



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

PDR

November 23, 1992

The Honorable George V. Voinovich  
Governor of Ohio  
77 South High Street  
Columbus, Ohio 43266-0149

Dear Governor Voinovich:

I am responding to your August 14, 1992, letter regarding the two sites being remediated by Chemetron Corporation in Newburgh Heights, Ohio and Cuyahoga Heights, Ohio. Final remediation of these sites continues to be a very high priority for the Nuclear Regulatory Commission.

In your letter, you emphasized the need for Chemetron to give serious consideration to available disposal options other than on-site disposal when developing a Final Site Remediation Plan. We fully agree, and will continue to require that a full range of viable disposal options, both off-site and on-site, be evaluated by Chemetron. Objective consideration of off-site disposal options is routinely required by NRC as an integral part of any effort to determine an appropriate plan for final remediation for sites like Chemetron's. In fact, Chemetron submitted a preliminary site remediation plan in August 1991 that considered off-site disposal of radioactive wastes at a commercial radioactive waste disposal facility. The Ohio Department of Health (ODH) and the Ohio Environmental Protection Agency (OEPA) both reviewed this plan, and NRC sent Chemetron consolidated comments from NRC, ODH, and OEPA in December 1991. At the request of NRC, Chemetron provided additional off-site disposal cost information in March 1992. A copy of this letter is enclosed.

However, we cannot predetermine the outcome of NRC's review process. NRC's cleanup criteria for decommissioning sites contaminated with depleted uranium, such as Chemetron's, include use of Options 1 and 2 of the NRC's 1981 Branch Technical Position (1981 BTP), entitled "Disposal or Onsite Storage of Thorium and Uranium Wastes from Past Operations." Under these criteria, on-site disposal is allowable, provided that any residual radioactive material is determined to be as low as reasonably achievable (ALARA). The ALARA determination involves an often delicate balancing of many considerations. As part of ensuring that an adequate level of public health protection is

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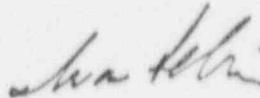
achieved, practicability must be considered. In cases like Chemetron's, the optimum solution must be one that is realistically achievable within a reasonable timeframe. Setting requirements too high could have a pronounced negative impact on progress.

In its Final Site Remediation Plan, Chemetron may indeed propose on-site disposal of soils with low levels of depleted uranium contamination. NRC staff will review whatever site remediation proposal is contained in Chemetron's Final Site Remediation Plan, and will fully coordinate this review with ODH and OEPA. Whatever remediation approach is eventually approved under NRC's criteria and process, the NRC staff will condition commencement of site remediation activities upon achieving compliance with applicable requirements of the State of Ohio.

If, in our respective regulatory capacities, we should come to different conclusions with respect to what is required of Chemetron, delays may result. However, we will continue to coordinate our activities fully with the State of Ohio agencies in order to avoid such an outcome. Your assistance in this regard would be most helpful.

We appreciate the State of Ohio's continued attention to the Chemetron sites and look forward to continued progress on this remediation project.

Sincerely,



Ivan Selin

Enclosure:

Chemetron ltr dtd 3/9/92

Monday, March 9, 1992

Mr. Richard L. Bangart, Director  
Division of Low-Level Waste Management and Decommissioning  
Office of Nuclear Materials Safety and Safeguards  
United States Nuclear Regulatory Commission  
Washington, DC 20555

Dear Mr. Bangart:

In your letter of January 17, 1992, you ask that Chemetron provide the estimated costs of five possible scenarios for disposal of the waste materials at the Harvard Avenue and Bert Avenue sites. You indicate your purpose in requesting this information is to assist in establishing cleanup standards for these particular remediation projects.

Two estimates were requested for each site, one for onsite disposal and the other for offsite disposal. The fifth scenario postulates disposing of waste materials from the Harvard Avenue site in the Bert Avenue closure cell. In each case, we were asked to discriminate the costs based on contaminant concentrations of 35, 100 and 300 pCi/g.

Our environmental consultant, Dames & Moore, using the information available to us from our own site characterization studies and previous investigations, estimated the costs that you requested. Nevertheless, for the reasons discussed below, we cannot respond to the five scenarios exactly as you described them.

