MOUND SITE
ASSESSMENT OF POST-CLOSURE DATA NEEDS

I. Purpose of This Document

This document is prepared in response to a task sponsored by John Lee, DOE, as part of the effort to evaluate future capabilities of the LandTrek project, a Web-based information repository on site closure practices within the Department of Energy (DOE), the Department of Defense (DOD), and other Federal agencies. The DOE Mound Site is approaching key site closure milestones, and therefore it was determined that an evaluation of information requirements would identify key requirements for post-closure information at Mound and potentially other DOE sites. A key component of this analysis was to evaluate whether these future needs could be satisfied through Web-based solutions, such as those offered through the LandTrek project.

The project sponsors at the DOE Mound Site were Arthur Kleinrath, DOE, and Sue Smiley, DOE. Mr. Kleinrath and Ms. Smiley provided the team conducting this assessment access to key information users and providers, and assisted the team in developing the content and organization of this document. The team focused on analyzing three components relative to Mound closure and post-closure information:

- Type of information required by users, discussed in Section IV, V, and VI.
- Processes by which information is disseminated, discussed in Section VII.
- Potential for this information to be available through the Internet, discussed in Section VIII.

In Section IX, recommendations are presented for proceeding with the development of a final information collection, management, and transfer solution.

II. Project Background

The Mound Site is at the forefront of site closure policies, activities, and information needs. As DOE reduces and ultimately eliminates its presence at the Mound Site, the responsibility for converting the property to other industrial uses, and continuing to maintain the property for this purpose, may be divided among several entities. In addition, DOE's responsibility for the site will not completely transfer to other parties. Monitoring of groundwater and institutional controls will continue [per 40 CFR 300.430(f)(4)(ii)], and DOE will need to be responsive to future cleanup actions, should the need arise after closure.

For DOE to exit smoothly, information on the history, cleanup actions, and post-closure site activities will need to be accessible to all parties involved in closure, transition, and stewardship. In addition, the general public wants to be assured that they will continue to have access to site information. Since Mound will be one of the first sites to enter closure and stewardship, many of the users, specific information needs, and information access processes have not been defined. The intent of this analysis is to document what is known about future information needs, what decisions will need to be made relative to the availability and transfer of that information, and

the viability of Internet-based technologies as a mechanism to deliver and maintain this information.

III. Summary of Findings

Interviews and documentation reviews clearly indicate that the DOE and site contractor staff, Babcock & Wilcox Technologies of Ohio (BWXTO), have long-standing processes for collecting and disseminating information to a variety of user groups outside of the Mound complex, and that these processes have been effective over the years. It is also clear that for effective information access to continue in the future without the DOE and BWXTO presence, and for a smooth transition to the future landlords to occur, new information repositories and user access processes will need to be developed prior to site closure. There is an opportunity to leverage the technologies and documentation available at the site now, and a challenge to utilize these resources through new communications mechanisms that provide access to information in the future. General conclusions reached through this analysis are summarized below:

- The current information transfer processes at Mound are efficient and effective in reaching multiple audiences, given the existing points of contact in DOE and BWXTO. However, points of contact will likely change or disappear over time while information needs will continue to exist.

- Often, there are overlaps in information requirements across user groups; different user groups require the same type of information, although differences in preferred presentation, format, and level of detail might exist. All current and future data users require a summarized level of information. Further, all current and future data users are concerned about the loss of information and knowledge as the site is transferred and points of contact disappear. Given these similar requirements and concerns, common platforms for information management and access can be used in the future to address various information needs.

- Many of the information transfer processes needed after site closure have not been identified, but are to be discussed through the Post-Closure Stewardship plan currently being developed. Since BWXTO's obligations to maintain the current information repositories will no longer exist after site closure, and DOE's record-keeping responsibilities will likely be greatly reduced, responsibilities for future ownership and management of information must be defined. Defining these responsibilities will be the first step in transferring detailed information since data needs vary based on responsibilities at the site.

- A suite of resources will likely be needed to address all post-closure information needs. Due to the public's interest in maintaining a communication mechanism similar to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) public reading room, other user groups' preference for electronic access (e.g., monitoring data database, mapping system), and the cost-prohibitive nature of converting all paper documents into electronic files, this suite of resources should include both an electronic and paper platform.

- A publicly accessible Web site can serve as a component of the suite of resources used for site closure information and can be integrated into the LandTrek project. A portal appears to be a Web-based interface that addresses all of the Post-Closure Stewardship Working Group's concerns about Web Sites (See Section VIII).

IV. Information Needs Evaluation Process

The information needs evaluation was conducted in two parts: an initial and a final Data Needs Assessment. The initial Data Needs Assessment provided an overview of current data user requirements, and what the requirements will be as the site transitions to closure. It also provided insight into the challenges that DOE faces in continuing to ensure effective information transfer.

In the initial assessment, representative individuals that are Mound Site employees, employees of regulatory agencies, members of stakeholder groups, and employees of other local, city, or state organizations that currently take an interest in the Site were interviewed to identify post-closure information needs. These interviews were conducted in August of 2000. A total of 28 interviews were conducted in person and by phone. Each interviewee was asked a standard set of questions regarding current and future usage of Mound information. These questions were developed to capture key characteristics about information needs and usage patterns that will assist in creating a profile for future information needs requirements. These key characteristics are shown in Table 1. Attachment A to this report contains the list of the interview questions for the initial Data Needs Assessment.

Table 1: Information Needs and Usage Characteristics

Characteristic	Description
Ownership	Identifies the organization responsible for generating and updating information.
Management	Identifies the organization responsible for maintaining information and location of that information.
Media	Identifies if the information is in a paper, electronic, Web-based, or other media.
Format	Identifies if the information is in a full document, spreadsheet, database, map, drawing, or photograph format.
Level of Detail	Identifies if the information is full document or other summarization (e.g., tables), and the level of detail needed to support decision-making.
Accessibility	Identifies if the information is easily obtainable and available to users (i.e., level of effort to get information is minimal), and preferred access capabilities.
Consistency	Identifies if information characteristics remain constant or vary over time, and if information sources are reliable.

Characteristic	Description
Completeness	Identifies if the information addresses an issue or topic in its entirety, and if it is necessary for making remediation or post-closure decisions.
Update Frequency	Identifies how often information is updated (e.g., quarterly, as needed basis) and how often users need information updates.
Update Trigger	Identifies the event that requires information to be updated (e.g., sampling event) and the event that requires users to obtain updated information.
Organization	Identifies how the information is optimally organized (e.g., chronologically, geographically, by topic area).

Following the initial assessment, the future site landlord, Miamisburg Mound Community Improvement Corporation (MMCIC), formed a Post-Closure Stewardship Working Group. Group membership includes: MMCIC, City of Miamisburg (e.g., Environmental Manager, City Councilmen, City Engineer), USEPA, Ohio EPA, Ohio Department of Health, DOE, BWXTO, and the Mound Reuse Committee (a group of local businessmen and residents). Based on the input of this group, it was determined that the Data Needs Assessment should be finalized to:

1. Complete interviews with current or future users of information that were not available when the initial interviews were conducted,
2. Solicit additional input from individuals who were initially interviewed, based on input from the Stewardship Working Group that they may now have a better understanding of information requirements.
3. Conduct interviews with additional data users, not included in the initial assessment, that were identified by DOE and the Stewardship Working Group.

During the finalization of the Data Needs Assessment, an additional 36 interviews were conducted in August of 2001 (see Attachment B for a list of the organizations that are represented by individuals who were interviewed for this project, including the initial and the finalization assessments). In the final evaluation, each interviewee was asked the same standard set of questions used in the initial assessment, with an additional question which specifically sought to determine whether current users were relying on their points of contact for information even if the information was available by other means (see Attachment C: Interview Questions to Identify Post-Closure Information Needs for the Final Data Needs Assessment).

V. Interview Results

Based on the interviews conducted, current and potential future users[1] of Mound information are organized into the following groups:

[1] Potential future users of Mound information are those individuals who will likely need or want information about the Mound Plant during the post-closure phase.

- **General Public Interest Group** –includes members of local environmental groups, the general public in the Miamisburg area, and other local citizens groups.

- **Real Estate Transactions Group** – includes local, regional, and state officials interested in economic development, members of the Miamisburg Mound Community Improvement Corporation (MMCIC) who will take ownership of the Mound Site and oversee the sale or lease of property to private organizations; and future owners/lessees of property formerly part of the DOE Mound Site.

- **Regulatory Compliance Group** –includes national, state, and local regulators interested in the continued environmental integrity of the Mound Site and ensuring that land use restrictions are properly monitored and enforced, as required by Federal and/or state regulations.

