

Memorandum

To: Michael L. Connor, Deputy Secretary
Hilary C. Tompkins, Solicitor
Kristen J. Sarri, Principal Deputy Assistant Secretary – Policy, Management and Budget

Through: Deputies Operating Group

From: Lori Faeth, Deputy Assistant Secretary – Policy and International Affairs
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Re: Recommendations to Implement a Strategic Approach to Address Contaminated Sites Impacting Interior Lands and Resources

By memorandum dated May 20, 2016, you asked us to lead a working group of Department (DOI) and bureau representatives to develop recommendations to identify improvements in how the Department and bureaus respond to contamination impacting Interior lands and resources. The goal of these recommendations is to build upon the foundation established by the Department’s successes over the past 20 years to more strategically and efficiently address contaminated sites for which the Department is responsible, focusing on four key objectives:

- Alignment of Site Cleanup Prioritization with Strategic Priorities;
- Resolution of Business Practice Impediments;
- Advancement of Contaminated Site Cleanup Best Practices; and
- Deployment of Optimal Project Management Teams.

As you directed, and with the assistance of the Office of Environmental Policy and Compliance (OEPC), we established a working group comprising representatives from OEPC, the Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Reclamation (BOR), National Park Service (NPS), Office of Restoration and Damage Assessment (ORDA), U.S. Fish and Wildlife Service (FWS), U.S. Geological Survey (USGS), and the Office of the Solicitor (SOL). Many of these representatives have been involved for several months in discussions about how to improve the Department’s contaminated sites cleanup program, including at a two-day conference hosted by OEPC in Portland in late 2015.

The working group formed four subgroups, each of which developed draft recommendations addressing one of the four objectives. The working group also identified a fifth objective, which is to avoid or minimize future contamination on DOI-managed land. The subgroups, and the working group as a whole, met by phone several times over the past three months. The attached recommendations are the product of these discussions. Each recommendation is followed by a brief discussion of the benefits that would be expected from implementation of the recommendation, the challenges that would need to be overcome, and the anticipated timeframe required to implement the recommendation.

In brief, the recommendations are the following:

- A. Establish an Executive leadership role in cleanup funding decision-making aligned with relevant Department and bureau mission objectives;
- B. Evaluate existing Departmental funding sources applicable to contaminated sites to augment total funding available to address contaminants;
- C. Develop classified position descriptions;
- D. Make effective use of term employees;
- E. Develop standardized contracting guidance;
- F. Align information technology systems;
- G. Establish a Department “Cleanup Management Framework;”
- H. Identify and disseminate cleanup best practices;
- I. Establish a Department cleanup clearinghouse/portal;
- J. Develop a standardized approach to issuing Department guidance on contaminated sites;
- K. Coordinate remediation and restoration activities, when feasible, at DOI cleanup sites;
- L. Establish a “Center of Excellence;” and
- M. Implement steps to avoid, minimize, and mitigate risks associated with, future contamination on DOI-managed land.

As a general point, the group agreed that a “contaminated site” could include any land managed by, or natural resource under the stewardship or trusteeship of, the Department that is adversely affected by a release or threatened release of a hazardous substance, petroleum, pollutant, or contaminant, as those terms are defined under federal law. The group agreed that the definition should be broad for the purposes of this exercise and include sites such as Formerly Used Defense Sites (FUDS), abandoned mine lands (AMLs) at which hazardous substances such as arsenic, cadmium, and lead are usually present, former or active industrial sites or land adjacent to such industrial sites, leaking fuel tanks, firing ranges, landfills, and sites with injuries to natural resources. A broad definition is particularly important in regard to the first recommendation addressing objective #1, which proposes a framework for developing a contaminated sites inventory as a first step toward prioritizing contaminated sites cleanup.

In addition, it is important to recognize that the Department has several statutory and regulatory authorities and a number of funding mechanisms that directly impact our work on the entire process of addressing contaminated sites including site investigation, response, assessment, restoration and long term management. This effort is an attempt to better coordinate multiple programs located throughout the Department to achieve desired outcomes at those sites.

Accordingly, the use of the word “cleanup” in these recommendations should generally be interpreted to embrace the full scope of activities associated with addressing the Department’s contaminated sites, except in circumstances where legal, funding, or other constraints preclude such an interpretation.

A critical next step, in the event you endorse some or all of these recommendations, will be to identify the key offices and organizations and the level of leadership engagement that will be necessary to move forward with implementation over the next several months and through the transition to a new Administration. For example, establishing a “Center of Excellence” that could serve as a focal point for the implementation of several of the other recommendations would require active executive leadership to position the Center within the Department, develop its charter, identify resources and select its leadership. We have included a matrix that provides initial guidance on how the office(s)/bureaus involved in developing these recommendations would prioritize the implementation of the recommendations, and offer a projected timeline associated with each recommendation.

We look forward to your response to these recommendations and are happy to provide additional information as requested.