- In our Site Remediation Plan, we conservatively estimated the total volume and concentration of the contaminated material at each site to ensure that our proposed closure cell could be accommodated on the property. As we have stated many times, a detailed identification of each area of contamination is not practical since it would require sampling on a grid about 1 meter square. Hence, we cannot accurately discriminate the volumes of material as a function of concentration level. As discussed below, we have made estimates that can be used to assess the sensitivity of the costs to the amount of material disposed offsite.
- For both sites, you asked for separate estimates of the cost of onsite and offsite disposal. At the extreme conditions (i.e., all contaminated material either disposed onsite or shipped offsite) these costs are independent. For any case in between, the costs are related since whatever is not kept onsite must be disposed of in a commercial radioactive waste landfill. To address this issue and the one described above, we are presenting our estimates graphically, showing the remedial cost as a function of volume disposed offsite. Using this graph, any remediation option can be evaluated and compared based on the amount of material assumed to be shipped offsite. We are also providing a tabular summary of the cost estimates.

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Enclosure 1

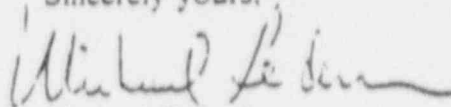
- You asked that we analyze various cases of Harvard Avenue material disposed of at Bert Avenue. We believe that the only valid version of this scenario is the removal of all the material from Harvard Avenue. Our site characterization clearly shows that only a small amount of material is contaminated in excess of 100 picoCuries per gram, so we are confident that if the option of disposing of Harvard Avenue waste at Bert Avenue was acceptable to the community, it would involve removing all contaminated material from the Harvard Avenue site.

Chemetron's cost estimates for the five scenarios were prepared as described above and are attached to this letter. When reviewing the estimates, please keep in mind the characteristics of the Harvard Avenue and Bert Avenue sites. Depleted uranium was dispersed over relatively large areas by earlier land filling and attempts at remediation. In general, the concentration of the contaminant is low, although one more highly contaminated volume has been identified at the Bert Avenue site. Our proposed remediation plan calls for placing all possibly contaminated materials in a cell and then verifying that the concentration does not exceed regulatory guidelines before it is closed. Any material exceeding the guidelines will be removed from the cell. Likewise, the material that we identified in our characterization studies that exceed the guidelines will not be placed in the cell.

The cost information presented with this letter clearly supports Chemetron's proposal for onsite disposal per 10 CFR 20.302 and the 1981 Branch Technical Position. We respectfully request approval to proceed as outlined in our Site Remediation Plan.

If you have any questions, please contact Barry Koh or me.

Sincerely yours,



Michael G. Lederman  
President

Copies: Barry Koh  
Mark J. Wetterhahn  
Theodore G. Adams

Chemetron Corporation  
Decommissioning Cost Estimates  
in response to  
NRC letter of January 17, 1992 from R. L. Bangart

Scenario 1:

For the Bert Avenue site: onsite disposal of wastes present only at the Bert Avenue site in concentrations of depleted uranium less than 35 pCi/gm, 100 pCi/gm, and 300 pCi/gm.

Scenario 3:

For the Bert Avenue site: offsite disposal of wastes present only at the Bert Avenue site in concentrations of depleted uranium less than 35 pCi/gm, 100 pCi/gm, and 300 pCi/gm.

Scenario 4:

For the Harvard Avenue site: onsite disposal of wastes present only at the Harvard Avenue site in concentrations of depleted uranium less than 35 pCi/gm, 100 pCi/gm, and 300 pCi/gm. This cost estimate should not include wastes generated from the McGean-Rohco site.

Scenario 5:

For the Harvard Avenue site: offsite disposal of wastes present only at the Harvard Avenue site in concentrations of depleted uranium less than 35 pCi/gm, 100 pCi/gm, and 300 pCi/gm. This cost estimate should not include wastes generated from the McGean-Rohco site.

Response:

The following three components were used in preparing the cost estimates:

Onsite costs:	Site preparation	
	Materials	
	Load & transport (locally)	
	Backfilling	
	Cell construction (if contaminants in excess of 35 pCi/gm remain on site)	
	Cover placement (if contaminants in excess of 35 pCi/gm remain on site)	
	Site restoration	
	Contingency @ 25%	
Offsite costs:	Excavation	
	Transportation to Envirocare of Utah*	
	Disposal at Envirocare of Utah*	
Indirect costs:	Site security, management and environmental monitoring	\$1,100,000
	Engineering analysis, testing and licensing	1,865,000
	Post closure confirmation testing	<u>150,000</u>
		\$3,115,000

\* Assumes Envirocare is available for disposal of materials. If not, offsite costs will be increased by a factor of 10.

