the first orders of business should be to use experienced staff and key stakeholders to quickly identify about 4-7 major remedial action alternatives.

During this phase use should be made of EPA's list of "presumptive remedies" for many types of problems, as well as experience gained at similar Superfund sites.

The selected set of alternatives can always be modified during the study phase, but the current process which often involves "taking data" for many years before detailed focus on remedial options often leads to overly costly information, much of which may not be needed. Also, since the data collection is often not focused on comparing alternative remedies, the key information to compare such alternatives is sometimes missing.

An iterative approach should be used where information collection and analysis of remedial alternatives work cooperatively in order to achieve sound comparisons of options, leading to a good remedy selection.

Even more importantly, the identification of key options early in the study process allows the decision-makers and stakeholders to begin their dialogue on the non-technical factors which are contained in the remedy selection criteria. These include such items as cost-effectiveness, implementability, and state and community acceptance. Many times these types of factors are at least as important as the strictly technical matters, such as precise levels of contamination for dozens of substances.

3. **Significantly streamline the process for developing the myriad of deliverables at Superfund sites.**

While certain documents are clearly needed to guide the RI/FS activities, the long, tedious process of developing complex draft and final work plans, for example, should be expedited. This is also true of dozens of other "deliverables" which take so much time at Superfund sites, many of which should be quite standard by now. It might be helpful to revisit the need, or at least the complexity, of such deliverables.

To increase the pace of Superfund site cleanups, we need to develop a **"culture of completion,"** as opposed to a **"culture of deliverables."** It might even make sense to develop incentives of some type to encourage such completions.

There are several perverse effects which have led to such lengthy periods for document development and review. One has to do with the fact that Superfund is about the only federal environmental program where responsible parties have to pay for additional oversight beyond that which salaried regulators normally provide. Thus, if a group of PRPs are forced to give EPA, say, $5 million for oversight, then EPA can retain contractors to provide hundreds of pages of "comments" on such items as the aforementioned work plans. So, we now have dueling contractors battling over many pages of detailed text, before work can even begin.

One near term answer would be for review periods and oversight dollars to be reduced substantially, so participants can focus more on results than elaborate processes.

4. The PRPs should be encouraged to conduct the RI/FSs themselves with their own contractors and under EPA's overall supervision.

While this concept has been largely accepted and successfully promoted by the EPA, more could be done to encourage PRPs to do the study work, particularly where PRPs would commit to more reasonable timeframes than EPA often takes for its own studies.

A key aspect of PRP-conducted studies has to do with selection of appropriate consulting firms to conduct the necessary RI/FS activities. Such contractors have a difficult role in that they need to be responsive to their client, the PRPs, but must also provide the objective and professional work needed by EPA to allow selection of a sound and cost-effective remedy for the site in question.

The key is for the EPA, the relevant state, and the PRPs and their consultants to develop a cooperative and results-oriented relationship for the site work.

The Selection of Remedy Phase

The RI/FS process discussed above presents the decision-maker with detailed comparisons of alternative remedial actions, from which this person must select a remedy, present it to the public for comment and make a final determination. The selection of protective, cost-effective remedies is, of course, a key to the overall success of the Superfund program. My suggestions in this area are as follows:

1. **The decision-maker should be a very senior EPA official who can oversee all of the considerations which go into remedy selection**. As noted earlier, technical factors are very important in this process, but non-technical factors are also key. For example, if there is very strong community opposition to a particular remedial action, or if a remedial option is not cost-effective, such factors must be considered by the decision-maker.

During my tenure as an EPA assistant administrator I made a number of ROD decisions, mainly at "nationally significant sites." Most decisions I delegated to the ten EPA regional administrators (RAs). However, over the years the ROD decision responsibility has, in most cases, been delegated further down the line in the EPA regions.

My own view is that the RA should usually be the decision-maker in this important process since he or she is the one who can speak for the region and has the position and stature to consider all aspects of the problem, while "pushing" the staff to provide the necessary information to complete remedy selection expeditiously.