- **City of Miamisburg Management Group** – includes city employees that will assume responsibility for infrastructure support of the Site once it is converted to non-DOE industrial uses, and will need to provide services for water, sewer, and other utilities. Also included are city police and local/regional emergency response organizations, and those groups responsible for reviewing permit applications and zoning requests submitted by MMCIC or its tenants and/or future landowners.

- **DOE Headquarters Group** – includes DOE employees that will have responsibility for managing the long-term stewardship of the entire DOE complex. Additionally, it has been noted that this group may be responsible for future Freedom of Information Act requests, which are currently funded and managed at the local DOE office.

- **Former Site Worker Group** – this group includes current or former Mound Plant employees that may require access to information on site operations or closure activities where these activities or future events affect worker health, as well as the individuals responsible for archiving and maintaining that information. It also includes individuals responsible for identifying DOE's information needs that may result from lawsuits related to closeout contract claims.

All interviewees discussed the specific types of information that they currently receive. They also discussed likely future information needs, their usage patterns, and their preferred format, media, and level of detail for information. Table 2 summarizes the feedback, including suggestions, received from each user group. The suggestions received during interviews are also summarized in Attachment D.

Table 2 Information Needs Summary by Information User Group

General Information Needs	Preferred Media / Access	Special Considerations / Comments
Common Interests Among All Information User Groups[2]		
All current and future data users expressed the need to have access to summary level information. The ability to drill down to specific data that supports the summary-level information is desirable, and in many cases, necessary. In addition, all groups are interested in having a map or geographical-based presentation of site information.	***Preferred Media:*** There is a common interest in having information provided through a variety of media (paper, electronic, Web-based). ***Preferred Access:*** There should be a variety of mechanisms for accessing site information.	All data user groups expressed interest in applying some type of visual cue(s) for signaling where contamination remains onsite and when institutional controls are required. Examples of suggested visual cues include: ▪ Color-coded maps to highlight where contamination remains onsite. ▪ Markers (e.g., red flags) / monuments (e.g., plaques, stone markers) at the site to indicate where contamination remains. ▪ Distinctly colored file cabinets (e.g., red) at the City, as a reminder that institutional controls or zoning restrictions apply to the former Mound Plant site. Further, there were a number of common concerns: ▪ Loss of contacts. ▪ Loss of institutional knowledge. ▪ Ability to ensure compliance with institutional controls in the long-term
General Public Interest Group:		
This group is interested in information on Mound Site activities, including general events and cleanup actions. Generally, these individuals participate in the CERCLA process by reviewing and commenting on the cleanup actions performed onsite. This group has an interest in learning about Mound's role in U.S. history; the programs, processes, and operations performed onsite; as well as the	***Preferred Media:*** 1. Paper. There is a concern that not all public users have electronic access. 2. Web-based. Although there is concern that not all users have access to the internet, the benefits of having information available via this media are	In the future, this group is specifically interested in receiving information about the effectiveness of institutional controls. The following information is desirable: ▪ A more extensive repertoire of site pictures and photographs, preferably through a kiosk. ▪ More detailed site history information, including site programs, processes, and operations. ▪ Information on human health and environmental

[2] This does not include the Former Site Worker Group. As indicated below, the data needs for that group are distinct and cannot be addressed in the same manner as data needs for other groups.

General Information Needs	Preferred Media / Access	Special Considerations / Comments
releases that occurred from these processes and operations and their impacts on human health and the environment. In the future, the general public wants to participate in ensuring that the site remains protective of human health and the environment, and that its intended land use (industrial) is maintained. Also, they want to be notified of any new events on the site that change the understanding of site conditions (e.g., discovery of previously unidentified contamination).	recognized and considered valuable. ***Preferred Access:*** A paper mechanism similar to CERCLA Public Reading Room is desirable, preferably near or on the Mound Site. It was suggested that any future, Mound-related library contain at least one computer terminal that has Web-access. This would provide Internet access to those individuals without private access. Web site access is preferred for general information and "news item" information for current activities.	impacts of contaminants found at Mound, written in common (i.e., layman's) terminology. In addition, the group expressed concern regarding transfer of the site. In particular, they are concerned about: ▪ Loss of local Federal contacts who are available and, as representatives of the U.S. government, must currently respond to public concerns. ▪ Accountability of private corporations to the public (including MMCIC and the corporations that lease the site facilities). ▪ Enforcement of institutional controls. ▪ Continued communication with the community. ▪ Unbiased presentation of data. It was suggested that any post-closure Web site have a "neighborhood watch" component, so that the public could assist in ensuring that institutional controls are maintained / enforced (e.g., that soil is not removed from the site). This component on the Web site could allow members of the public to send a private email to the appropriate contact person if they witness someone conducting a prohibited activity.
Real Estate Transactions Group:		
This group needs access to all information related to property transfer and leasing arrangements; including information associated with availability, characteristics, conditions, and legal requirements of parcels of property and buildings, from the time that preparation for transfer begins, through post-transfer.	***Preferred Media:*** 1. Electronic: maps, current building layouts, property descriptions, deed documentation, Mound 2000 (i.e., CERCLA) documentation[3].	The group expressed interest in preserving the existing GIS-based resources, which are currently maintained by BWXTO and used extensively for making cleanup decisions. However, resources to retain a GIS system after closure may not be available and the expertise in running these systems may be lost.

[3] In 1995, DOE and its regulators developed the Mound 2000 Approach, an approach to making decisions about environmental restoration at the Mound Site and its facilities. This approach is being used to address the environmental issues associated with restoration of the site, DOE's exit from the site, and deletion of the site from the National Priorities List (NPL).

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Specifically, this group will need map-based resources that illustrate the infrastructure of the site, with an emphasis on underground systems (e.g., piping, cables). In addition, a map that indicates where contamination remains onsite will be needed. A primary document of interest is the Quitclaim Deed, which dictates the terms and conditions associated with property transfer.	2. Paper: as-built drawings. ***Preferred Access:*** 1. Electronic: This group would prefer to have access to information (e.g., maps, building layouts) through City or regional Web sites. However, the City does not currently maintain this information on its publicly available Web site. 2. Paper access to old drawings, legal documents, or city-processed paperwork may also be required.	Alternatively, it may be possible to maintain a standard set of maps developed from the GIS system and make these available electronically. It is important to note, however, that these maps could not be manipulated or customized if the GIS system is not maintained. This group's primary concern is having access to needed information to maintain utilities (e.g., which local utilities can be removed, which ones should be upgraded) and to validate cleanup status (ensure that site conditions are as expected). Also of concern is a loss of information due to incompatible systems, conversion problems, and resource limitations.
Regulatory Compliance Group		
This group regularly receives monitoring data to ensure compliance with permits, CERCLA regulations, Ohio State Regulations, and other Environmental Protection Agency (EPA)-mandated monitoring and documentation requirements. The individuals that work for these regulatory agencies advise the Site on monitoring planning, and assist the public in validating site monitoring results or addressing public concerns. In the future, the primary responsibility of the group will be to ensure that institutional controls are maintained and that protectiveness of the site is maintained. They will need to continue evaluating monitoring data and technical information, and conducting trend	***Preferred Media:*** 1. Electronic / CD ROM / spreadsheet of monitoring data (including point discharges of surface water, soil, and ground water data). 2. Paper / electronic (e-mail): ▪ CERCLA documentation, other technical information. ▪ Updates to databases that the regulatory agencies maintain. 3. Paper: over-sized documents, site maps. ***Preferred Access:*** Electronic,	Regulatory agencies currently require detailed technical information and raw data that can be accessed and manipulated. They expect that this data need will continue in the future. *Note:* Currently, regulators receive un-validated data, but these data are not shared with other user groups. This group also expressed an interest in having GIS-based information and maps. This group's primary concern are that: ▪ The parties responsible for future distribution of information have not yet been identified (and must be prior to transfer of the site). ▪ There will be a loss of resources for conducting analysis because the regulators currently depend on DOE to contribute to technical evaluations (e.g., by providing summaries of data and information, correcting inconsistencies in sampling data).

