

FINAL REPORT
Raymark Advisory Committee
Section II: Constraints
Operable Unit 6 (OU6)
September 4, 2007

Through extended, sometimes-contentious dialogue with the U.S. Environmental Protection Agency (USEPA) and Connecticut Department of Environmental Protection (CTDEP), the Raymark Advisory Committee (RAC) identified a number of issues, conditions, and constraints that provide important context for developing recommendations acceptable to the wide range of affected constituencies within the Town. These issues are summarized by the RAC in this document. The information provided herein provides context for and constraints upon the RAC recommendations that will follow as the third part of this report.

I. Remediation of Some Kind is Required

- Through an extensive remedial investigation, the USEPA has eliminated hundreds of properties from the Superfund site. However, twenty-six properties were included in Operable Unit 6 (OU6) because they contain identified Raymark waste and that waste poses a long-term, unacceptable human health and environmental risk, according to the USEPA under its rules and regulations. Thus, some kind of remediation must take place to address these conditions.

II. Financial and Cost Limitations are Significant

- Unlike most Superfund sites, the Raymark site has a dedicated escrow fund that is legally required to be spent only on work and cleanup at the Raymark site. There are two accounts for various legal reasons, but they are generally known as the Raymark Special Accounts.
- Through the sale of the Operable Unit 1 (OU1) property, now occupied by Home Depot and other stores, the accumulation of interest, and the settlement of some smaller liability cases by the Department of Justice, the Raymark Special Accounts currently total \$21 million.
- Other monies from the federal Superfund general fund are not likely to be available for the cleanup (which is currently estimated to exceed this \$21 million) for many years to come. The RAC made a great effort to get, and USEPA ultimately provided, a direct conversation with a leading administrator of the national Superfund program. In that conversation, in on-going dialogue within USEPA

Region I, and through separate RAC inquiries, the RAC learned that the Superfund national fund is seriously depleted and highly constrained.

- Congress eliminated the tax that funded the Superfund years ago, and USEPA must now compete with other needs in the annual federal budgeting process to obtain funds for Superfund cleanups at USEPA-lead sites. USEPA Headquarters criteria for expending the limited federal dollars allocated to Superfund by Congress focus on sites with very high, immediate health risk (these risks on the Raymark site were eliminated through removal actions from all but two residential properties which remain in OU6) and sites that are already in the midst of active, extensive remediation. For these reasons, a relatively few sites in the country, such as the New Bedford Harbor cleanup in Massachusetts, use almost all the general fund Superfund money each year. The implication of this situation is that it could be several years to several decades before this site would rise to a level of priority sufficient to receive monies to complete all necessary cleanup, not only of OU6, but of the remaining operable units, ranging from groundwater (OU2) to sediments in and at the mouth of Ferry Creek (OUs 3, 7 and 8).
- The RAC explored whether Congressional action might release additional funds and found that this kind of action would require an extensive, highly concerted effort from the entire Town and all elected officials at the state and national level and still might not succeed. The RAC has not ruled out this political action as a possibility, but felt that it did not have the resources or scope to succeed at such an effort.

III. Out of Town Disposal is Very Expensive and Still has Health and Safety Impacts

- Out-of-Town disposal would be a preferred remedy in many cases, and there is considerable sentiment in the Town for this approach. It would ensure that the waste was not consolidated in or near any neighborhoods or other properties; would relieve the Town of the impacts of Raysbestos's dumping practices for perpetuity; and provide permanent financial and health risk relief from these wastes. However, out-of-Town disposal of large quantities of waste containing the particular mix of Raymark-derived constituents is generally cost prohibitive.
- It is estimated, for instance, that it would cost only about ten percent more to dig, haul, and move out of Town the 25 cubic yards of waste located at 380 Main Street than to keep it in-Town. However, the costs of moving thousands of cubic yards on properties with larger volumes of waste range from almost two to six times higher than those for some kind of in-Town management.
- These higher costs are problematic for two reasons. First, assuming that the Raymark Special Account is the only likely money available for some time to come, high costs mean less remediation will occur into the indefinite future. Secondly, the USEPA is accountable to all federal taxpayers to expend monies in ways that mitigate as much risk as practicable for the money expended. Thus, substantially higher costs are generally looked at unfavorably by the agency. Even if USEPA

Region I were to approve a cleanup costing as much as five times more than the next best alternative, the overall plan would have to be approved by a National Remedy Review Board (that meets roughly quarterly and must review all site cleanup plans that exceed approximately \$20 million). That Review Board would likely look unfavorably on such a choice because of the lesser degree of risk mitigation that could be achieved for the large expenditure of funds.

