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ASTSWMO

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Research Center



Removal Action Focus Group

Transition Issues Analysis

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REMOVAL ACTION FOCUS GROUP
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INTRODUCTION

The mission of the Removal Action Focus Group is to advocate for and support State removal action and emergency response programs, to enhance these programs' capabilities to perform time critical and non-time critical removal actions and emergency response activities, so that these may be performed with greater protectiveness of human health and the environment, efficiency, and cost-effectiveness. The Focus Group works to enhance the partnership between the States and EPA in implementation of removal actions and emergency response actions, to facilitate effective transition of these sites to States for further remediation and site reuse.

The purpose of the 2010 Transition Issues Research was to gather information on issues relating to the transition of removal sites to and from the State and federal programs. The purpose was also to identify approaches, concerns, strengths and weaknesses related to these transitions.

The research focused on the following topics:

Site Scoring Process

Funding Sources

Identification of Cleanup Goals

Vapor Intrusion

Notification, Participation and Community Outreach

Extent of Removal Actions

Institutional Controls

The Group used Survey Monkey to gather State responses. Responses were received from over 30 States, some of which had multiple respondents. The Group evaluated the responses and has summarized the information in this report. The detailed results are included in the Appendix.

The topics were divided into sections. Each section had between 5 and 8 questions which were used to gather information.

SECTION 1. Site Scoring Process

Time-critical removal actions are often used at NPL Sites in order to address an imminent and substantial threat. In this section, States were asked how time-critical removal actions typically originate at an NPL Site. Other questions were asked to help determine what factors are important to the State when making a time-critical removal referral at potential and/or existing NPL Sites.

Many examples were provided by the respondents that stress the need for communication between state and federal environmental programs before, during, and after removal actions at

NPL Sites. The examples provided by each State are included in the Appendix attached to this summary.

1.1. When asked who would recommend a time-critical removal action to EPA at an NPL Site, the majority of the States (85%) indicated they would make the referrals to EPA. Other respondents (7.5%) listed that EPA would make their own time-critical removal referrals. Local governments (7.5%) were also mentioned that they would refer a site for a time-critical removal.

1.2. Seven criteria were provided to the States for them to rank in importance when considering a time-critical removal referral at an NPL site. The seven criteria ranked in the resulting order of importance are:

- Risk
- Viable Potentially Responsible Party
- Cost
- Cleanup Levels
- Geography
- Affect on Site Score
- Other

Thirty-one States indicated that risk was the most important factor to consider when making a time-critical removal referral at an NPL Site. Four States listed that having a viable potentially responsible party was most important and two states listed something other.

1.3. Four choices were provided for States to identify at what point in the NPL scoring process they would make a recommendation for a time-critical removal action. The choices were:

- Before the “proposed” listing
- After the “proposed” listing
- After the “final” listing
- Doesn’t matter

The majority of respondents (95%) indicated that they would make the recommendation before the proposed listing and that it doesn’t matter when the site is referred. The remaining 5% of States mentioned they may wait to refer a site until after NPL listing because a removal may affect the site score and jeopardize the long term remediation at the site.

1.4. If the Hazard Ranking System (HRS) score for a site fell below 28.5, the site would not be eligible to be cleaned up under the NPL program. States were asked if they would request a

time-critical removal if it would lower the site score below 28.5. Overwhelmingly, most of the States (97%) mentioned that they would still proceed with the time-critical removal referral regardless of how it impacts the NPL site score.

1.5. As a follow-up to question 1.4, this question asked whether States have other cleanup mechanisms to address a non-NPL site. Most States (82%) listed state superfund, voluntary cleanup programs, and other state funded cleanup programs as mechanisms that could address sites that are not on the NPL. Six respondents (18%) replied that their States do not have sufficient resources or programs that could address a non-NPL site.

1.6. This question asked States whether they would consider requesting EPA to limit the extent or type of removal action in some instances. Although most States (72%) mentioned they would consider requesting limited removal actions at NPL sites, they would not do so if it compromised the surrounding human populations or environment. Some States mentioned the importance of State and EPA coordination early in the process. Other respondents (28%) mentioned they would not consider limiting EPA during the removal process since it creates an unnecessary choice between addressing immediate risk and drawing out long term cleanup.