The onsite and offsite costs were estimated based on various amount of material disposed offsite and the results are presented graphically in the attached Figures and in table form below. To determine the total remediation cost, the estimate for each site should be added and the sum added to the indirect costs.

Quantity (cubic yards)	Pct offsite	Onsite cost	Contingency	Offsite cost	Remedial cost
Bert Site 41,841	0%	\$2,661,114	\$665,279	\$0	\$3,326,393
	35%	\$2,147,968	\$536,992	\$13,459,494	\$16,144,454
	60%	\$1,678,881	\$419,720	\$23,113,416	\$25,212,017
	100%	\$1,843,150	\$460,788	\$37,280,430	\$39,584,368
Harvard Site 11,111	0%	\$804,896	\$201,224	\$0	\$1,006,120
	10%	\$771,394	\$192,849	\$1,007,574	\$1,971,817
	100%	\$530,446	\$132,612	\$9,899,901	\$10,562,959

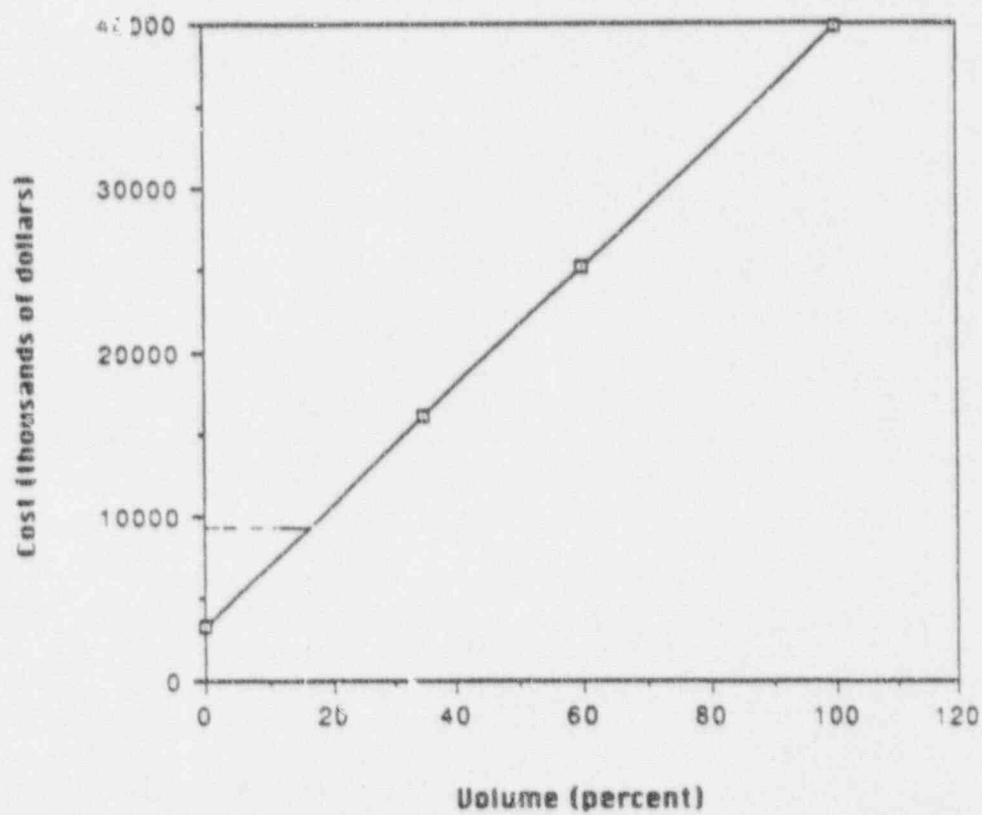
#### Scenario 2:

For the Bert Avenue site: onsite disposal of wastes present at both the Bert Avenue and Harvard Avenue sites in concentrations of depleted uranium less than 35 pCi/gm, 100 pCi/gm, and 300 pCi/gm. This cost estimate should not include wastes generated from the McGean-Rohco site.