- It is also important to note that, even if out-of-Town disposal were affordable, it would still pose construction health and safety risks similar in a number of ways to those associated with in-Town consolidation. Waste would still have to be removed from properties, considerable truck traffic through Town would still occur, and clean fill and the associated truck traffic it would cause would still be required to bring the OU6 properties back to useable grades. Thus, it is evident that the issues associated with airborne dust management, traffic hazards, and vehicle decontamination would still arise.
- Lastly, it is important to note that the remedial approach currently under consideration anticipates that an estimated 10 percent of all Raymark waste will have to be shipped out of Town for appropriate treatment and disposal. Although this out-of-Town management is expensive, it is required for the most contaminated material to comply with USEPA regulations and will result in permanent removal from Town of the most hazardous component of the excavated wastes. It should be noted that treatment and disposal of this 10 percent of removed waste is included in the overall cost estimates.

IV. Capping in Place is Attractive, but poses Numerous Legal and Cost Problems

- Capping in place would also be a preferred remedy in many cases, and considerable sentiment exists within the RAC and Town for this approach. It would ensure that the waste was not moved around Town, reducing concerns associated with dust-borne dispersion and truck traffic, and it would ensure that the waste was not consolidated near residential neighborhoods. Capping in place could provide a long-term solution to any health and safety concerns regarding exposure.
- The RAC pursued actively, with its technical advisor's assistance, an assessment of newer, innovative impermeable capping technologies. One such technology employs a specialized, low-permeability asphalt to be placed on a site without the extensive liners and fill needed for a standard cap. The CTDEP has approved such caps in some limited cases.
- However, the RAC learned that this technology cannot simply be placed over existing asphalt (which would be much preferred). The company that offers this technology requires at least two feet of select, compacted fill to provide a secure geotechnical base for the company to guarantee its performance and integrity for 30 years. This technology would thus require, for most properties, removal of at least

two feet of contaminated fill to some destination, in or out of Town, but would certainly help reduce the total amount of waste that would have to be removed from these capped properties.

- Capping-in-place also poses a number of difficult on-going constraints for individual property owners. Any cap requires a set of land use restrictions, including not allowing any disturbance of the cap without prior CTDEP approval. This constraint will mean a property owner would have to seek permission, and might be denied that permission, for such actions as constructing a fence, expanding a building to accommodate a growing business, or repairing or replacing subsurface utilities. Perhaps as important or more so, any cap would require on-going inspection and maintenance (O&M).
- The RAC aggressively and actively pursued a requirement that the USEPA or CTDEP should bear such costs. However, by national policy, USEPA transfers responsibility for long-term remedy O&M costs to the state on completion of remedy construction, and the state has to sign off on the remedy to assume this responsibility and associated costs. Although the RAC received a range of answers on this topic, it finally became clear in 2007 that the State will assume little to no costs for operations and maintenance for waste capped in place. The State clearly communicated to the RAC its intent to require property owners to accept responsibility for long-term O&M and associated costs in return for extinguishing the property owners' liability for response costs incurred to date for Superfund investigations and remedial activities completed to date.
- From a practical perspective, the presence of a large number of caps on individually-owned properties increases the risk that the institutional memory will be lost regarding the presence of and need for the caps and associated prohibitions on their disturbance. For example, it is possible that multiple ownership transfers of a privately-owned property will obscure this aspect of the property's history and that unknowing disturbance of a cap will result in unacceptable dispersion of and exposures to Raymark waste. The RAC notes that, for these reasons, the State has argued that maintaining numerous small caps over long periods of time would be more complex, more costly, and would likely increase the chances that one or more caps would be breached and Raymark waste would once again create a health and safety risk. From a technical perspective, it may be possible for the Town to institute procedures and practices that will mitigate the risk of such an event using existing Town police powers and practices (e.g., the building permit and building inspection processes), but their efficacy hinges on voluntary reporting and permitting compliance by property owners over long periods of time.

V. Other Alternatives for Action are Very Limited

- Despite substantial efforts to explore other remedial alternatives, the RAC was not able to identify viable alternatives for the particular constituents present in Raymark

waste other than some combination of capping, removal, and consolidation in or out of town.