SECTION 2. Funding sources for site cleanup and oversight

This section sought information about the potential funding alternatives which are available after a removal action has been completed. These funding alternatives would be for the transition to long term remedial actions. At some sites the long term remedial actions would lead to subsequent redevelopment of the property.

2.1. States were asked to rank the following six options for how sites proceed or transition to other programs after a removal action has been completed, including the option that no further work was required at a site (site closure). There was no significant distinction between the top four most frequent options.

- **Work ceases after removal action completed.** 25% of the States indicated that the most frequent option is that work ceases after the removal action has been completed (dormant site) even though additional work is required. This is a concern because for these sites there is no systematic transition from a removal action to a specific remedial program. And while immediate risks may have been addressed by the removal action, there is uncertainty about long term protection of human health and the environment at these sites.
- **Transition to a State funded remedial program.** 36% of the States reported that this would be the least frequent option. Some States commented that they have no funding or very limited State funding to address the remediation of these sites. There

are a number of States (24%) that indicated that transition of a removal action site to their state funded remedial program would be their most frequent option.

- **Transition to funding by a potentially responsible party (PRP).** States reported quite a bit of experience with 73% reporting that PRP funding was either the first, second or third most common option for the transition of a site after a removal action had been completed. Section 2.4 will discuss some of the issues that have been encountered with this option.
- **No further action (site closure).** 21% of the States reported site closure to be the most frequent option. However, illustrating the difference between States, 24% of States responded that this option was the least frequent outcome. 53% of the States responding indicated that site closure was one of their three least frequent options for the transition of a site after a removal action had been completed, suggesting that most removal action sites require some follow up work.
- **Transition to the federal Superfund remediation (NPL) program.** 42% of States reported that the most or second most frequent funding option would be transition to the federal Superfund program. This is interesting given earlier research done by the ASTSWMO Removal Focus Group that reported that most removal actions were not conducted at Superfund NPL sites.¹
- **Transition to Brownfield assistance/funding.** No state responded that the transition of a removal action to brownfield assistance/funding was their most frequent option. And only 10% (3 States) reported that it was their second most frequent option for site transition after the completion of a removal action. This is noteworthy given the responses in Section 2.3 indicating that States had quite a bit of experience with combining or integrating the actions of the two programs (removal action and brownfield).

2.2. States were asked whether conducting a removal action made a site less likely to receive funding from the State or federal Superfund remedial programs. A majority of the States (56%) responded that the removal action would make a site less likely to receive funding from these remedial programs. This highlights the dilemma facing some States:

- Conduct removal actions to address the more immediate risks posed by sites but potentially jeopardizing securing funding to address the long term remedial actions,
- Take no action (not address the short term risks with a removal action), or

¹ ASTSWMO Removals Focus Group Report, June 2007, *Coordination of Federal Removal Actions with State Remedial Activities*, Association of State and Territorial Solid Waste Management Organizations, Washington, D. C.

- Address the short term risk with a minimal removal action (for example installing a fence to limit access to contaminated soil and/or wastes versus removal of contaminated soil with the placement of an interim cap to limit access).

The comments indicate a wide range of experiences between the States relative to the impact that risk reduction from a removal action may have on the potential to obtain additional State or federal remedial funding.

2.3. This question sought more specific information for sites that transitioned to brownfield assistance/funding. State respondents indicated there were some problems in the structure of the Survey Monkey research tool that affected how some questions were answered.

Nonetheless, States reported that there was substantial experience in transitioning sites from a removal action to brownfield assistance/funding. Efforts have been made to integrate the resources from those two programs. One State expressed interest in learning more about the possible integration of removal and brownfield project work.

2.4. This question sought information from States about their experience with the transition of removal action sites to potential responsible party (PRP) funded long term remedial action. A strong majority of States (82%) reported experience with transitioning from a removal action to PRP funded remedial work, and 74% responded that there were no barriers to the PRP conducting remedial work. However there were a number of comments that accompanied the answers that suggested that there can be issues or barriers with PRP lead actions. The issues raised in the comments included difficulty in getting the PRP to perform the follow up remedial work, enforcing State standards after a removal action was completed, and cost recovery. A few of the comment mentioned issues related to coordination of the PRP work between State and EPA removal programs.

