

Shell Oil Company



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September 30, 1994

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September 30, 1994

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Gentlemen:

Pursuant to the agreement of the Steering and Policy Committee members, please find enclosed the "Statement of Settlement Issues of Shell Oil Company."

We look forward to productive settlement negotiations.

Very truly yours,

A handwritten signature in black ink, appearing to be "L. L. Smith", written over a horizontal line.

LLS:SG  
Enclosures

cc: The Honorable Richard Dana  
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STATEMENT OF SETTLEMENT ISSUES OF  
SHELL OIL COMPANY

Risks to human health and the environment at the Rocky Mountain Arsenal have been identified through the lengthy and costly RI/FS process. As a consequence of agreement between the U.S. and Shell Oil Company on the Federal Facility Agreement (a site specific application of CERCLA) significant treatment, destruction and disposal of hazardous substances at the RMA has been accomplished under the Interim Response Action (IRA) program. It is time to make the decisions which will achieve the completion of the solution of this complex problem. This must be a global solution of all issues, not only those relating to CERCLA, but also those of the State of Colorado and stakeholders from the RMA vicinity. This global solution must be supported by all parties to the settlement discussions with the understanding that the settlement must then be properly integrated with applicable law, including the opportunity for public comment. If any party determines that the settlement must be modified as a result of public comment, the parties will use their best efforts to agree upon such modification.

As Shell has stated on numerous public occasions, ultimately, the reliability of all the remedies being discussed is dependent upon the continued operation of the boundary systems and a cap covering one to two square miles in the center of the Arsenal. Consequently, it is essential that resources be focused on determining what other remedial actions will be required, avoiding an open ended expenditure of resources with dubious or non-existent benefits. In determining protectiveness, in defining permanence and in differentiating between realistic current risks and future speculative risks, the discretion available under the law should be exercised in a way that will insure a protective remedy based upon a reasonable relationship between actual risk reduction and cost. This approach facilitates the expenditure of appropriate resources for achieving the type of concrete results typified by the IRA program. It promotes the expeditious development of a National Wildlife Refuge where the land is returned to productive use and becomes an asset to the community. To that end the following questions which are raised by the range of remedial alternatives being discussed must be addressed.

- Reliable Containment\*

- What clear and convincing technical evidence can be presented to establish that a remedy principally based upon reliable containment:
  1. will not "be sufficient to prevent the vertical and horizontal migration of on-post contaminated groundwater and surface water so that off-post surface water and groundwater may be used in areas outside of the Arsenal boundaries."? (FFA 2.7)
  2. will not eliminate on-post and off-post exposure pathways from soils, vapors, structures, surface and groundwater?
  3. will not be in full compliance with applicable federal and state law?
- What clear and convincing technical evidence can be presented that exposure to off-post contaminated groundwater is an actual risk as distinguished from a theoretical and speculative future risk?

- Excavation and Thermal Treatment

- What clear and convincing technical evidence can be presented to establish that a remedy principally based upon excavation and thermal treatment:
  1. will be technologically practicable and cost effective in light of the extraordinary volume and complexity of the waste sites: original Basins A-F, Basin F Wastepile, South Plants, trenches, etc.?
  2. can prudently rely upon experience elsewhere with excavation and thermal treatment, typically with much smaller volumes and less complex material?

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\* Reliable containment is based upon permanent geological features and natural hydrogeological conditions of the Arsenal. It includes a large, contoured, aesthetically pleasing vegetative cover and natural restorative powers of the ecosystem. The remedy would be supported by continued operation of the boundary systems and the other Interim Response Actions as appropriate. There would be a minimum amount of maintenance of the recontoured geologic feature, and provisions for long term monitoring. The restrictions of the Federal Facility Agreement pertaining to land and water use will continue.

3. can prudently rely upon models to reliably define the concentration of contaminants in the soil and therefore locate them for purposes of remedial actions?
4. can realistically rely upon cost and time estimates which have high uncertainty due to technical operational difficulties, regulatory and public issues which will occur during implementation, issues which will ultimately have a significant impact on the time when the National Wildlife Refuge will be established?
5. will not result in workers and the surrounding community being exposed to unacceptable hazards?
6. will not result in mobilization of contaminants and cross media effects?
7. will result in a demonstrable reduction of actual risk as distinguished from a theoretical and speculative future risk?

- Other Issues

A comprehensive settlement is to include Natural Resource Damages and Response Costs, as well as reasonable and realistic off-post concerns. Furthermore, it will be necessary to anticipate and resolve the regulatory issues which will be encountered in the execution of any agreed upon remedy to assure the public it will be implemented in a timely manner.

SUPPLEMENTAL COMMENTS ON SHELL'S  
SETTLEMENT ISSUES

(with apologies to Robert Frost)

"\*\*\*Two roads diverged in a wood, and I--  
I took the one less travelled by,  
And that has made all the difference."

And so it is now for the parties at RMA. After more than a decade of litigation, studies and response actions, and the expenditure of hundreds of millions of dollars, we have come to a fork in the remedial road. One road is marked "Excavation and Thermal Treatment". The other road is marked "Reliable Containment." Which road should we take, and why should we take it? If the parties can answer this question, the other issues are likely to be resolved.

