

APPENDIX I

Key Stakeholder Roles, Responsibilities, Goals, and Expectations

Several groups and corporate entities were involved in the investigation and ultimate remediation of the Dow Chemical site. These stakeholders participated in varied aspects of the cleanup over a period of several years as they became aware of the site and the various issues that arose out of the investigation and subsequent remedial activities. Although a number of individuals expressed an interest in the site activities while the investigations were taking place, this Case Study focuses on those groups who participated in the Public Information Plan (PIP) process mandated by Massachusetts hazardous waste cleanup regulations. In order to protect their privacy, this Case Study does not identify residents of Wayland and surrounding towns who participated as individuals. The only individuals identified in this and the other Appendices are employees of corporations and public agencies, as well as paid consultants of Dow, the Town of Wayland, and NED/Dow Neighbors Inc.

Dow Chemical Company

The Massachusetts Contingency Plan (MCP) identified Dow as one of two Responsible Parties (RPs) at the site (the other RP was New England Development, hereafter NED); as an RP, Dow was legally and financially responsible for the environmental contamination, and therefore for the site investigation and cleanup. Dow was required to conduct investigations at the Wayland site to determine the extent of contamination and to clean up all contamination to a level that would present “No Significant Risk” to public health, safety, and the environment. This goal is the defining concept in the MCP and provides the standard for whether remediation is conducted at hazardous waste sites and provides a performance standard for the extent of remediation. Dow’s primary goal was to comply with the MCP and to meet the MCP criteria for “No Significant Risk” in the most cost-effective manner. Because the Neighbors requested that the site be treated as a PIP Site under the MCP, Dow was also required to comply with PIP requirements, to ensure that the public received access to documents, to conduct public meetings, and to respond to public comments. Although the MCP holds the RP responsible, the actual technical work at the site must be under the direction of a Licensed Site Professional (LSP), who is responsible for ensuring compliance with the MCP. In Massachusetts, investigation and remediation of hazardous waste sites are conducted by the private sector. The

LSPs who direct this work, and who determine when the site meets the requirements of the MCP, are licensed and subject to the oversight of the Massachusetts Department of Environmental Protection (DEP), the agency that has ultimate responsibility for ensuring compliance with the MCP, and with the Board of Registration for Licensed Site Professionals.

NED/Dow Neighbors, Inc.

As a watchdog group comprised of residents who lived near the site, the Neighbors formed in 1990 and incorporated in 1994. The officers and directors of the new organization lived near the Dow facility, in the vicinity of Rice Road, and, as individuals, had been following developments in the neighborhood beginning with NED's proposal to develop the land. Five individuals were the first directors of the new group, and they remained active throughout the process in varying ways. The Neighbors' articles of incorporation note that the group's purpose is to engage in public interest research and education on environmental and health issues in Wayland and to participate in oversight regarding the Dow investigation and cleanup. When the Neighbors learned that the site was contaminated, and that Dow was going to be involved in the investigation and cleanup, they became a major role player in the MCP process, and they also took a lead role in the Town. Members of the Neighbors educated themselves about the MCP and hazardous waste assessment and cleanup, learning a new 'language' and a new set of skills in the process, with help from the Toxics Action Center (TAC), a coalition of citizens' environmental groups with headquarters in Boston, and TAC's Executive Director, Matt Wilson. Mr. Wilson assisted the Neighbors in understanding the intricacies of the MCP, and provided early support as they negotiated their way through the regulations and jargon.

The Neighbors applied for and were awarded four Technical Assistance Grants (TAG) from DEP. As the point group for the PIP process, the Neighbors served as liaisons between residents and Town officials. They hired their own consultants, and interacted with State officials from DEP and the Department of Public Health (DPH). The Neighbors' role was to ensure that response actions at the site were conducted in accordance with DEP's regulations, as spelled out in the MCP. The Neighbors' primary goal in this case study was to ensure that the property was cleaned up in a manner that was in accordance with the MCP, and that public health and the environment were protected.

Initially, the individual members of NED/Dow Neighbors had various concerns about development in the neighborhood. When the property was sold to NED in 1989, prior to incorporation of the group, and plans to build an office park surfaced, some residents of the Rice Road area expressed concerns about possible drastic change in the character of the neighborhood. The Dow facility had operated quietly, set back from the road, and most people did not know it was there. The property had been well maintained, and, until the facility closed, it had been used as a quasi neighborhood park. Even when the R&D facility was operating, local children played on the property, as it was inviting, with its ponds, lawns, and woods.

The Dow facility was built before comprehensive zoning in Wayland, so while the rest of the neighborhood developed as residential, and the newer construction trended toward luxury homes and condominiums, the Dow property, by virtue of its use, became a limited commercial zone island in a residential area. The sale of the property to NED, and the subsequent plans to build a large commercial complex, galvanized many of the Neighbors to express their concerns to Town officials. To their dismay, they discovered that the proposed development was possible under the zoning by-law. One initial focus of the Neighbors was to identify ways to stop or scale down the development. The discovery of contamination on the property refocused the Neighbors' energies.

Over time, members of Neighbors achieved an understanding of the MCP, and what it governs. The MCP does not venture into issues of zoning or land use, but sets standards for cleanup based on use. Recognizing the limits to DEP's powers in areas not covered by the MCP was a major hurdle for some members of the community, but the leadership of Neighbors helped to educate people and to steer them to the proper agencies that could regulate or manage other issues that arose at the site.