SECTION 3. Identification of cleanup goals

Cleanup goals and standards for emergency removal action sites may be used to help determine the transition point from the emergency phase to the long-term remedial phase. The purpose of this Section was to determine how states use cleanup goals and standards during the removal action phase.

3.1. This question asked states whether they had cleanup standards for emergency removal sites. The majority of state responses (55%) indicated that they do have some form of cleanup standards that can be applied to emergency removal sites. Several states indicated that they use the same soil and groundwater cleanup standards at emergency removal sites as those

used in the remedial program. In some cases states noted that they use state-specific risk-based closure levels. Other states said they used federal ARARs especially for an EPA-lead removal action and used EPA's standards to stay consistent with the NCP. The information provided by states indicates that the cleanup standards used are generally not unique to emergency removal sites and will be used to make the decision on whether the emergency removal is the final remedial action or a site is referred to the long term cleanup program for assessment of the need for further action.

3.2. This question asked states to rank when cleanup standards or goals are established at emergency removal sites. The results below are the options ranked from most often to least often:

- State has existing standards
- Negotiated prior to site mobilization
- Negotiated during removal action
- Not completed during the removal phase

The responses to this question support the information from question 1 as the majority of responses indicate states use existing cleanup standards at emergency removal sites. One state noted that cleanup goals may be discussed and negotiated with EPA during the emergency removal based on technical practicability, costs and risk reduction. Other states noted that depending on information available during the emergency removal phase, final cleanup levels and type of confirmation sampling may also be either negotiated prior to site mobilization or negotiated during the removal action. This would be the case, as one state noted, where an emergency removal action may include a public comment period on final cleanup decisions and the proposed cleanup levels would be included as part of the public review and comment.

3.3. This question asked states whether they have a process in place for determining state lead or federal EPA lead. The majority of states (65%) responded that they do have a process for determining state or federal EPA-lead at a removal action site. In general, states commented that they coordinated closely with EPA on potential removal sites either informally or with a formal MOU with their EPA region. In addition, states noted that decisions are made at the state level to request EPA assistance. States may conduct a site-by-site evaluation to determine if the site can be addressed under state programs before requesting EPA removal assistance. At that point a state may negotiate informally with EPA on the potential removal site. In states with no removal program, states noted that the removal action is always led by EPA.

3.4. The majority of state responses (83%) to this question indicated that states do discuss cleanup goals with other interested parties. States responded that they discuss cleanup goals most often with EPA, especially at EPA-lead sites. In addition, states indicated they discuss cleanup goals with local and county agencies, the PRP, the local community, depending on the level of interest, the time available for action, the complexity of the planned actions, the nature of the contaminants and whether the state receives requests for information.

For states that do not have a state removal program, one state noted that there is room for improvement in pre-removal discussions and agreements in their state, however other states noted that they do discuss cleanup goals with EPA and they are consulted on cleanup goals.

3.5. Flexibility to adjust cleanup goals during the emergency removals phase is important as it allows for the time needed to develop site specific cleanup standards as the site moves into the long term remedial action phase. The majority of states (78%) responded that they had flexibility to adjust cleanup goals at removal sites. States that use risk-based closure goals noted that cleanup goals can be adjusted based upon additional data developed during the removal action that can be used to conduct a risk assessment. For EPA-lead removal sites, states rely on EPA to reduce the level of risk associated with a site and achievement of state cleanup criteria is a secondary consideration during the removal action phase. However, one state cautioned that sites where the removal action is EPA-lead, PRPs are notified that the site may require additional work before the site can be closed under state law to avoid confusion regarding cleanup levels at the post-removal stage. This gives the PRP the opportunity to address state concerns during the removal so they don't have to mobilize twice. One state noted that they document state requirements at EPA lead sites and post-removal expectations.