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analyses. This group needs to be informed of any significant changes in site conditions, such as soil movement offsite, spikes in monitoring data, or discovery of additional contamination.	same as current system for monitoring data. Electronic access to documents and data is preferred. Paper-only access to some documentation may be unavoidable.	
Miamisburg City Management Group:		
This group must have information on cleanup status, existing onsite contamination, on-going DOE operations, stored chemicals, infrastructure (e.g., utilities, water, sewer), and any changes in site conditions. This information is required to communicate to the public and local/state authorities, provide maintenance support, and respond to emergencies, should they occur onsite. The City has specific data need requirements for ensuring proper and efficient emergency responses. For example, the City will need to understand what chemicals are stored onsite, the properties of each chemical, how to respond if there is a fire in the vicinity of the chemical, the quantity of the chemical stored, etc. This information will likely be provided in Material Safety Data Sheets (MSDS) and SARA Title III Reports. In addition, as the City takes over the Mound Site, they will need data to ensure that the infrastructure (e.g., sewer, water, electrical, roads) complies with the City standards.	***Preferred Media:*** 1. Paper and electronic: NPDES permit report, Material Safety Data Sheets. 2. Paper, electronic spreadsheet: monitoring data. 3. Paper: Maps, official documents. ***Preferred Access:*** It is expected that in the future, the City will want to download files electronically, especially for NPDES and monitoring data. The City will need to maintain a number of files in city buildings. Note: Currently, the City is not prepared to receive information electronically or via a Web site; however, City staff assumes that in the coming years, they will have capabilities to receive information via these methods.	This group will require access to post-closure information and events that may be of interest to the public and /or will require an official response from DOE or regulatory agencies (e.g., if construction uncovers some previously unidentified contamination or suspicious debris). They will also require up-to-date information on items that may be newsworthy (positive and negative). Since the City of Miamisburg will likely be responsible for responding to emergencies at the site, this group will need to be informed of events. A process for notifying the City of a problem will need to be in place to ensure a timely response. Of particular concern for this group is how emergencies should be managed if a number of restrictions, currently in place for certain DOE buildings, remain in place post-closure. For example, if there are any buildings that have entry restrictions on a portion of the building (e.g., areas requiring security clearance for access), it may be impossible for the City's emergency response personnel to respond in a timely and effective manner. It is important to note that DOE's current assumption is that all buildings transferred to the MMCIC will be free of restrictions associated with security access or radiologically controlled spaces (i.e., current site restrictions would no longer apply). DOE further assumes that the tenants of the former DOE buildings will likely

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MMCIC's Comprehensive Reuse Plan (CRP), which is the organization's master planning document, has been approved by DOE Headquarters and will likely be the City's basis for making planning decisions. The CRP includes where the roads are (or will be), where building lots are (or will be), and where there are restrictions prohibiting construction or disturbance of the ground. The City would like to see a map that details areas of the site that should never be disturbed; this map should be incorporated into the CRP. Currently, the City has representatives that participate on the Mound Reuse Committee (MRC) to serve as a bridge between DOE and the public, and ensure the public interest is maintained. The MRC includes local businessmen and residents, as well as City officials and State regulators.	A Web site for historical and background information would be useful to this group as a reference for existing site conditions.	conduct work similar to tenants at other commercial industrial parks where the City's Fire and Police Departments are already the first responders to emergencies. Furthermore, it is standard practice at the Mound site that when the site requires emergency response support from the City of Miamisburg, City emergency response personnel will have full and immediate access to the emergency scene (e.g., during an actual building evacuation, site personnel are directed to immediately exit the building without swiping their badges, and emergency personnel can enter the building without first swiping a badge for access). Accordingly, DOE expects that the concern expressed by City personnel [during interviews conducted in August 2000 and 2001] will be addressed before the City actually assumes full responsibility for emergency response at the site. Another concern of the City is that information is being lost due to reduction of work force at Mound. For example, there used to be a series of utility drawings (a series called 5-1900) that showed the complete system of underground lines. These records used to be maintained electronically via CAD/CAM. However, budget cuts in the early 1990's eliminated some of these electronic systems, and information on utility upgrades or re-routes was maintained in paper form only. As the workforce decreases in size, institutional memory of these paper files may be jeopardized. The City will need to understand the state of utilities at the time of transfer in order to maintain them properly. To ensure that institutional controls/ land uses are maintained, it was suggested that another type of permitting process be developed for the site: one that would require application for a permit if any work disturbing the ground is proposed (e.g., removing soil from the site, drilling a well).

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DOE Headquarters Group		
This user group needs to support national stakeholders' needs (e.g., provide information to Congress) and ensure appropriate management of DOE's long-term stewardship responsibilities at Mound. In addition, they will need information to assist in planning and implementing Stewardship activities across the DOE Complex. They are interested in having access to CERCLA decision-making documents and the detailed data that support these decisions. To manage the site during long-term stewardship, there should be a statistical analysis of the various uncertainties as well as a narrative of what is known and what is not known.	***Preferred Media:*** Electronic. ***Preferred Access:*** This group prefers that information be presented in a geographic / Web-based interface and that users have the ability to drill down to increasingly more detailed levels of data. Photographs of the site are also desirable.	Headquarters will need to manipulate data in order to do complex-wide analyses and to respond to requests from Congress, which vary depending on who is requesting the information. A Web site should be created that is well organized and easy to navigate. One of HQ's primary concerns is ensuring that institutional controls are maintained. Since the Mound Site is at the forefront of site closure policies and activities, it was suggested that perhaps the Site could be used as a model for other sites in terms of analyzing the expected weaknesses of the institutional controls and comparing that against the future problems (or lack thereof) in maintaining protectiveness of the site through institutional controls.
Former Site Worker Group		
The data needs for this group include the CERCLA administrative record information, but also include a much more specific group of data. For the most part, the data requirements are listed in the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). This information includes: incident reports, personnel records, medical records (e.g., records of exposures, dosimeter records, interpretation of medical x-rays), and production records from the site. Since much of this information is personal, there is a need to keep these records private, but also ensure that they are retrievable.	***Preferred Media:*** Paper. ***Preferred Access:*** The location of these records will likely be at a Federal Records Center. However, the records needed for litigation will need to be in the location of the DOE contracting personnel and lawyers. There need to be systems in place to ensure that information about personnel remains private. In addition, the records	The greatest concerns of this user group are: 1. Funding, and 2. Lack of defined contact people. Further, this information group is concerned about the Freedom of Information Act (FOIA) requests. Currently these are managed and funded by the local DOE office. It is unclear if this responsibility will be transferred to DOE-Headquarters. The data needs for this group are distinct from the other information user groups in a number of ways. Specifically, this group differs from others in that: 1. The data needs are well defined through regulations or through the litigation process. 2. The majority of information should not be shared due

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Additional records that are of concern to this group are those necessary for ongoing litigation. For the most part, this litigation is limited to contract closeout claims and claims from neighbors to the site. The information needed for these claims should be well defined at the time of site closure or site transfer.	currently exist in paper form and it would be prohibitively expensive to convert them into electronic files. Therefore, there are issues with making this information available via any type of Web-based platform.	to its personal nature. 3. The issues associated with these data need requirements do not vary significantly from site to site; accordingly, the local DOE office appears to be looking to DOE Headquarters for guidance on how to resolve them. Based on the distinct data needs of this information user group and the apparent need for DOE-HQ to resolve the associated issues, this information is not further addressed in this data needs assessment.

VI. Conclusions from Interviews

Based on the interviews conducted, the following general conclusions can be made about user group information needs and information transfer processes:

(1) **All current and future data users require summarized information. In addition, all data users are interested in having a map- or geographical-based presentation of information.** For example, the general public would like to see where contamination remains at the Site in relation to recognizable City features (e.g., roads). The City will need to understand where contamination remains onsite in order to conduct maintenance activities and respond to any emergencies. Further, all data users also noted that the ability to drill down to specific data that supports the summary-level information is desirable, and in many cases, necessary. Some data users indicated that they have difficulties finding the specific information they are looking for, due to the large amount of data that are currently available through a variety of media. However, these data users indicated that access to information with a drill-down capability to more detailed data might address this issue.

(2) **All groups are concerned about the loss of information and knowledge.** Primarily, people are concerned about the loss of information due to the reduction and eventual disappearance of workers from the site that serve as points of contact and that have a wealth of institutional knowledge about the site. In addition, there is concern that information will be lost due to incompatible systems, conversion problems, and resource limitations. This issue should be addressed in two ways: by establishing new points of contact prior to site closure, and allowing for a transition period so there is overlap between workers that are currently responsible for site activities and workers that will be responsible for these activities post-closure.

(3) **Detailed data needs vary based on responsibilities and are not entirely defined.** Although all data users will require summarized information, those users with responsibilities for or at the site will require much more detailed data. For example, regulators will require raw and interpreted monitoring data to ensure that remedies continue to be protective of human health and the environment; emergency response workers will need to know what chemicals are stored onsite, and the volumes and properties of those chemicals; utilities workers will need to understand where digging restrictions exist and what extra precautions, if any, need to be taken to conduct maintenance activities.