ATTACHMENTS:

- Recommendations to Implement a Strategic Approach to Address Contaminated Sites Impacting Interior Lands and Resources
- Priority Matrix with Timeline

RECOMMENDATIONS TO IMPLEMENT A STRATEGIC APPROACH TO ADDRESS CONTAMINATED SITES IMPACTING INTERIOR LANDS AND RESOURCES

Objective 1: Alignment of Site Cleanup Prioritization with Strategic Priorities – Develop a methodology for prioritizing and sequencing site cleanups across the Department’s inventory of contaminated sites that pose risks to human health or the environment.

A. Recommendation: Establish an Executive leadership role in cleanup funding decision-making aligned with relevant Department and bureau mission objectives

- Develop a decision-making framework, sanctioned by executive leadership, to inform cleanup funding decisions in alignment with relevant Department and bureau mission objectives. This would include the following steps:
 - (1) Development of a comprehensive DOI *contaminated sites inventory* that is inclusive of all contaminated sites and contains consistent data (e.g., site location, type of contaminants, social value, and risk) (projected implementation timeline – three to five years);
 - (2) Authorization of an executive leadership body, or other appropriate decision-making body, to develop guidance for *prioritizing contaminated site cleanup* in furtherance of Departmental mission objectives and trust obligations. Guidance would be used by the Department and bureaus in allocating funds for cleanup in accordance with their mission (projected implementation timeline – one year); and
 - (3) Establishment of *bureau-specific* strategic decision making frameworks that result in prioritization of site cleanups and advance the bureaus’ mission(s) (projected implementation timeline – one year).

The Department is responsible, from a resource stewardship perspective, for addressing the entirety of the contaminated sites inventory on the approximately 500 million acres under its jurisdiction, as well as countless sites where trust resources have been injured. A unified, comprehensive understanding of the full inventory is needed. While most bureaus maintain some level of contaminated site information, the type, level of detail, and accuracy of information varies. With a better understanding of the scope of the Department’s cleanup challenge, more accurate estimates of the time and costs to address the challenge can be developed and used to forecast future budgetary needs.

Developing a methodology to apply across all sites and bureaus to establish a common inventory will be challenging. Bureaus may also be hesitant to provide data if they are unsure how it will be used. The release of this information may be restricted due to sensitive cultural, historic, and biological conditions at these sites. These challenges can be addressed through collaboration and use of neutral sources of expertise (e.g., USGS, universities). A comprehensive DOI inventory will also require an investment in resources, so a balance of rigor and expediency will be needed.

A more comprehensive understanding of the scope of the inventory will also allow for the development of a more robust prioritization framework. OEPC Environmental Compliance

Memorandum 07-4 and the Environmental and Disposal Liabilities Handbook require the bureaus to establish a prioritization scheme for addressing contaminated sites. This recommendation furthers these requirements and enhances them by integrating contaminated site prioritization with critical Department and bureau objectives and trust obligations. This would align priorities leading to more effective expenditure of funds. A strategic approach will ensure that sites prioritized for cleanup will advance larger strategic objectives, make better use of existing resources, and be responsive to changing priorities. This approach may result in a DOI analog to the Environmental Protection Agency's National Priorities List, which considers not only human health and ecological risks but also other factors arising from the Department's trust and statutory obligations.

Effective implementation of this recommendation will depend on executive leadership and will require specific and concentrated focus. Senior leaders already have many demands on their time associated with challenges that have far greater visibility than the contaminated sites challenge. However, the recent national attention on the Gold King/Animas River release provides important focus on this effort. Prioritizing across a vast landscape and variety of sites and issues will be challenging. The priorities of one bureau may not align with those of another and, while generally aligned with the Department's mission, the bureaus' priorities may be more keenly focused on their specific mission areas. Identification of the appropriate level of executive personnel involvement will be difficult for some bureaus, as senior leadership may be unfamiliar with technical aspects associated with site cleanup. Developing effective working mechanics for such a group may also be challenging.

Nevertheless, decisions to initiate the investigation and cleanup of contaminated sites, particularly complex sites, result in the expenditure of millions of dollars, and years if not decades of effort. While the complete number of contaminated sites on Department lands that pose unacceptable risks to human health and the environment is unknown, there is no question that the cleanup costs associated with currently known sites far surpass the resources available to the Department for this purpose. Therefore, decisions about how to prioritize and sequence the allocation of available resources to address contaminated sites should be made strategically, with a comprehensive view of all sites, and in the context of the Department's larger land and resource stewardship mission.

To implement these recommendations and, in particular, to staff the executive level engagement required, one or more workgroups should be established to support leadership in developing a comprehensive contaminated sites inventory and a strategic prioritization system.

In addition, each bureau should establish a bureau-specific workgroup, as needed, to support bureau leadership in the development of a bureau-specific strategic decision-making framework to review, evaluate, and prioritize its contaminated sites inventory.

B. Recommendation: Evaluate existing Departmental funding sources applicable to contaminated sites to augment total funding available to address contaminants

- Evaluate relevant existing Departmental and bureau funding sources, identify needs not currently addressed, and develop methods to optimize allocation of funds applied to contaminated sites. The overarching goal is to more strategically allocate and coordinate

the use of existing funds and potentially augment total funding available (projected implementation timeline – several years).