3.6. This question asked respondents whether their state has the flexibility to adjust the removal action process to fit the magnitude of the problem. Most states (83%) responded that they feel they have flexibility to adjust the removal action process to fit the site-specific problems. However, as one state noted, the flexibility in the program may be limited as sites still must meet cleanup standards either at the end of the removal action or after long term remediation. In addition, land use restrictions and EPA lead removal actions will also affect the state's flexibility to adjust the removal action process. For EPA lead sites, one state noted that close coordination is necessary and another state noted that close coordination between the emergency removal and remedial programs is important in determining the course of action at an emergency removal site.

SECTION 4. Vapor intrusion

The vapor intrusion (VI) portion of the research project attempts to clarify the impact that this relatively new exposure path has on removal actions. Historically, the drivers for removal actions have been direct contact and ingestion. However, the drivers can now include exposures due to vapor intrusion from contaminated ground water and soil.

4.1. By a large majority (91%), the respondents consider vapor intrusion issues when setting their priorities for a time-critical removal action.

4.2. Since the HRS process predates the emergence of vapor intrusion as an exposure pathway, HRS does not score this potential exposure route. Most States (77 %) do not have a site ranking process (similar to HRS) with a vapor intrusion scoring mechanism. Many of the comments provided for this question involve State procedures that consider vapor intrusion but that are not a scoring process like HRS. Michigan notes that vapor intrusion is an element of their scoring process and New Jersey is updating their scoring process to include VI.

4.3. When a removal action is being considered, a majority (89%) of the States responded that the vapor intrusion pathway is used to identify removal objectives. Several respondents noted that by addressing soil and groundwater contamination in the site cleanup there are vapor intrusion source reductions.

4.4. A majority of States (94%) responded that the vapor intrusion pathway is discussed when coordinating with Federal agencies on a removal action.

4.5. Most respondents (84%) indicated that the presence of vapors in a building from a contaminated site will trigger a State removal action. Comments noted that elevated vapor concentrations in an occupied building may drive an immediate State response.

4.6. Two thirds of the States have requested EPA to perform a removal action at a vapor intrusion site.

SECTION 5. Notification, Participation and Community Outreach

This Section was intended to focus on methods and approaches for notification, public outreach, and community involvement that states use during removals. It is important to note that some of the survey questions as written may have assumed that states have a removal program and/or perform removal actions. Several comments from states for some of the questions stated that their state did not perform removal actions. Survey questions were only pertinent to these states for site transitions from EPA-completed removal actions to state lead remedial investigations.

5.1. Does your state have particular notification or publication requirements post removal action completion that may complicate the transition?

The majority of states (84%) responded they do not have notification or publication requirements post removal actions. It is important to note that most of these states do have notification requirements associated with corrective action, but not specific notification requirements for removal actions or post removal actions. Notification requirements post removal action are uncommon and do not appear to be an issue in transitions.

5.2. Does your state have a policy or approach for remaining engaged in community relations and general public outreach after transition?

The majority of states (65%) responded that they have this type of policy. It is important to note that some of the comments associated with a “yes” response indicated that community engagement was not so much a policy as it is an approach used on sensitive sites. Additionally, the scope of these activities is related to the severity of the risks, the duration of response actions, and the degree of public interest.

5.3. Is there a clear understanding between removal action programs and receiving remedial programs of the removal action goals?

Most states (58%) responded that there is a clear understanding, however, several comments associated with “no” responses pointed to communication issues between EPA and states. Other responses state that it would be extremely helpful to involve state remedial staff in the removal action and provide information to them on existing site conditions following the removal action. Consistent communication between the removal action program and the receiving remedial program is vital to a successful transition.

5.4. Is the site transition process discussed/agreed upon prior to the removal action?

Out of 31 responses, 17 states responded “yes” (55%) and 14 states responded “no” (45%). An important comment associated with one “no” response stated that often it will not be known if a site will be transitioning until after the removal has started. It is possible that the word “prior” in the survey may have affected the survey results for this question. Site transition is not consistently discussed/agreed upon prior to removal actions.

5.5. Does your state establish community outreach contacts composed of State personnel and EPA Community Outreach personnel to act as points of contact (POCs) for all site information and activities related to the removal action?