(4) **The current information transfer processes at Mound are to a large extent efficient and effective in reaching multiple audiences, given current points of contact. However, the points of contact will likely change or disappear over time; information needs will continue to exist.** Currently, the CERLCA public participation process and DOE Public Reading Room are sufficient mechanisms for communicating and addressing public concerns. Generally, the document format and content associated with the CERCLA process is clear, consistent, reader-friendly, and useful for decision-making. Regulators, the future landlord, and other stakeholders are generally able to receive the information they need; however, users rely heavily on personal relationships with DOE or other site staff to obtain information. The individuals who rely on points of contact to receive needed information

indicated that they do not know if the information is available elsewhere (e.g., on the DOE-Mound Web site, at the Mound Reading Room).

The current need to access a variety of information documented in the Site's Administrative Record will continue into the future, as will the need to access new information. The majority of the older documentation is maintained in a paper media; however, several users indicated an interest in accessing this information electronically. Based on discussions with DOE and BWXTO employees, documentation generated under the Mound 2000 Approach exists in an electronic format. Converting pre-Mound 2000 documentation to electronic files likely would be cost prohibitive. The general public users suggested that the Public Reading Room (with hard copy documentation) be maintained in some future capacity, preferably on or near the Mound Site.

DOE should expect that current points of contact will not continue to serve as the primary mechanism for communication; alternative methods for exchanging information should be established now to allow data users a transition period prior to site closure. DOE should consider maintaining both paper and electronic files/documents.

(5) **A variety of user groups require access to pictures, aerial photographs, maps, and other GIS-based products. It is noteworthy that all user groups are interested in having data presented in a map-based format.** Currently, several sources provide this information, including the GIS system, Mound Web site, and the MMCIC. The BWXTO Cultural Resource Coordinator is also collecting historical photographs for the Mound Museum Association. General public users have an interest in accessing a more extensive repertoire of photographs and maps, possibly through a kiosk. The property transfer and city management groups need a mapping system that is robust, such as the current GIS-based system, to accommodate a wide range of requests.

(6) **Access to post-closure monitoring data will be required, should such monitoring be necessary.** Most current environmental monitoring activities will end once cleanup activities are completed and each parcel of land is prepared for other industrial uses. However, there is potential that DOE will continue to be responsible for some level of groundwater monitoring after site closure. Also, the City of Miamisburg and MMCIC will need to determine who will take over responsibility for the site wide National Pollution Discharge and Elimination System (NPDES) permit required by the Clean Water Act for all point discharges of surface water (if the site is not connected to and solely using the City's water supply).

The data from these types of monitoring events are currently maintained electronically in spreadsheets, with updates sent to the Ohio Environmental Protection Agency (OEPA) on a regular basis. If monitoring continues after site closure, DOE and the parties who will assume responsibility for the site will need to determine who is responsible for conducting future monitoring, evaluating the associated data, and providing updates to regulators. If the method for providing monitoring data to regulators changes, the responsible parties will need to work with the regulators to ensure that any new methods meet the regulators' needs. Decisions about who is responsible for any future monitoring should be made prior to site

closure and documented (e.g., by the Stewardship Working Group, in the Post-Closure Stewardship Plan, or in MMCIC's planning document) to ensure that all parties understand expectations. General access to monitoring results may be required either electronically or through a point of contact. It is anticipated that the specific data to be collected post-closure will be defined in an integrated post-closure environmental monitoring plan.

(7) **Access to pre-closure monitoring data, and transfer of some monitoring data to city staff for on-going regulatory compliance will be required.** Environmental monitoring data currently resides in the Mound Environmental Information Management System (MEIMS) and supporting geographic information systems. However, there are issues associated with data characteristics and retrieval that present a risk of retrieving incorrect data sets, or users misinterpreting data. In addition, historical monitoring data will often be associated with a process or location that no longer exists on the site, and where such location or monitoring site boundaries (e.g., Potential Release Sites or "PRSs") may not be relevant to the future site configuration. Further, non-technical users currently rely on intermediate analyses from DOE staff or OEPA representatives to interpret the data in MEIMS. Access to raw data for regulatory users, and interpreted data for general users will need to be retained in any future information repository.

(8) **Monitoring of institutional controls in place at the site, and any violations of those controls is a required information need for all user groups.** Land use restrictions are the centerpiece of the Institutional Controls implemented at Mound to preserve the protection of human health and the environment over the long-term. These controls have been implemented through deed restrictions, but monitoring for continued compliance with the restrictions, and processes to notify and remind land owners/lessees of those restrictions are still being developed. It is anticipated that the specific data to be collected post-closure will be defined in the Mound Site-Wide Operations and Maintenance Plan (currently being developed). It was also suggested that any post-closure Web site have a "neighborhood watch" component, so that the public could assist DOE in ensuring that institutional controls are not breached (e.g., that soil is not removed from the site). This component on the Web site could allow members of the public to send an email to the appropriate contact person if they witness someone conducting a prohibited activity.

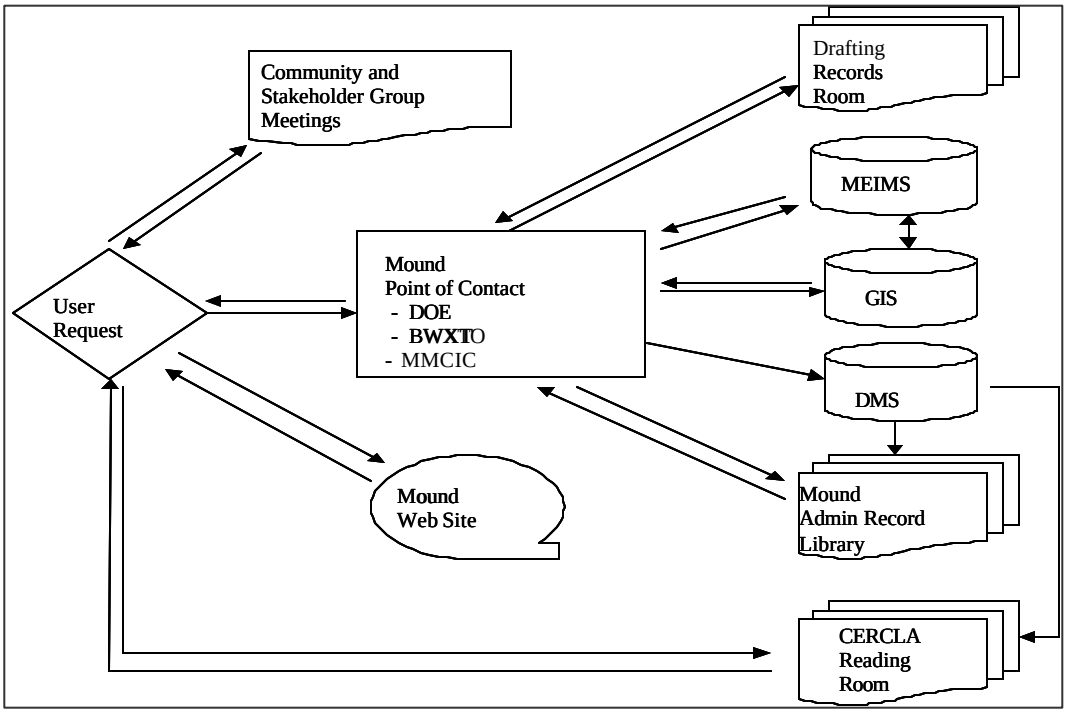
(9) **Public interest groups have a need for information related to the impacts of contaminants and releases on human health and the environment.** This information would optimally be presented by topic area (e.g., historical production processes and resulting contamination, contaminant types and properties) and use common terminology explaining the risks of specific contaminants. In addition, these groups suggested that other general information be provided, such as an explanation of measurements used at the Mound Site (e.g., pCi/g, Greys) and differences between waste types (e.g., low-level, industrial).

(10) **The Former Site Workers Group is distinct from other information user groups and should not be included in the conclusions or recommendations of this data needs assessment.** For this information user group, the data needs are well defined through regulations or through the litigation process. Further, the majority of information associated with this group's data need requirements should not be shared due to its personal nature.

Finally, the issues associated with this group's data need requirements do not vary significantly from site to site. DOE Mound appears to be looking to DOE Headquarters for guidance on how to resolve these issues and does not appear to feel that it is appropriate to attempt to resolve them at the site level.