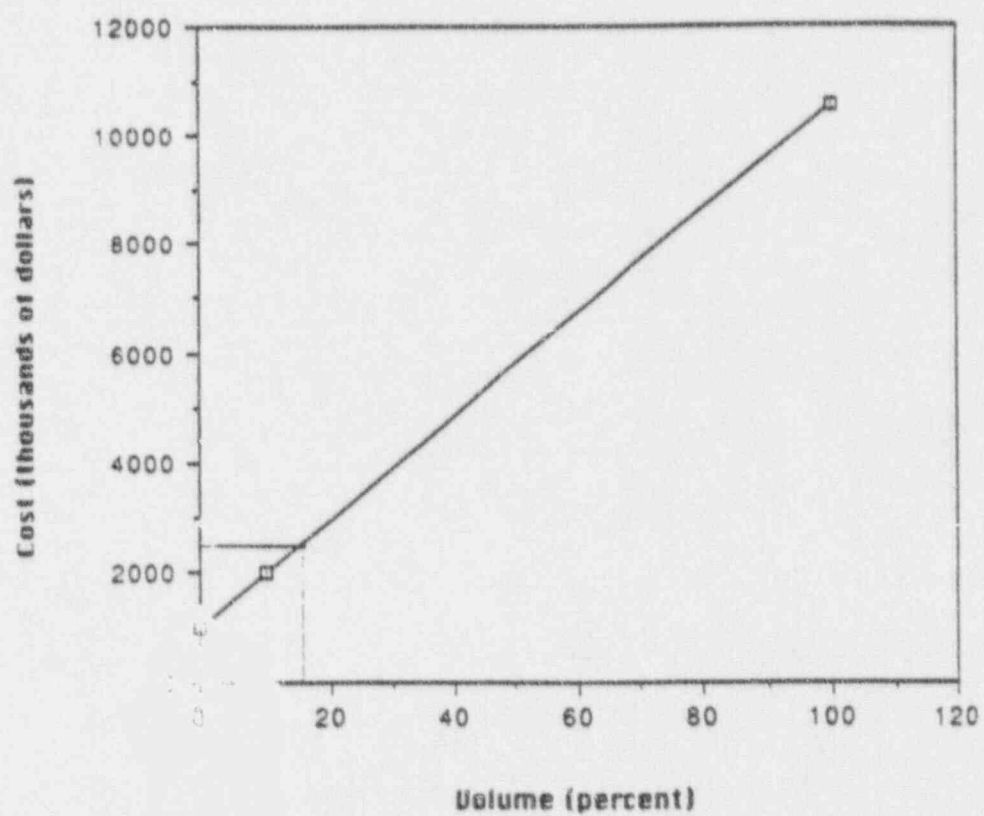
#### Response:

The incremental cost of adding all the contaminated material from the Harvard Avenue site to the closure cell constructed at the Bert Avenue site is estimated to be \$361,275. The estimated cost of restoring the Harvard Avenue site is \$183,116. Hence, placing the Harvard Avenue wastes in the Bert Avenue closure cell results in increased cost to the Bert Avenue remediation of \$544,391 compared to the cost of a separate closure cell at Harvard Avenue of \$1,006,120.