Out of 33 responses, 26 states responded “yes” (79%) and 7 states responded “no” (21%). Several comments associated with “no” responses alluded to EPA having the lead on

community outreach during removal actions. Also, please note that some states tend to establish community outreach contacts based upon the site conditions and the level of community involvement. Most states remain engaged in community outreach even when EPA has the lead on a project.

5.6. Does your state maintain open and ongoing communications (i.e., work plans, ongoing work, site developments, and remedial activities) with the community affected by the removal action?

Out of 34 responses, 32 states responded “yes” (94%) and 2 states responded “no” (6%).

According to the results, the majority of the states have online databases where files can be accessed by the public. The sole comment received for a “no” response stated that the state does maintain communications when it is a state lead site, and relies on EPA when they have the lead.

5.7. Does your state provide assistance to community groups to help obtain Technical Assistance Grants (TAGs)?

Out of 31 responses, 11 states responded “yes” (35%) and 20 states responded “no” (65%). Several of the comments associated with a “no” response stated that they would direct communities to federal resources available for TAGs. It appears that a fair number of states rely on the federal TAGs for community assistance.

5.8. Does your state provide opportunities to educate the community regarding site developments as well as major project milestones and to update the administrative record (AR) in the public libraries or city halls with copies of site documentation and work plans?

Out of 33 responses, 27 states responded “yes” (82%) and 6 states responded “no” (18%). The sole comment received for a “no” response stated that they do provide such repositories for remediation sites, but not specifically for removal action projects. A good number of “yes” responders commented that repositories such as public libraries are the means for making documentation available. One comment associated with a “yes: response stated that an online database with information on contaminated sites is their method of disseminating information. A majority of states have processes in place for communicating project milestones and provide communities with opportunities to comment.

5.9. Does your state allow community members the opportunity to comment on the Removal Action Memo during the required public comment period?

Out of 27 responses, 18 states responded “yes” (67%) and 9 states responded “no” (33%). Many of the comments associated with “no” responses stated that they do not have state

removal programs. Several of the comments associated with “yes” responses stated that they do not have formal comment periods for removal actions.

SECTION 6. Extent of removal action

The extent of initial removal actions often sets the stage for subsequent work. This portion of the survey was included to determine the extent of removals and how the extent of removal is documented. There were a total of 43 responses. Eight to thirteen respondents skipped some questions for this section of the survey.

6.1. This question asked the states if there is an initial determination between EPA, the state, and the responsible party (if one is performing the work) that the removal is likely to be the final action for a site and the frequency at which those discussions occur. The majority of states (77%) indicated that this sometimes or rarely occurs, while the remainder indicated they usually have these discussions.

6.2. This question asked the states to rank eleven factors from the greatest to least effect on the extent of a removal action. Overall, risk was the factor with the greatest effect on the extent of a removal. The remaining factors are ranked from the greatest to least effect:

- investigation results
- responsible party concerns about follow up under State authorities
- technical issues
- community concerns
- experience of State on-scene coordinator/project officer
- costs
- experience of EPA OSC or other federal agency OSC
- experience of contractor performing removal
- length of time
- responsible party concern about potential NPL listing

6.3. This question asked states to approximate the percent of removal actions that required subsequent remedial action either under EPA or state authorities. Overall, the majority of states (70%) indicated that at least half or more of the removal actions in their state required additional remedial action. One commenter indicated that the subsequent actions can range from monitoring and establishing institutional controls to extensive long-term remediation. Another commenter noted that EPA’s removal program indicates that it coordinates with EPA’s remedial program so that no issues remain after the removal is complete; however, lack of funding precludes the state from having sufficient involvement to know if the coordination is

adequate or if problems remain after removal. Another commenter indicated that EPA is rarely involved in subsequent remedial actions that are necessary at removal sites.

6.4. This question asked for states to approximate the percentage of sites that require subsequent remedial work into specific categories needed to determine that no further action was necessary. Some sites could fall into more than one category (for example, additional confirmation sampling was needed, as well as placement of institutional controls). Overall, the majority of states (69%) indicated that placement of institutional controls post-removal was needed at more than half of removal sites. Conducting a remedial investigation/feasibility study/proposed plan/record of decision/additional cleanup or state equivalent were identified as the other primary actions needed to issue a no further action determination. The need for additional confirmation sampling, and operation and maintenance were also necessary for post-removal sites. Some states indicated that a subsequent removal was needed to determine that no further action was needed.