VII. Information Transfer Process

Figure 1 Mound Information Transfer Process



Information Transfer Professes, shown in Figure 1, are the methods used most frequently by users to request and receive information. Figure 1 shows that these requests are generally satisfied through the following resources at Mound:

- Community and Stakeholder Meetings (e.g., Mound Action Committee).
- Information posted to the Mound Web site (http://www.doe-md.gov/).
- Drafting Records Room. Located at the Mound site and contains engineering drawings and building layouts.
- Mound Environmental Information Management System (MEIMS). Contains environmental monitoring data for air, soil, surface water, and groundwater.
- GIS system. Stores site maps containing a variety of geographic data, and is used in conjunction with MEIMS data to produce map-based environmental data.
- The Mound Document Management System (DMS). Stores the location of paper copies of reports, including the Administrative Record documentation.
- The Mound Administrative Record Library. Located at the Mound Site, contains paper copies of reports on site activities (including property transfer).

- The CERCLA Reading Room. Located in the City of Miamisburg, and stores many of the Administrative Record documents and other reports.

Other sources of information not depicted are employee (DOE or BWXTO), personal records and files and other smaller systems managed by program offices (e.g., personal property database).

As Figure 1 illustrates, information users have three direct pathways for receiving information: (1) attending community and stakeholder group meetings, (2) visiting the Mound Web site, or (3) visiting the CERCLA Reading Room. Most other requests are processed indirectly through a point of contact (POC) at Mound, either a DOE employee or a BWXTO contractor contact. Often these POCs will extract, distill, or otherwise manipulate data from one of the large information resources (e.g., GIS) before passing on the requested information to the user.

Based on information received through interviews, a number of issues associated with transferring information to subsequent users / owners were identified:

(1) **Access to information contained in the GIS system should continue in the future, after BWXTO's obligation to manage the GIS system has ended.** Since many users requested a need for future access to GIS-based products, at the very least the products that can currently be produced using this technology should be retained. However, there is concern that neither the resources nor the individuals with expertise in these systems will be available in the future. DOE and future stewards should investigate what would be required to maintain the GIS system after closure. If there are not resources to update the GIS system, DOE and future stewards should consider whether developing a set of standard maps would be sufficient to address the majority of user data needs. Although users would not be able to manipulate the maps, the most commonly needed data could be incorporated.

(2) **The need to access information contained in the CERCLA Reading Room will continue in the future, after DOE's obligation to maintain the Reading Room has ended.** In many cases, paper documents will be the sole media available as a resource for information. Some user groups expressed a desire to retain access to paper records through a repository similar to the current CERCLA Reading Room. Further, it appears to be cost-prohibitive to convert all paper documents into electronic files. Therefore, DOE and future stewards should discuss options for retaining a reading room after site closure.

(3) **The Mound Document Management System (DMS) allows for quick identification of the name and location of paper resources of information. This is a contractor-built, DOE management system, and DOE's obligation to retain it will end when the site is transferred.** However, the needs to access some of these paper documents likely will not disappear following closure. Since a significant effort has been put into this system to catalog and organize Mound Site documentation, it should be used as a launching pad for future document management. DOE and future stewards should investigate how the DMS can be leveraged as a future paper document-tracking tool.

(4) **Notification of changes in site conditions, environmental events, or events that trigger community and regulator action are currently communicated through local action groups or through Mound individual points of contact. The need for timely access to information on such events in the future will continue after site closure.** Site condition changes and events may include negative incidents, such as worker accidents, adverse monitoring results, violations of institutional controls, or discovery of previously unidentified contamination during future site construction activities. Conversely, site conditions may change in a positive way; for example, data may indicate that the concentration of groundwater contamination is decreasing at a much faster rate than expected, and consequently, the monitoring frequency may be reduced. It appears that any notification of these types of events currently occurs through the personal network established between DOE and groups requiring this information. Without DOE contacts in the future, a more formal mechanism for communicating this information may be necessary. DOE and future stewards need to identify long-term points of contact and communication processes to share information about incidents that occur at the Site.

(5) **Interest in information about the Site's institutional controls and ongoing monitoring of those controls will continue after site closure. It is unclear how these processes will be communicated.** Several interviewees expressed a concern that the controls in place (e.g., deed restrictions) can be lost or forgotten with time. Regulators and the general public expressed a need to know that monitoring of institutional controls is occurring regularly, and that site owners/lessees are complying with these restrictions. Since the detailed procedures for monitoring have not been finalized, it is premature at this time to determine how this information could be communicated. Once the monitoring procedures are finalized, DOE and future stewards need to consider how the monitoring schedule and results should be communicated. In addition, DOE should evaluate the weaknesses associated with institutional controls to determine if uncertainty management (e.g., contingency planning, implementation of additional controls) is necessary.

(6) **There are a number of detailed data needs that have not been entirely defined. These data needs vary based on responsibilities at or for the Site.** For example, it is not clear if or how building maintenance records and schedules, building systems operation manuals, and personal property maintenance records and operating manuals will be turned over to a new owner or lessee, if a need for this information exists, or if such records/manuals even exist. Although some records exist for Mound buildings and property, it is unclear if new owners will require access to these records or if MMCIC or future steward will be the recipient of such documentation. MMCIC and current lessees need to determine if this need exists. In addition, there are data needs associated with maintaining the site and responding to site emergencies that have not been entirely defined. To address these issues, DOE and parties who will be responsible for site activities in the future should set up working groups that comprise:

a. Individuals who are currently responsible for conducting a set of activities at the site,
b. Individuals who will be responsible for taking over those activities,
c. Individuals who are responsible for providing necessary information to current workers to do their jobs, and

d. Individuals who will be responsible for providing necessary information to future workers to do their jobs.

These groups of people should begin working together prior to the transfer of the site to ensure a smooth transition and to minimize loss of knowledge.

(7) **Several mechanisms are available now to support a public information/public participation process that will not be available after site closure. General public access and procedures for public comment may still be required in the future.** Resources such as the Mound Web site are available now that post general information for the public and provide details on how people can be involved in the public participation process. The schedule, events, and minutes of public meetings are also available through this Web site. As indicated by the public, regulatory agencies, and the City of Miamisburg, the current public participation process is efficient and effective at communicating site events and activities. The need for such communications, and the scope of this process in the future is currently not known. DOE should engage stakeholder representatives in discussions about future public participation processes and determine the scope of information needs that may be required and the preferred method for soliciting their input. Members of the general public would feel more secure that their participation and access to information will continue in the future if the processes for soliciting their input are defined prior to site closure.

(8) **Response to requests for information is facilitated at Mound through long-standing professional relationships between Mound employees (DOE and BWXTO) and the various user groups. However, the individuals that currently serve as points of contact likely will not be available after site closure.** For example, the majority of information about site environmental monitoring has been communicated through a site point of contact. Although on-going monitoring will significantly decrease after closure, the need for access to this data will continue. There may be a need for some level of ground water monitoring after site closure. In addition, some user groups requested access to historical monitoring data. Currently, DOE and BWXTO employees manage the monitoring process and data (through the MEIMS software and reporting processes to OEPA). These groups have indicated that risk for misinterpretation exists if raw data are made available to the public without some intermediate interpretation. However, the OEPA and DOE-Headquarters have indicated that they will need access to raw data. DOE and future stewards need to determine how they want to maintain and communicate this raw data. Given the risk that these data may be misinterpreted, DOE has indicated that they do not want to provide raw data to the public. Consequently, if DOE and future stewards want to share this type of information via the Internet, they will need to look into developing a system that has the ability to establish various levels of permission (e.g., a portal), so that some users would have access to the information while other users would not. As stated previously, these point-of-contact relationships provide an informal mechanism for requesting additional information and data, and appear to be used quite often for obtaining timely response to information needs. DOE will need to consider the impacts to user groups of the absence of points of contact, and prepare the users in advance for new information access processes.

VIII. Feasibility of Web-Based Solutions

The information needs for the current user community characterized in this document represent the data users' best understanding of current requirements. In addition, many of the transfer mechanisms have been documented, and several decision requirements identified to complete characterization of future information access processes. Interviewees were asked about future requirements, but it is admittedly difficult to predict what type of information one may require in subsequent years. Given these gaps and uncertainties, it is perhaps premature to presume that a Web-based information repository is the complete solution. Nevertheless, it seems appropriate that a publicly accessible Web site could serve as at least part of a suite of resources for site closure information.

A prototype Web site was developed which showed structure and content of a potential Internet-accessible information source. It was developed to stimulate discussion about the feasibility of providing existing information electronically, and to encourage dialogue between information users, providers, and managers on how information transfer will occur in the future, including existing technologies that could be leveraged now to provide information after site closure. Attachment E provides a mockup of Web site slides, along with specifications on the taxonomy of information that could be made available on each page.