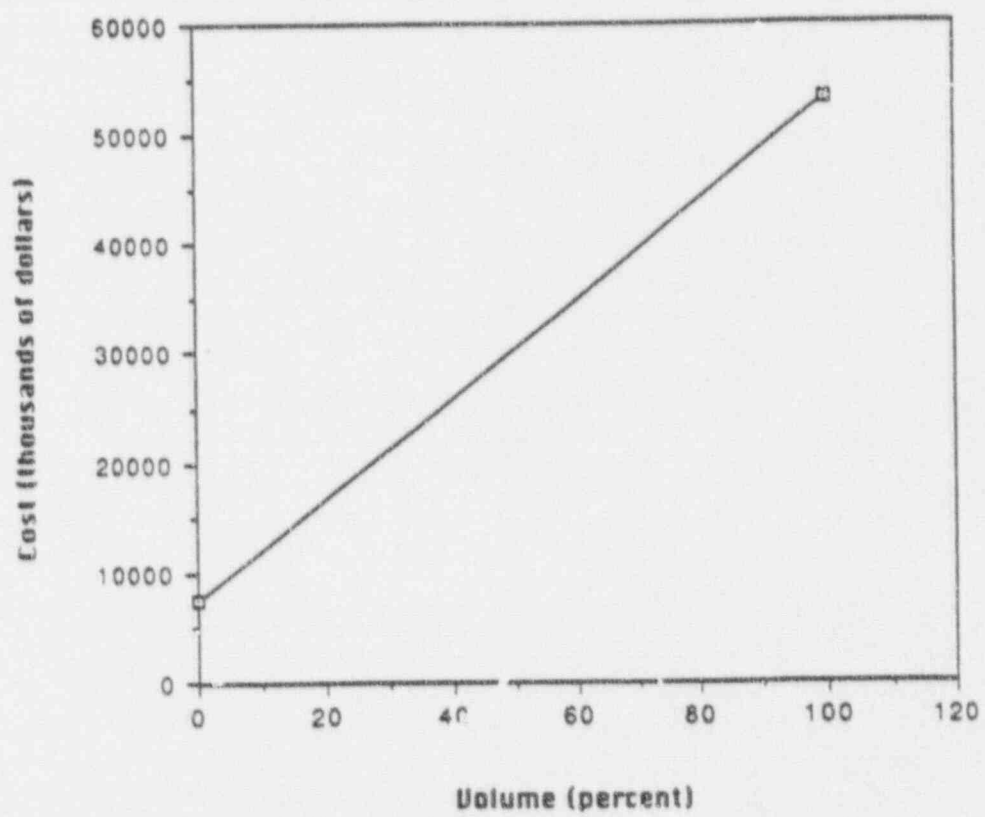
Bert Site remedial cost vs. Waste shipped offsite



Harvard Site remedial cost vs. Waste shipped offsite



Total Project cost vs. Volume shipped offsite





OFFICE OF THE GOVERNOR  
STATE OF OHIO

August 14, 1992

Mr. Ivan Selin, Chairman  
US. Nuclear Regulatory Commission  
Washington, DC. 20553

Dear Chairman Selin:

I am writing in response to your letter dated July 29, 1992 regarding the NRC's desire to accelerate the cleanup of two sites in Ohio located in Newburgh Heights and Cuyahoga Heights. As you know Chemetron Corporation is responsible for comprehensive remediation of the radiological contamination at the "Bert Avenue Dump" and "Harvard Avenue Site". I share your desire to complete remediation of these sites as quickly as possible. I am deeply concerned that the process has dragged on this long.

I would like to thank the NRC for issuing an Action Plan in April, 1992 to accelerate this cleanup project. Our records show that the Ohio Environmental Protection Agency and the Ohio Department of Health have been tracking this project since the early 1980's. As late as March, 1992, the site had not been adequately characterized for either radioactive or chemical contamination. Your letter signifies a commitment to finally complete the project by September 15, 1994. I assure you that ODH and OEPA both desire completion of this longstanding project. Accelerating the schedule will not place a burden upon ODH or OEPA.

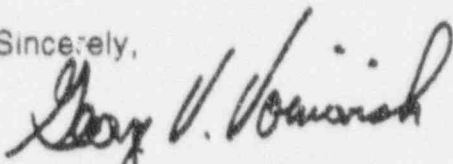
Your letter correctly points out that certain OEPA solid waste requirements may be difficult for Chemetron to meet for on-site disposal of radioactive waste in a solid waste landfill. These difficulties may pose schedule delays if Chemetron pursues the on-site disposal option in its remediation plan. I do not believe that cleanup activities should be delayed if on-site disposal is denied by the OEPA.

Ohio strongly suggests that with one year remaining in the process of designing the Final Site Remediation Plan, Chemetron should give serious consideration to available disposal options other than on-site disposal. Chemetron should take advantage of this schedule to explore all options. For example, early selection of an offsite disposal facility may prevent the delays that are necessarily a part of issuing a solid waste permit, with or without waivers from siting criteria.

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You can be assured that the State of Ohio will continue to place a high priority on the Chemetron project. My staff informs me that your Regional Administrator, Bert Davis, has been most helpful in dealing with this difficult cleanup. I appreciate this cooperation and believe that by working together we can expedite the long overdue cleanup of this facility.

Sincerely,

A handwritten signature in dark ink, appearing to read "George V. Voinovich". The signature is fluid and cursive, with a large initial "G" and a stylized "V".

George V. Voinovich  
Governor