6.5. This question asked who is responsible for identifying the potential need for subsequent remedial action and initiating the next step at removal sites. The majority of states (61%) said that they were responsible with only a few states indicating that EPA is responsible. Some states explained that:

- It depends on who has the lead for the removal
- Both EPA and the state coordinate and jointly determine
- For non-NPL sites the state or the PRP are responsible
- EPA recommends, but the state ushers the site through the next phase

6.6. This question asked states how the extent of an EPA-lead removal action is documented. States were asked to mark all that applied. The majority of states (79%) said it is documented in the pollution report. About half of the states said that confirmation sample results are provided in tables and figures, and some indicated the EPA on-scene coordinator/project officer provides a verbal or written statement. Fewer states indicated an After Action Report with as-built drawings, confirmation sample results, and all supporting documentation is provided. States provided the following comments:

- It varies from site to site depending on the project/goals
- There does not appear to be any consistency in documenting the extent of the removal action
- The state typically has to request close out or confirmation data or reports from EPA

- The site gets referred to another federal or state program with minimal information on remaining contamination. In addition, it is very difficult to get final reports with figures/tables/narratives after the action.

6.7. This question asked states whether the documentation described in section 6.6 is routinely provided by EPA. The majority of states (82%) replied “yes”. Some states indicated that pollution reports are routinely available, other reports are not readily provided, and timeliness can be an issue.

6.8. States that answered “no” to 6.7 were then asked whether the documentation is easily obtainable upon request. About half of the states indicated that the documentation was easily obtainable.

SECTION 7. Institutional controls

The Institutional Controls (ICs) portion of the survey was included to determine the level of involvement each state has with removal action and ICs. Each question provided the criteria for the IC which is “the removal action allowed waste to remain on site with an engineering control (cap) or the removal action did not accomplish unrestricted use of the area”.

7.1. There were 28 states that responded “yes” to the question concerning if the states have experience with IC’s at removal sites that have waste left on the site with engineering controls or the removal action did not accomplish unrestricted use. There were 2 states that indicated that they did not have any experience. This shows that 93.3% of the responding states do have experience with ICs at removal sites.

7.2. This question asked the states if they use IC’s at State removal sites. The responses indicate that 22 states or 78.6% of the states do use ICs at state removal sites under the criteria described above. In addition, an additional 4 states or 14.3% stated they “sometimes” use ICs at State removal sites. This indicates that 26 states or 92.9% of the responding states use or consider ICs at State-lead removal sites.

7.3. This question asked the states if they use IC’s at EPA-lead removal sites. The responses indicate that 15 states or 53.6% of the states do use ICs at EPA-lead removal sites under the criteria described above. In addition, an additional 8 states or 28.6% stated they “sometimes” use ICs at State removal sites. This indicates that 23 states or 82.2% of the responding states use or consider ICs at EPA-lead removal sites. The responses from Questions 2 & 3 indicate the states understand and try to implement IC’s at removal sites with the criteria explained in the question.

7.4. This question asked the states how they manage their removal site with the criteria above after the removal action has been completed. The survey provided several potential answers and the state was to mark all that applied to their state. The results are listed below with the most common response at the top and the least common response on the bottom:

- property owner agrees to place an IC on the property;
- transferring the site to another remedial program;
- transferring the site to long-term operation and maintenance;
- close the site without any additional work.

This is a concern that states would close a site that did not reach unrestricted use or an engineering control without long-term monitoring or maintenance.

7.5. This question asked the states if they could legally access the property after the removal action was completed. There were 22 states or 78.6% of the states that replied they have the legal authority to access the property after the removal action was completed. There were 6 states or 21.4% of the states that indicated that they do not have the legal authority to access the property. This is also a concern that 21.4% of the states do not have the legal authority to access the private property for inspection and long-term maintenance. This would indicate an IC that also granted the state access to inspect and perform long-term maintenance would be appropriate at these sites.