The Stewardship Working Group had a number of concerns with developing a Web site as the basis for transfer of information. For example, the group was concerned about the ease of updating the site and the ability to do a keyword search for documents. Following discussions with this group, it was determined that a portal may be a more appropriate interface for information transfer. (Attachment F provides a matrix detailing the Stewardship Working Group suggestions/concerns and how a portal addresses each one.) A portal is a type of Web site that offers a broad array of resources and services, such as e-mail, forums, and search engines. The benefit of a portal is that it brings together existing and new information in a logical manner and enables text-based searching of documents and Web sites associated with the portal. It has the ability to integrate GIS data, monitoring data, external news sources, Web forms, etc. into one easy-to-access location. With more development, the portal can have various levels of permission so that some individuals have access to information that may be inappropriate for other groups (e.g., would allow restricted access to raw data). The portal also allows users to personalize their view of information. For example, users can select colors that appeal to them, news stories that are of interest to them, and specific information that relates to them. If users would like different views for their information, such as one site to go to for maps and one for data, a portal can allow them to pull that together.

A prototype portal was also developed to demonstrate how this tool could be used to transfer information. It was developed using primarily information that was already available on the Internet (e.g., the prototype Web site, which includes a geographical-based interface; links to frequently visited Web sites; documents and photos available on the DOE-Mound Web site). In addition, there were a number of new applications (e.g., a "neighborhood watch" gadget to allow the members of the public to notify a contact person if they witness someone conducting an activity prohibited by institutional controls).

IX. Recommendations

The Mound staff has built excellent communications and trust with the general public, City, and regulator communities. In planning for the future, DOE Mound staff is taking the initiative to preserve this relationship after the Mound Site closes and DOE staff is no longer available. Format, content, use, and access to information in the future are the key components that drive the development of a long-term solution. This document serves to characterize these components and highlight decisions that need to be made to establish information resources and processes for accessing those resources. DOE staff and the parties responsible for the site's future should now begin to build a sustainable method for sharing archived and current information relevant to the Site.

A key component of this effort will be to ensure that data users have access to a wide range of information, presented in various print and electronic formats. Further, in establishing methods for sharing information, parties should keep in mind that current points of contact will not continue to serve as the primary mechanism for communication. Recommended activities to accomplish this goal follow:[4]

(1) **Form a working group to establish the technologies to be used in the future**. Specifically:

- Review media requirements and limitations for existing information (e.g., paper only, electronic format) to determine the feasibility of, and the specific information that could be made available through an electronic resource.
- Review and demonstrate the prototype Web site and portal, and discuss maintenance and up-keep for the long term.
- Evaluate whether a GIS-based system will be required or whether these data needs can be satisfied with a set of standard maps, which could be developed prior to site closure. If a GIS-based system appears to be needed, review the maintenance and up-keep requirements for the long-term.
- Determine what paper-based access, if any, will be required.

(2) **Establish a team to evaluate information needs to determine the scope of information to be made available in the future.** Specifically:

- Determine what technical information would require translation or intermediate analysis to be correctly interpreted.
- Evaluate the key questions that may be asked of technical data, and determine if solutions can be pre-packaged for future presentation.
- Determine whether technical information (such as environmental monitoring data) could be made available to specific, knowledgeable user groups without intermediate analyses or intervention.

[4] Following the initial Data Needs Assessment effort, the MMCIC created a Mound Post-Closure Stewardship Working Group. This group has been tasked with addressing the issues associated with transitioning the site to Long-Term Stewardship. In particular the group is working to implement many of the recommendations outlined in this report. As of December 2000, the group has begun to address recommendations #1 and 3.

(3) **Establish a team to work with long-term stewardship planners to identify roles and responsibilities for future information "stewards."** Roles and responsibilities need to be clearly defined and documented to ensure that responsible parties are not operating under mistaken assumptions of responsibilities. To ensure that transition of the site occurs smoothly, these groups should work together to clearly define roles, responsibilities, and limitation (if any). Specifically:

- Determine what, if any, individual points of contact will be required.
- Identify party (e.g., agency, Department of the City, landlord) and individual(s), if possible, that will be responsible for specific tasks at the site.
- Document roles and responsibilities to minimize assumptions and misunderstandings.
- Determine the physical locations and maintenance responsibilities for paper-based access to resources.
- Determine the physical locations and maintenance responsibilities for electronic-based access to resources.

(4) **Establish working groups, based on worker responsibility, to define detailed data needs, smooth transition to closure and minimize loss of knowledge.** Currently, the detailed data needs have not been entirely defined. The most efficient way to define these needs is to set up working groups that comprise: a) individuals who are currently responsible for conducting a set of activities at the Site, b) individuals who will be responsible for taking over those activities, c) individuals who are responsible for providing necessary information to current workers to do their jobs, and d) individuals who will be responsible for providing necessary information to future workers to do their jobs. The purpose of these working groups should be to:

- Focus on exchange between current workers and those that will be responsible in the future.
- Define detailed data needs.
- Provide any needed training.
- Minimize loss of knowledge.

(5) **Evaluate the uncertainties associated with maintaining institutional controls and identify if contingency plans should be developed.** Evaluating uncertainties and weaknesses will allow DOE-Mound to establish a baseline of expected conditions. This baseline could serve as the basis for lessons learned across the complex, whether the controls work as expected or not. Further, the evaluation of uncertainties will allow DOE and future stewards to focus potentially limited resources, if necessary, on either implementing redundancies in controls or developing contingency plans for those controls that have the highest probability of failure and/or the greatest impact if failure occurs. Finally, evaluation of uncertainties may clarify data needs to manage those uncertainties. For example, if DOE determines that it is likely that soil may be removed from the Site during construction, DOE may determine that additional monitoring needs to be implemented during any such activities. To evaluate uncertainties, DOE should:

- Identify weaknesses associated with planned institutional controls (i.e., conditions under which the institutional controls could fail).

- Evaluate the probability that institutional controls may fail, the potential impacts of failure, and the time that DOE or a future steward would have to respond to mitigate that impact.
- Based on the above evaluation, determine which institutional controls present the greatest risk and evaluate whether additional controls or contingency plans are needed.
- If contingency planning is required, develop a monitoring plan to determine when these plans should be implemented.

(6) **Evaluate and integrate other efforts on retaining information for the long-term, such as those beginning through the DOE Office of Site Closure (EM-30), the LandTrek project, and Grand Junction Office or Pinellas sites where closure activities are complete or nearing completion**. This will reduce duplication of efforts, allow the Mound Site to take advantage of resources and technologies available through DOE Headquarters or other site programs, and incorporate lessons learned from other closing or closed sites.

(7) **Resolve the issues regarding the transfer of information to subsequent users / owners (see Section VII, pages 16-18). The recommendations associated with these issues are as follows:**

- DOE and future stewards should investigate the options associated with maintaining the GIS system after closure (e.g., evaluate resources required to maintain existing system, resources required to transfer current system to a different platform, standard maps that may be sufficient to address the majority of user data needs).
- DOE and future stewards should discuss options for retaining a reading room after site closure.
- DOE and future stewards should investigate if a paper document-tracking tool will be required following transfer of the site; if one is necessary, evaluate how the DMS can be leveraged as a paper document-tracking tool.
- DOE and future stewards should identify long-term points of contact and communication processes to share information about incidents that occur at the Site.
- DOE and future stewards should determine how the monitoring schedule and results should be communicated.
- DOE should evaluate the weaknesses associated with institutional controls to determine if uncertainty management (e.g., contingency planning, implementation of additional controls) is necessary.
- DOE should engage stakeholder representatives in discussions about future public participation processes and determine the scope of information needs that may be required and the preferred method for soliciting their input (i.e., define the public participation process following transfer of the Site).
- DOE should evaluate the impacts of the absence of points of contact to information user groups, and prepare the users in advance for new information access processes.

Attachment A: Interview Questions to Identify Post-Closure Information Needs for the Initial Data Needs Assessment

1. What is your organization's interest in / responsibilities for the DOE Mound Site, Miamisburg, OH?

2. What types of decisions does your organization need to make in order to fulfill its interest in the Mound Site?

3. What type of information does your organization need to make these decisions (e.g., information on cleanup actions)?

4. Does your organization currently receive this type of information on the Mound Site?

5. What event(s) trigger the need for your organization to obtain this information (e.g., quarterly reporting, change in site tenant)?