2. The role of expected land use should be an important factor in selecting a remedy.

While all remedies should be protective, it does not make much sense to demand that a cleanup be sufficient for, say, a children's daycare center, when the site is slated for use as a golf course, or a factory, or a wildlife preserve. All of these uses have their own requirements, so we do not need a one-size-fits-all approach to waste sites. The goal should be for a site to always be protective, so the remedial action may need to be modified at a later date if the site use changes dramatically.

During Superfund's history one of the better examples of the role of land use in remedy selection has to do with the DOD's Rocky Mountain Arsenal in Colorado. For this site, the DOD decided ultimately that the land use would be for a wildlife refuge, not residential housing. Once this decision was made the DOD, Shell Oil, EPA, and the state and local stakeholders worked together to select the remedy and move quickly into the implementation phase, and a important wildlife refuge is the result.

Another DOD example may also be instructive with respect to the land use issue. This has to do with the DOD's Superfund-related remediation sites versus those conducted under the base closure program. Simply stated, the base closure cleanups, including the selection of remedy, seem to proceed much faster than those related to Superfund. One of the reasons, I believe, has to do with the fact that local communities and others are usually highly motivated to finish base closure cleanups in order to bring the affected land into productive use. The same time pressure often does not exist with Superfund remedial activities.

The Construction Phase

As noted earlier, the major activity these days has to do with the construction phase at Superfund sites. About 400 sites are in the phase where the selected remedy is being either designed or constructed. Currently, this is also the most controversial phase in that EPA apparently does not have sufficient funds to expeditiously complete all of the construction work now planned.

This is particularly true for so-called fund-financed sites where EPA must install the remedy itself as there are insufficient willing and able PRPs to conduct this work at some sites. This issue is further compounded by the views of some that at a significant number of sites the community may not be fully protected since construction funds are not readily available.

The following are my recommendations on these construction-phase issues:

1. The roughly $1.2 billion dollars which is annually appropriated to EPA by Congress should be looked at very carefully by EPA senior management to ensure that the highest

priority is given to protecting human health and the environment by ensuring that Superfund sites are completed.

2. If Congress is satisfied that EPA has done all it can do to squeeze out funding for as many construction sites as possible, then it might consider a supplemental appropriation to EPA to focus on additional construction activities.

3. The EPA might selectively revisit the ROD decisions made at selected sites to see if some savings can be made based on new information or technology.

4. Although I suspect that this is already being done, that portion of the site which may provide actual, near term risk to the community should receive very high priority for funding.

5. While aiming at the highest risks is always the most important priority, I personally believe that where sites can be finished for modest sums of money, such funding should be considered, as there are usually site "carrying charges" which can then be reduced.

6. The EPA and others should be creative in finding non-federal funds for completing sites. In some cases, local developers or others may be so interested in having access to a completed site that they may be interested in helping financially. This type of financial driver has, of course, been instrumental in dealing with brownfields sites, which can often be very valuable when cleanup measures are completed.

7. Other creative measures should be pursued in the future to minimize costs and to develop more creative financing. A good example is the joint EPA and Army Corps of Engineers eight pilot programs referred to as the "urban rivers restoration initiative." In this program the EPA and the Corps, along with state and other agencies, work together to achieve a better and more cost-effective restoration program than by using Superfund alone.

8. Finally, it was mentioned earlier in this testimony that the emergency removal program has been one of Superfund's major successes. This program can deal with obvious contamination problems anytime during the Superfund process, with much less process costs than the remediation program. Given, this program's success, Congress might consider allowing EPA to spend more than the current limit on individual removal actions.

Implicit in all the above is the fact that I don't believe that the chemical and petroleum feedstock taxes should be renewed on Superfund. These taxes are unfair in that they target only two industries, which together account for much less than half of Superfund's contamination problems. Also, Superfund sites are a broad societal problem which has been created by many types of industries; local, state, and federal agencies; and even individuals.

Therefore, I believe the current process of requiring directly responsible parties at a site to fund the necessary work at that site is the best approach. For those sites, where responsible parties are not available, willing, or able financially to conduct the work general revenues are the most equitable approach, given the widely varied causes of contamination at such sites. EPA also has strong legal authorities to seek reimbursement from known responsible parties who are able, but not willing, to do the work in question.

Madame Chairman, I hope my remarks will be helpful to Congress in dealing with this important program, and I will be happy to answer any questions which you might have.