7.6 This question asked the states if they have adequate funding to perform the inspection and long-term maintenance at these removal sites. The states responded that 10 or 35.7 % have adequate funding or that 17 or 60.7% do not have adequate funding. This is a major concern. If the long-term maintenance of the engineering control is not completed, the removal action may be compromised and the site would no longer be considered safe.

7.7. This question asked how each state funded ICs at these types of removal sites. There were several options the states could pick from and they were to select all that applied. The results are listed below with the most common response at the top and the least common response on the bottom:

- have property owner perform or fund the inspections and long-term maintenance;
- the state would not fund these activities;
- use State Superfund as a source of funding;
- use Brownfields funding;
- use general funds or state fee funds.

Again, the main concern is that the 8 states or 28.6% of the states indicated that they may not fund the necessary inspection and long-term maintenance actions at these sites.

7.8. The last question in this section asked the states how they inform the general public about sites that have engineering controls or have not met unrestricted use. The states were provided several options and they were to choose all that could be applied. The results are listed below with the most common response at the top and the least common response on the bottom:

- deed notice on the property;
- post the site on their website;
- provide a public notice;
- place signage on the property;
- there is no formal notification;
- respond to a site-specific request.

The concern is that 5 of the 28 states or 17.9% of the states indicated that there is not a formal method of notification of sites that are still contaminated above unrestricted use or have an engineering control at the site.

The survey indicates that most states are aware of the need for ICs at removal sites that have engineering controls to prevent exposure or sites that are not remediated to unrestricted use. Unfortunately, most states do not have the funding to be involved with the removal action or to implement the ICs. They also do not have the funding to perform the necessary inspections and long-term maintenance. This is a major concern since this could allow removal sites to no longer be protective and the removal action to fail.

Section 8. Conclusion

8.1. This question asked states to prioritize the seven categories of issues covered in the survey. Thirty-four respondents ranked the issues as follows with the greatest issue ranking one.

1. Funding sources for site cleanup and oversight
2. Identification of cleanup goals
3. Extent of removal action
4. Vapor Intrusion
5. Notification, participation, and community outreach
6. Institutional controls
7. Site scoring process

8.2. This question asked states to identify other issues not listed in this survey. Eleven respondents identified the following issues:

- Time-critical and non-time critical removal actions are handled differently. There are significant differences in terms of public notification and deed notices.
- Some removals that were intended to provide long-term protection have proven inadequate substitutes for remedies.
- Standardized site transition documentation is suggested to address the survey issues.
- Agreed upon site strategy (who is doing what, what are the objectives, etc.) should be jointly developed between the removal and remedial programs to assure a complete and effective site cleanup. Coordination needs to occur throughout the process to adjust strategy, if needed.
- Adequate coordination between EPA and the states at the time of transition at the completion of the removal.
- Risk – removal action number one priority is eliminating the immediate threat and minimizing the risk to human health and the environment.
- Communication between EPA removal program and the states is key.
- Long-term operation and maintenance.
- EPA does not recognize state risk-based cleanup standards as ARARs.
- Joint removal actions where the state funds cleanup beyond EPA removal requirements hold promise for better coordination and cleanups.

Final Conclusion

The information gathered and reported in this paper indicates several areas in the removal process that could use additional study and clarification. The information highlights the dilemma facing some States as to whether to conduct removal actions to address the more immediate risks posed by sites but potentially jeopardizing securing funding to address the long term remedial actions.

The group has gained insight for several removal projects to work with EPA in the future. The removal group has agreed that work on ICs at removal sites is a top priority. The information indicates that most states are aware of the need for ICs at removal sites that have engineering controls to prevent exposure or sites that are not remediated to unrestricted use.

Unfortunately, most states do not have the funding to be involved with the removal action or to implement the ICs. They also do not have the funding to perform the necessary inspections and long-term maintenance. This is a major concern since this could allow removal sites to no longer be protective and the removal action to fail.

Removal Actions: A Reference for States

The Removal Action Focus Group of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO), with assistance from USEPA Office of Emergency Management has prepared this document as a quick reference for States to better understand EPA led removal actions. This document defines the different types of removal actions and lists milestone phases and typical documents generated. Removal action criteria and general roles are supported by corresponding references.