6. How often does / will your organization require updated information?

7. What documents contain the information your organization requires?

8. Where is this information located (e.g., web site, library, administrative record location)?

9. Who provides your organization with this information (e.g., own research, DOE)?

10. What media is this information in (e.g., paper, electronic, web-based)?

11. What type of media would be most useful to present this information to your organization?

12. What format is this information in (e.g., spreadsheet, document, graphs, presentations, web application)?

13. What format would be most useful to present this information to your organization (e.g., spreadsheet, text)?

14. Is this information readily and easily accessible?

15. Is this information presented in a consistent fashion?

16. Is information consistent between documents (e.g., are there any conflicting data sources)?

17. Is this information "reader-friendly" and conducive to your organization's decision-making?

18. Does your organization have a need to manipulate data?

19. Does your organization want to download information?

20. Does your organization obtain information from multiple data sources?

21. Does the data source(s) provide this information in a condensed fashion (e.g., is too much time spent sifting through documents to find relevant data)?

22. What level of detail of this information would be most useful to your organization (e.g., full text documents vs. summary tables)?

23. What event(s) change the information that your organization requires (e.g., sampling event)?

24. How often is the information that your organization requires updated (e.g., after every sampling event)?

25. How can the information be presented in a manner conducive to your organization's decision-making (e.g., geographically, chronologically, topic area)?

26. Are there any gaps in the information your organization currently receives that would assist in decision-making?

27. Does your organization have any other issues associated with the information it currently receives (e.g., data quality)?

28. Does your organization have any other suggestions for presenting information to more effectively assist in decision-making?

Attachment B: List of Interviewees

Organization	Title, Department or Area of Expertise
BWXTO	Document Management System
	Environmental Compliance, Monitoring
	GIS System
	MEIMS System
	Ground Water Monitoring Data
	Public Relations
	Real Estate Transactions
	Records Management
	Mound Museum Association
	Monitoring Data – Air / Environmental
City of Miamisburg	City Engineer
	City Manager
	Council member
	Economic Development Director
	Environmental Coordinator (NPDES Permit, Monitoring Data)
	Environmental Compliance Officer
	Fire Chief
	Manager's Office (General Cleanup Information)
	Mayor
	Planning and Engineering Department (Planning)
	Public Information Officer
	Public Utilities Director
	Public Works
DOE-Headquarters, Office of Long-Term Stewardship	Environmental Protection Specialist
	Information Management Coordinator
	Ohio Point of Contact
DOE-Mound	Real Estate Transactions
	Records Management
	Site Closure
Experi-Center	Student Educational Center (General Public)
Miamisburg Mound Community Improvement Corp (MMCIC)	Real Estate Transactions
Mound Environmental Safety and Health Organization (MESH)	General Public
Neighbors in Need (NIN)	General Public
Ohio Department of Health	Monitoring Data

Attachment B: List of Interviewees

Organization	Title, Department or Area of Expertise
Ohio Environmental Protection Agency	Groundwater
	Surface Water
	NPDES Regulations
	Air Regulations
State of Ohio	Governor's Office
United States Environmental Protection Agency, Region V	General regulatory oversight

Attachment C: Interview Questions to Identify Post-Closure Information Needs for the Final Data Needs Assessment

1. What is your organization's current and future interest in / responsibilities for the DOE Mound Site, Miamisburg, OH?

2. What types of decisions does / will your organization need to make in order to fulfill its interest in the Mound Site?

3. What type of information does / will your organization need to make these decisions (e.g., information on cleanup actions)?

4. Does your organization currently receive this type of information on the Mound Site?

5. Who currently provides you this information (e.g., contact at Mound Site; contact at Miamisburg Mound Community Improvement Corporation (MMCIC); Ohio EPA; In House/Own Research)?

6. If you currently receive information from a contact at Mound, would you be able to continue to get the information after the Mound Site closes?

7. If you locate information through your own research, what resources are you using to find the information [e.g., public/private libraries or reading rooms; Web sites (please specify); local records departments (city, county, etc)]?

8. What event(s) trigger / will trigger the need for your organization to obtain this information (e.g., quarterly reporting, change in site tenant)?

9. How often does / will your organization require updated information?

10. Do you foresee your office requiring information after the Mound Site closes (FY 2006)?

11. If the answer to the above question was yes, do you foresee the type of required information changing after the Mound Site closes? (If yes, please elaborate.)

12. What documents contain the information your organization requires / will require?

13. Where is this information currently located (e.g., Web site, library, administrative record location)?

14. What media is this information in (e.g., paper, electronic, Web-based)?

15. What type of media would be most useful to present this information to your organization?

16. What format is this information in (e.g., spreadsheet, document, graphs, presentations, Web application)?

17. What format would be most useful to present this information to your organization (e.g., spreadsheet, text)?

18. Is this information readily and easily accessible?

19. Is this information presented in a consistent fashion?

20. Is information consistent between documents (e.g., are there any conflicting data sources)?

21. Is this information "reader-friendly" and conducive to your organization's decision-making?

22. Does / will your organization have a need to manipulate data?

23. Does / will your organization want to download information?

24. Does your organization obtain information from multiple data sources?

25. Does the data source(s) provide this information in a condensed fashion (e.g., is too much time spent sifting through documents to find relevant data)?

26. What level of detail of this information would be most useful to your organization (e.g., full text documents vs. summary tables)?

27. What event(s) change the information that your organization requires /will require (e.g., sampling event)?

28. How often is the information that your organization requires updated (e.g., after every sampling event)?

29. How can the information be presented in a manner conducive to your organization's decision-making (e.g., geographically, chronologically, topic area)?

30. Are there any gaps in the information your organization currently receives that would assist in decision-making?

31. Does your organization have any other issues associated with the information it currently receives (e.g., data quality)?

32. Does your organization have any other suggestions for presenting information to more effectively assist in decision-making?

33. Is there anyone else you suggest we should talk to?

Attachment D. Suggestions from Interviews

The following is a list of suggestions received during the interview process. The groups that made the suggestion are also noted.

Suggestions made by more than one user group:

1. Apply visual cue(s) for signaling where remaining contamination remains onsite and when institutional controls are required. Examples of suggested visual cues include:
   - Color-coded maps to highlight where contamination remains onsite.
   - Markers (e.g., red flags) / monuments (e.g., plaques, stone markers) at the site.
   - Distinctly colored file cabinets (e.g., red) at the City, as a reminder that institutional controls or zoning restrictions apply to the site.

2. A DOE-Headquarters point of contact for the general public and other stakeholders should be identified prior to site closure.

Suggestions made by the general public:

1. Any future Mound-related library should contain at least one computer terminal that has Web-access. This would provide Internet access to those individuals without private access to the Internet.

2. Any post-closure Web site should have a "neighborhood watch" component, so that the public could assist in ensuring that institutional controls are not breached (e.g., that soil is not removed from the site). This component on the Web site could allow members of the public to send an email to the appropriate contact person if they witness someone conducting a prohibited activity.

3. Public interest groups have a need for information on impacts of contaminants and releases on human health and the environment. This information should be presented by topic area and use common terminology explaining the risks of specific contaminants. Other background information should be provided, such as an explanation of measurements used at the Mound Site (e.g., pCi/g, Greys) and differences between waste types (e.g., low-level, industrial).

4. Graphs and spreadsheets must be accompanied by an explanation using common terminology.

Suggestions made by the City:

1. Another type of permitting process should be developed for the site: one that would require application for a permit if any work would disturb the ground (including removing soil from the Site or installing a well).

2. MMCIC should add reuse information to Mound cleanup information (reading room, Mound Library).

3. DOE does a good job at recognizing and communicating news that relates to negative events; however, they should do a better job of communicating positive, newsworthy developments.

4. A transition period needs to be established so that there is overlap between the workers currently responsible for activities at the site and workers who will be responsible for these activities in the future.

5. There should be some sort of training conducted as the site is transitioned to the City. This training needs to educate City employees of site history, clean up activity, knowledge of what remains onsite (site conditions). It should include site visits, be very down-to earth /worker-to-worker level training/awareness.

Suggestions made by DOE-Headquarters

1. To manage the site during long-term stewardship, there should be statistical analysis of the various uncertainties at the site as well as a narrative of what is known and what is not known. Since the Mound Site is at the forefront of site closure policies and activities, it was suggested that perhaps the Site could be used as a model for other sites in terms of analyzing the expected weaknesses of the institutional controls and comparing that against the problems (or lack thereof) in maintaining protectiveness of the site through institutional controls.

Attachment E: Prototype Web Site Specifications and Slide Mockup

These are draft specifications to document some basic features and linkages for the prototype Web site. Many of the features described in this specification are inactive on the prototype site. The working prototype can be accessed for a limited time through http://washington.ppc.com/mound/index.htm. These notes specify which links are currently available and those that are not yet in place. For a majority of these links, the necessary information and organization have not been identified (See Section VII: Information Transfer Process Issues). Other inactive links will become active once additional electronic documentation is received.