- As previously discussed, the RAC extensively explored, in particular, out-of-Town disposal as well as capping-in-place. In addition, the RAC explored whether there were any active treatment technologies that might treat Raymark waste either on-site or out of Town. However, given the mix of Raymark contaminants, the RAC learned that several treatment trains would be required to treat the different contaminants and would not be very feasible either technically or financially.
- The RAC also explored whether there were additional consolidation sites in Town that might be physically separated from residential neighborhoods, reduce truck traffic during remediation, and be coupled with redevelopment, which would allow for more choices. The RAC advocated for and the USEPA thus investigated whether some of the 26 OU6 properties might hold substantial waste. It was hoped that the State or Town-owned properties might be viable (such as the vacant airport property) or commercial properties with development potential (the Lockwood Avenue property). However, either significant legal or technical hurdles eliminated most sites (such as Ferry Creek (OU3) and Lockwood Avenue) or the properties did not have the capacity to hold much additional waste (the CTDOT property, for instance).
- The RAC also actively inquired about the Army Engine Plant as a consolidation site. It is already contaminated, is a large property relatively far removed from residences, and needs to be redeveloped. However, the RAC learned that (see below) federal law prevents Superfund waste from being disposed “off site” outside of a licensed, regulated, commercial facility, that the property probably has flood plain issues, and that the Army’s desire to transfer the property would likely preclude use of this site as a consolidation area. However, a final USEPA written explanation and ruling on use of this site does not exist to the RAC’s knowledge.

VI. Even if Consolidation Occurs, the Volume of Waste will Require at least TWO Consolidation sites in Town

- As will be noted in the RAC recommendations that follow, consolidation in-Town has not been recommended by the RAC as a whole. However, even if consolidation were acceptable, it is important to note that volume capacities and cost constraints on the two most likely (from a technical perspective) sites do not allow all the identified waste in OU6 to be consolidated in one place.
- There is an estimated 106,000 cubic yards (CY), including 11,000 CY of waste at Short Beach Park, of waste that could be excavated and hauled to a consolidation site. However, the Ballfield (OU4) can hold an estimated maximum of 100,000 CY, and the Landfill (OU9) can only hold an estimated 70,000 CY. (There are likely to be substantial technical issues with consolidating as much as 100,000 CY at the Ballfield

associated with drainage and final cap grades, making it likely that this site can, in actuality, receive much less than 100,000 CY.) Thus, even if all waste was hauled from most OU6 properties (two properties will not likely require removal), the OU4 or OU9 sites could not hold all that waste alone. Furthermore, volume estimates are feasibility study-level (nominally a 10 percent level of design), and it is possible that larger waste volumes will be identified during actual cleanup.

- Furthermore, as noted above, it is likely that only Raymark Special Account monies will be available for the foreseeable future. The estimated cost of capping a consolidation site, as well as remediating the OU6 properties, is right at \$21 million; consistent with Superfund feasibility study practice, the current cost estimates may underestimate actual costs by 30 percent. Thus, because of cost constraints, even if technical volume constraints weren't present, at least two consolidation sites would still be needed for financial reasons alone.

VII. Federal Executive Orders, Regulations, and State Regulations Significantly Narrow Options

- Numerous federal and state mandates guide and constrain the choices one can make for remediation. A few of the key ones are noted below.
- Federal and state laws governing flood plains and wetlands restrict, to some degree at least, remediation choices. For instance, the agencies are generally prevented from filling property or consolidating waste within a flood plain unless the project also creates an equivalent amount of flood storage in the immediate vicinity. Thus, though upper Ferry Creek could possibly serve as a consolidation site, it is in a flood plain and wetland and would legally require substantial mitigation for destruction of both at considerable cost. Furthermore, the agencies are hesitant to place caps in floodplains for fear that, during intense storm events, the cap might be destroyed and thus waste re-exposed and possibly dispersed across a large area.
- Federal law prevents Superfund waste from being disposed outside of the Superfund "site" as defined, unless disposed of at a regulated, monitored secure landfill. Thus, federal law allows waste to be moved within the Superfund "site" across individual properties, but does not allow the disposal of the waste on other properties outside the site (for example, Contract Plating or the Army Engine plant).
- Various State remediation laws govern cleanup, as well. Though the Superfund is a federal program, the federal government virtually always abides by state rules and regulations (also known as ARARs). The State requires that caps are impermeable so that rain and stormwater will not infiltrate the cap and cause further possible groundwater contamination (though the leachability of most Raymark waste constituents is limited) even if that groundwater is already contaminated. The State also requires several feet of clean fill and other requirements to ensure that risks of future exposure are minimized. Thus, for instance, standard asphalt paving is not a sufficient cap under federal and state regulations. Of particular note is a State

requirement that groundwater be monitored for the long term to demonstrate that cap performance has not become impaired. This requirement imposes substantial long-term costs on owners of capped properties because of the State's insistence that it will not accept responsibility for these costs.