One of these issues was concern over health effects. Although the MCP requires cleanup of contaminants to levels that will not contribute to risk of harm, neither the MCP, nor DEP itself, has jurisdiction in dealing with complaints of or concerns about actual illness. DEP does not investigate cases of illness or suspect illness associated with hazardous waste sites, and does not have the appropriate professional staff to answer questions about individual health concerns. The perception that DEP was not able to answer specific questions about health initially caused frustration in the community. The Neighbors consulted with the DPH, the state agency that has epidemiologists and toxicologists on its staff to investigate health concerns. The

inability of DPH to reach specific conclusions about possible relationships between illnesses reported by individuals in the neighborhood and the site led to additional frustration.

Department of Environmental Protection

Once the Dow site was classified as a priority disposal site by the State, DEP assumed an oversight role for all MCP activities at the site. The LSP hired by Dow was still responsible for doing the studies, but DEP was responsible for review of proposed sampling plans, as well as the data and reports that were produced from those activities. DEP was also responsible for holding public meetings as various MCP milestone events were reached. DEP's primary role was to ensure that all requirements of the MCP were met and that the remedial actions proposed by the LSP after the studies were completed would clean the site to a level where there would be No Significant Risk to human health and the environment. The MCP provides a technical definition of No Significant Risk based on the use of the property, and the LSP must demonstrate that No Significant Risk is achieved using both human health and ecological risk assessments and an engineering evaluation of the proposed cleanup actions.

DEP assigned Scott Greene as the project manager for the Dow site. The Neighbors reported that Mr. Greene was helpful and considerate of their concerns during the investigations at the site. The Neighbors also worked closely with Karen Stromberg, the PIP coordinator at DEP. She provided guidance while the Neighbors were applying for their TAG grants, and during the public meetings.

Department of Public Health

The DPH became involved with the Dow site at the request of the Neighbors because of the perception that there were increased rates of some cancers in the neighborhood. At least one person diagnosed with cancer had played on the site as a child, and the Neighbors were aware of other people who grew up or had lived in the neighborhood and who had cancer.

DPH conducted an epidemiological study using cancer registry data and concluded that there was no increased incidence of cancer in the portion of Wayland where the Dow facility was located. The study had limitations, however. The data set used by DPH only included people who lived in Wayland when they received their cancer diagnoses, and the study did not include

any cancers with fewer than five reported cases. Several local residents expressed concern that the study did not include all cases of cancer in the area. DPH defended its methods, but admitted that the most recent incidence data were not yet available.

DPH's role in the investigation and cleanup of the Dow property was adjunct, at best. DPH has no role in the MCP, and in this case, DPH participated in the overall study of the Dow site at the request of the neighbors.

The MCP has no provisions for studies of ongoing health effects; instead, the MCP focuses on preventing future health effects through risk assessments, and requires cleanup of any contamination that may endanger human or environmental health. The MCP cannot be used to evaluate exposure to pollution in the past, particularly if there are no laboratory data available to characterize what was present on a site in the past. In this case, no one knew what contaminants could have been present at the site in the past, either in the soil, the water, or the air.

DPH's goal was to determine if there was an association between the site and an increased risk of cancer. Their study was, at best, inconclusive.

Consultants to Dow

Dow's primary consultants were Ransom Environmental and Gradient Corporation. The LSP of Record was a Ransom employee. The consultants' roles were to develop and carry out response actions and prepare reports necessary to address the oil and hazardous materials detected at the property. Their primary responsibilities were to serve the needs of their client and to conduct studies and perform remedial actions in a manner consistent with the LSP professional standard of care. The LSP of Record has a responsibility to follow the MCP and, as stated in the MCP, to "hold paramount" the protection of human health, human welfare, and the environment. Under the MCP, the LSP of Record has the dual responsibilities of serving his or her client and upholding the integrity of the MCP.

Ransom's goal was to conduct the site investigation and to develop cleanup plans. Gradient's goal was to develop cleanup standards, and then to demonstrate remedial actions and site conditions met the MCP standard of "No Significant Risk".

Consultants to NED/Dow Neighbors

The Neighbors' consultants were Dr. Irwin Silverstein, formerly of META Environmental and Anne Marie Desmarais of Environmental Insight, the authors of this Case Study. Their role was to advise the Neighbors on the quality and efficacy of response actions and reports being conducted by Dow's consultants. Their primary responsibility was to serve the professional needs of the Neighbors, and to do so in a way that was consistent with the requirements of the MCP. Their goal was to provide technical assistance to the Neighbors, to review documents prepared for Dow by its consultants, and to provide technical comments on Dow's reports. Their approach was to help ensure that the work conducted at the site was done in a scientifically acceptable way and in accordance with the MCP. As consultants hired under DEP's TAG program, they also served to inform and educate the community regarding the requirements of the MCP and how they affected activities at the Dow site. This type of advice became an important objective of the TAG consultants' role because the Dow investigation occasionally resulted in activities that were 'outside' the MCP, including health studies and supplemental sampling.

Wayland Board of Selectmen

As the executive branch of Wayland's government, this Board had a leadership role in safeguarding the best interests of the town. Because the Town expressed an interest in purchasing the Dow site, partially as a response to the Neighbors' concerns about commercial development at this site, the Board was concerned that the Town could potentially acquire property that would need further remediation, or that would present a future financial or other legal liability. The primary goal of the Selectmen was to ensure that the Town made the right decision regarding purchase of the Dow property.

Wayland Board of Health

The Board of Health did not become involved with this project until the later stages of the cleanup, and initially did not respond to community concerns. The Board's initial unwillingness to address issues raised by residents provided an impetus for the Neighbors to incorporate and apply for TAG grants.

Camp Dresser & McKee (CDM)

As the Board of Selectmen's consultant, CDM's role was to conduct a due diligence investigation to ensure that the goals of the Board of Selectmen were being met. Their responsibility was to serve the Board and conduct a thorough review of documents for the work conducted at the site since being designated as a priority disposal site. Their goal was to conclude their investigation with a recommendation to the Board of Selectmen regarding purchase of the property.