Although many of the menu options are not active at this time, the following features are available:

- The Mound 2000 Approach Document is an active link from the Site Closure Process menu option on the Home Page.
- The Operations and Maintenance Plan is an active link from the Site Stewardship menu option on the Home Page.
- The Site Operational History menu option on the Home Page is active. The following options are available:
  - Site Background. The Contaminants of Concern menu option on this page contains two active links to ATSDR fact sheets on Plutonium-238 and TCE.
  - Site Projects. Project pictures, borrowed from the current Mound Web page, are shown. The Waste Management project is active, with text borrowed from the current Mound Web page.
- Parcel 5 and Parcel D (labeled MMCIC South) are active links from the home page.
- Potential Release Sites 304, 312, 313, 380, and 381 are active links from the Parcel D page.
- Building 100 is an active link from Parcel D. A building layout map is an active link from the Building 100 page.

General Features of Web Site

- Mouse-overs on all bar menus will provide a further detailed description of selection available under each menu option.

- All left bar menu options include: Contacts, Links, Web site Map, Reference Library, Search, and Home. These menu options are also listed at the bottom of each page within the Web site. These options provide links to other relevant, general information sources and provide quick maneuvering ability within the Web site.

Slide 1: DOE MOUND SITE: PAST AND PRESENT

On the site-wide map, click on a specific parcel (outlined in purple), which links to a parcel map (See Slide 3: Parcel D). Active links for Parcel 5 and Parcel D exist on the prototype (currently labeled MMCIC on east side of the site map).

The Operational History menu option links to a sub-page on site background and projects (See Slide 2: Mound Site Operational History).

The Site Closure Process menu option links to:

- Mound 2000 Document (active link) – currently links to PDF file, eventually will link to a table of contents allowing the user to jump to the section of interest
- Mound Land Transfer Process (active link) – currently links to PDF file

The Site Stewardship menu option links to:

- Stewardship Plan Document (inactive link) – will link to a table of contents allowing the user to jump to the section of interest
- O&M Plan Document (active link) – currently links to PDF file, eventually will link to a table of contents allowing the user to jump to the section of interest
- Site-Wide Institutional Control Monitoring Activities (inactive link)

The Site Permit menu option will link to:

- Page with NPDES permit information (inactive link)
- Page with other permit information (inactive link)

The Current DOE Activity menu option will link to:

- Page on on-going NE Island activity at Mound (inactive link)

The Mound Parcels menu option will provide links to a page for each parcel at Mound, including Parcel 3, 4, 5, 6-8, 10, MMCIC (North), and MMCIC (South). Currently, the only active links are Parcel 5 and Parcel D (See Slide 3: Parcel D).

Right bar menu will contain news items, such as recent studies at other DOE sites and current site events. The menu will consist of "headlines", which link to more detailed information. (Not yet implemented on the prototype).

Slide 2: Mound Site Operational History

Click on picture of Mound Site or site background label to link to page (See Slide 5: Mound Site Background).

Slide 3: Parcel D

The Building and Potential Release Sites menu options will provide links to each building and PRS contained within the parcel (See Slide 4: Building 100, See Slide 6: PRS 304/313).

The Parcel History menu option will link to (both text and photos):

- Historical Parcel Operations (inactive link)
- Historical Contamination (inactive link)
- Cleanup Completed (inactive link)

The Parcel Transfer menu option will link to:

- Residual Risk Evaluation (inactive link)
- Parcel Deed and Transfer of Title (inactive link)
- Land Use Restrictions (inactive link)

The Current Monitoring Data menu option will link to:

- Map of active monitoring wells (inactive link)
- Monitoring data for each well (inactive link)

The Current Operations menu option will link to:
- Current parcel map (inactive link)
- Current infrastructure map (inactive link)
- Details on contamination left in place (inactive link)

Slide 4: Building 100
The Building Package menu option will link to (breakout of the building data package):
- Historical Operations (inactive link)
- Building Contamination (inactive link)
- Cleanup Activities (inactive link)
- Transfer / Closure Decisions (inactive link)

The Current Operations menu option will link to:
- Current Tenant List (inactive link)
- Type of Industry Currently Conducted in Facility (inactive link).

The Layouts/Floor plans menu option will link to:
- Current Building Layouts / Floor Plan Maps (See Slide 7: Building 100 – Layout)
- Historical or as-built drawings (inactive link).

Historical drawings will be cited and a reference made to the location of those documents.

Slide 5: Mound Site Background
Below site-map will be a sliding scale where if the user clicks and drags the toggle along the scale, the map image will shift to represent the site layout of that specific time period (inactive feature).

The DOE Operations menu option will link to text and pictures of past operations (inactive link).

The Cleanup History menu option will link to text and picture of past cleanup activities (inactive link).

The Contaminants of Concern menu option will link the ASTDR fact sheets for each of the major contaminants found at Mound. Active links to the ASTDR fact sheets exist for Plutonium-238 and TCE.

The Monitoring Data menu option will provide access to historical sampling data (inactive link).

The Closure History menu option will provide text and pictures of how the Mound Site was closed (inactive link).

Slide 6: PRS 304/313
Provides a photo of the PRS and a text description of:
- PRS History

- Contamination
- References

Left bar menu options provide links back to parcel information, including buildings and other PRSs within parcel.

Active PRS links for the prototype are PRS 304, 312, 312, 380, and 381, all of which are in Parcel D.

Slide 7: Building 100 – Layout
Provides a map of the current building layout.

Attachment F: Suggestions / Concerns Regarding Information Transfer via a Web Site Identified by the Stewardship Working Group and Portal Solutions

Suggestion	Portal Solution
Use Existing Information	
Must capitalize on / emphasize use of existing data	The portal not only allows DOE to include their existing information that is available electronically (e.g., from the DOE-Mound Web site), but also allows them to instantly providal portal users with information (including documents, graphics, maps, etc.) that is available on other Web sites that portal users may not be familiar with. Further, the portal provides a platform for easy organization of data, allowing the user to organize information in various ways.
Textual-Based Search Engine	
Need a good search engine, which has the capability to search content of documents. ("Textual-based search" capability is a must.)	Portal allows textual based search of all Web sites and documents associated with the portal and allows the creator to define search-able world.
Links to Existing Web Sites	
Should link to the DOE-MD Web site	The portal has the capability to bring together quick links of frequently visited Web sites. For example, the links to the following Web sites have already been incorporated in the prototype portal: ▪ DOE-MD ▪ MMCIC ▪ City of Miamisburg ▪ Ohio Department of Health ▪ Ohio Environmental Protection Agency ▪ US Environmental Protection Agency Other links can be easily added.
Should link to the MMCIC Web site	
Should link to the City of Miamisburg Web site	
Should link to the Ohio Department of Health Web site	
Should link to the Ohio Environmental Protection Agency Web site	
Should link to the US Environmental Protection Agency Web site	
Link to the City of Miamisburg process for securing a land Disturbance permit at the Mound Plant	
Process to secure approval from the State of Ohio to remove soil from the plant site or to install a groundwater well	
Presentation of Information Graphically	
Graphically present information	

Attachment F: Suggestions / Concerns Regarding Information Transfer via a Web Site Identified by the Stewardship Working Group and Portal Solutions

Suggestion	Portal Solution
Need a regional map too, so people can put the site (and the areas of the site) into a context with which they are familiar: • How does MEMP site fit into map of Miamisburg? • How does MEMP site fit into map of Ohio?	Information can be presented graphically. The portal can integrate existing systems, or a new geographic-based interface can be built for the portal. The prototype portal includes the geographical interface designed for the prototype Web site. From this geographical interface (or any other type of interface), the portal allows drill-down capability of information.
Integration of Web-based GIS capability NOTE: GIS is great for modeling/mapping during cleanup phase; however, it is not clear that this capability will be required once the site has entered long-term stewardship	Portal has the ability to integrate Web-based GIS systems with proper license
MMCIC wants CAD capability in GIS (e.g., As-builts)	The CAD system is no longer available at Mound. However, MMCIC may be able to incorporate As-builts into a future GIS system if they decide to maintain such a system following closure. This information could then be included in the portal.
Tie into Mound photos database	Items such as pictures are title searchable and can be organized in categories or directories
Forms	
Neighborhood watch mechanism	Can create custom applications. For example, a community watch application can be easily created.
Ease of Use	
Must be user-friendly	Entire portal is user friendly and familiar to anyone who uses Web