We are not without guidance in our effort to select the right road. In the last ten years we have learned much about the reality of RMA. We are now able to dispel the myths and false perceptions that have hovered over the Arsenal. We now know, with the work already done and the work yet to be done, together with the controls now in place, that RMA no longer poses an ominous threat to human health and the environment.

Our obligation now is to apply what we have learned by identifying a remedy that will comply fully with applicable law<sup>1</sup>, and will reflect a reasonable relationship between the effective management of the risks and the monies to be spent.

Fortunately, the law gives the regulatory authorities substantial discretion in the remedy selection process. This discretion permits an escape from any inclination to view the law as a narrow and rigid legalistic constraint upon reasonable, common sense judgments. For example, even the fundamental CERCLA requirement of protectiveness is not based upon a precise and absolute statutory definition, but upon a process which presents numerous opportunities for informed and reasonable judgments based upon the best available scientific and technical evidence.

As an additional example of the availability of broad discretion, the statutory preference for permanence does not

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<sup>1</sup> Although the focus of our comments is on the CERCLA process, they are equally applicable to the laws and regulations within the State's jurisdiction. Our comments are also consistent with the remedy selection provisions of the "Superfund Reform Act of 1994" pending in the Congress, including the provision for "hot spots" relating to the unavailability of appropriate treatment technologies or the availability of such technologies only at unreasonable cost.

require that contamination be destroyed or neutralized. The elimination of the threat of human and animal exposure through reliable containment can also qualify as a permanent remedy. The assumption that permanence always requires treatment is not supported by law or fact.

It is true that under the National Contingency Plan (NCP), EPA expects to use treatment to address so-called principal threats wherever practicable. It is also true that, under the NCP, EPA expects to use containment for hazardous waste that poses relatively low long term threat, or whenever treatment is impracticable. Finally, it is true that, under the NCP, EPA expects to use a combination of such methods, as appropriate, to protect human health and the environment.

With the removal actions which have been taken, the extensive treatment achieved under the Interim Response Actions (IRAs), and the future use of reliable containment for wastes that pose a relatively low long term risk or cannot be treated practicably, RMA can be an impressive example of how such a combination of methods can appropriately be used.

There is also substantial discretion to be exercised in the application of the evaluation criteria of the NCP. Such discretion applies broadly in the determination of protectiveness; in eliminating, reducing or controlling exposures; in determining the adequacy and reliability of containment and any related institutional controls; in assessing the degree of expected reduction in the mobility of material; in defining the risks to workers and the community from excavation and thermal treatment; and in considering matters of implementability and cost.

CERCLA requires that remedial actions be relevant and appropriate under the circumstances of the site. At RMA, the geologic and hydrogeologic features and conditions are ideal for a remedial alternative that utilizes the treatment achieved under the IRAs, and provides additional protection of human health and the environment primarily by using reliable containment to eliminate exposure to humans and animals. Toxic material poses no risk to human or animal health if there is no exposure pathway.

It is clear that all remedies that have been seriously proposed will: (1) rely upon capping some quantity of hazardous substances and upon the continued operation of the boundary systems; (2) recognize the land use provisions of the Federal Facility Agreement and the Wildlife Refuge Act; (3) eliminate on-post exposure pathways from soils, vapors, structures, surface water and groundwater; and (4) eliminate (subject to the resolution of the DIMP issue) existing off-post exposure pathways from soils, vapors, surface water and groundwater.



The remaining and crucial issue arises from the assertion of a possible future exposure pathway from off-post groundwater stemming from untreated waste on-post. If this issue is not well understood and reasonably resolved, it can force the project onto the wrong remedial road with the resulting waste of hundreds of millions of dollars.

It is critical to differentiate between actual risks and theoretical, speculative, future risks. In a 1989 report, the Office of Technology Assessment concluded that the monies spent on about one half of the Superfund cleanups "address speculative future risks." OTA suggested that "it is sound environmental thinking to defer actions when risks are future, potential and highly uncertain." At RMA, any future risk arising from offpost groundwater is certainly only potential and highly speculative.

At RMA, we know that the excavation and thermal treatment of extraordinary volumes of complex waste will present real risks to real people doing real work. Surrounding communities may not be immune from possible significant impacts. The potential exists for substantial mobilization of contaminants and adverse cross-media effects. Experience elsewhere with thermal treatment, typically with much smaller volumes and less complex material, is not generally applicable.

In the April, 1994 Report of the General Accounting Office to the Chairman, Committee on Governmental Affairs, U.S. Senate, the reality of excavation and thermal treatment at RMA is well summarized:

"Cleanup standards are usually the same for small lightly contaminated sites and large heavily contaminated sites. The cleanup standard can be achieved at the small simple sites by removing and or treating a relatively small amount of contaminated soil. However, it is often not technically possible or economically feasible to remove or treat the huge volume of contaminated groundwater and soil found at large complex sites, such as those on McClellan Air Force Base, Rocky Mountain Arsenal, and Aberdeen Proving Grounds." (p.24)

Thus, we come back to the fork in the remedial road. It is clear that the law will support a remedy of reliable containment. It is also clear that the site specific conditions will support such a remedy, which can be effectively executed within a reasonable time, without undue risk to workers and others, and without the unjustifiable expenditure of hundreds of millions of additional dollars. Surely, the burden must be upon those who would require such additional expenditures to establish by clear and convincing evidence that any claimed reduction of

risks to human health and the environment is real and can be effectively demonstrated. The decision on this issue will indeed make all the difference.

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