Based on input received during the April 2011 ASTSWMO Mid-Year Meeting, additional clarification regarding the removal process was requested by attendees. The Removal Action Focus Group developed this reference as a companion document to the “Transition Issues Analysis” paper. This reference aims to empower State environmental practitioners to engage in the removal action process.

In order to qualify for a removal action, a site has to meet the requirements for at least one of the following Removal Criteria: (300.415(b)(2) NCP

- Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants
- Actual or potential contamination of drinking water supplies or sensitive ecosystems
- Hazardous substances or pollutant or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose the threat of a release.
- High levels of hazardous substances or pollutants or contaminants in soil largely at or near the surface that may migrate.
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.
- Threat of fire or explosion
- The availability of other appropriate federal or state response mechanisms to respond to the release.
- Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

Depending upon the urgency and threat posed by the site, the removal action is one of these three types (see [Timeline Schematic](#)):

[Emergency removals](#) (ER) should be initiated in a matter of hours in order to protect public health, welfare, and the environment from threats posed by emergency situations.

Time-critical removal actions (*TCRA*) should be initiated in a matter of days or weeks in order to protect public health, welfare, and the environment from threats posed by time-critical situations.

Non-time-critical removal actions (*NTCRA*) can be delayed by at least 6 months without threatening public health, welfare, and the environment thereby allowing time to plan for the action.

This is a general summary of the removal process; however, each region and State may have some variations. States have the option of choosing their level of involvement as time and resources permit.

Definitions:

1. National Response Center (NRC): is the federal government's national communications center, which is staffed 24 hours a day by U.S. Coast Guard. The NRC is the sole federal point of contact for reporting all hazardous substances and oil spills. The NRC receives all reports of releases involving hazardous substances and oil that trigger the federal notification requirements under several laws.
2. On-Scene Coordinator (OSC): is the federal official responsible for monitoring or directing responses to all oil spills and hazardous substance releases reported to the federal government. The OSC coordinates all federal efforts with, and provides support and information to local, state, regional response entities and affected communities. The OSC is an agent of either EPA or other federal agencies depending on where the incident occurs. EPA OSCs have primary responsibility for spills and releases to inland areas and waters, while U.S. Coast Guard OSCs have responsibility for coastal waters and the Great Lakes.
3. Emergency and Rapid Response Services (ERRS): EPA contracts that provide emergency, time-critical removal, and quick remedial response cleanup services. These contracts may also be called upon to provide cleanup support in instances of natural disasters.
4. Superfund Technical Assessment and Response Team (START): The START contracts provide technical support for EPA's site assessment activities and response, prevention and preparedness activities. This support includes gathering and analyzing technical information, preparing technical reports on oil and hazardous substance investigation and technical support for cleanup efforts.
5. Pollution Reports (POLREPS): EPA OSC's prepare POLREPS to provide information on an incident or removal activity throughout the action. POLREPS also detail the search for

potentially responsible parties (PRPs), other enforcement activities, and measures taken to inform the community.

6. Action Memorandum (AM): The primary decision document written by EPA that provides a concise record of the selection and approval of a removal action. It describes the site's history, current activities, and health and environmental threats; outlines the action, cleanup levels (if applicable), and estimated costs; and documents EPA's approval.
7. Engineering Evaluation/Cost Analysis (EE/CA) An EE/CA is a more streamlined remedial investigation/feasibility study (RI/FS) conducted for non-time-critical removal actions and requires a public comment period. The results of the EE/CA and EPA's response decision are summarized in the Action Memorandum.
8. Post-removal site control (PRSC): Activities necessary to sustain the integrity of a removal action following its conclusion. These may include institutional controls and/or operation and maintenance activities.
9. Applicable or Relevant and Appropriate Requirement (ARAR): Other laws or regulations addressing contaminants, response actions, and/or locations that OSCs consider in their action memo.
10. Removal site evaluation/assessment: Activities that demonstrate whether the conditions at the site meet the criteria for the appropriate type of removal action. The removal assessment is designed to show if, and how, the site poses a threat to human health or the environment.