Given the current substantial funding gap between contaminated site needs and available funds, and the long-term nature of the process, optimizing the use of existing funds and securing additional funds is critical. Last summer's Gold King/Animas River release highlighted the need for additional resources nationwide to address this problem. Because the federal land manager role in contaminated site cleanup generally has been under-appreciated, and in the context of the current budget climate, requesting and receiving additional funds from Congress will be difficult.

An interdisciplinary workgroup (Department, bureaus, budget representatives) should be established to evaluate, identify, and develop methods to implement this recommendation. This recommendation requires involvement of the Department's subject matter experts in this area.

Objective 2: Resolution of Business Practice Impediments – Examine current business practices to identify opportunities for improving systems to eliminate inefficiencies that impede site cleanup.

C. Recommendation: Human Resources (HR) – Develop classified position descriptions

- Develop and classify standardized position descriptions (PDs) for contaminated site senior staff and contaminated site team members to enable the Department and bureaus to meet program and site-specific demands (projected implementation timeline – six to twelve months).

Staffing contaminated site cleanup projects is not currently supported by standard PDs and associated qualifications that are employed across the Department. Having classified PDs will provide an important starting point for efficient recruitment and deployment of personnel with qualifications matched to the demands of working on contaminated sites. Establishing and utilizing classified PDs will provide huge benefits and should be relatively easy to implement.

Instituting new PDs will mean that bureaus will need to evaluate current knowledge, skills and abilities of currently deployed personnel and determine how they match up with the newly standardized PDs. The group recognizes implementation of this recommendation may require transition. This will need to be considered as part of the implementation of this recommendation. The bigger challenge will be to reach agreement on PD language that is inclusive of all bureau site cleanup needs and Human Resources (HR) requirements. However, since the Environmental Protection Specialist PD, for example, is commonly used across bureaus, creating common PDs should be achievable.

The contaminated site PD language and qualifications should be jointly developed by the Bureaus' contaminants specialists in tandem with HR Specialists oriented to the contaminated sites subject matter. Use of classified PDs should be institutionalized through training and guidance materials issued from Departmental and bureau HR.

D. Recommendation: HR – Make effective use of term employees

- Evaluate the circumstances under which use of term employees may be an effective approach to project management, and determine whether options exist to improve the current HR processes for recruiting and retaining term employee project managers (projected implementation timeline – one year).

Currently the Department and bureaus look to term employees to serve as Project Managers at contaminated sites. In general, these employees possess the necessary qualifications to manage projects, and have successfully worked with regulators, potentially responsible parties, and other team members, resulting in progress at these sites. Annual funding is not always guaranteed and the use of a term position allows bureaus to hire qualified individuals, while retaining the ability to conclude the term position if funding becomes unavailable.

Term positions are temporary in nature, however, and restrictions apply to the length of time a term employee may serve in that capacity. In theory, the use of a term employee to manage a project with a known end date is prudent. Experience has shown, however, that contaminated site project timelines are unpredictable and often exceed the time limitations for the employee. The bureaus have had varying degrees of success in extending these positions. Frequently, term positions come to an end just as project managers are becoming well-established, with effective relationships formed and progress underway. The disruption to the project may extend for months or even years as employment options are pursued, with mixed results.

E. Recommendation: Contracting – Develop standardized contracting guidance

- Develop standardized contracting guidance related to contaminated sites cleanup practice, and provide adequate contracting staff capacity, to reduce the administrative burden of contract actions (projected implementation timeline – six to twelve months).

Establishing contracting processes that are more responsive to the particular needs and challenges of contaminated site cleanup will expedite cleanup projects by streamlining the time and level of effort required to put contracts in place, resulting in fewer delays and reducing costs.

Lack of familiarity with the contaminated sites cleanup process may impede contracting officers from seeing the need for flexibility and innovation in this area. However, given that this occurs in other circumstances, this should not be an insurmountable impediment as long as there is sufficient senior management support. Frequent turnover among contracting personnel may be an impediment to ensuring the guidance is consistently applied. This will require active training and orientation of new contracting personnel. Adequate staffing will help reduce turnover by making workloads more reasonable.

Contracting guidance should be developed by the Bureaus' contaminants specialists in tandem with contracting officers. This guidance should be institutionalized through training and other materials issued from Departmental contracting.

F. Recommendation: Information Technology (IT) - Align information technology systems

- Align and standardize Information Technology (IT) systems supporting contaminated site cleanup practice, including those used for requesting and distributing funds (e.g., CHF, bureau “hazmat”, and other funding sources), accounting and reporting (e.g., Financial Business Management System (FBMS) and EDL), and others (projected implementation timeline – one to three years).

By improving the interface between IT systems, burdens on field personnel with administrative workloads can be reduced, allowing staff to focus more time on site activities. Alignment of IT systems also will facilitate project oversight and accountability. The Department’s Information and Technology Management Division (ITMD) has an existing priority of integrating and standardizing systems, within which this recommendation naturally falls.

The biggest challenge may be to bridge the divide between cleanup project business needs (functional requirements) and technology needs and requirements. Bridging these differences to ensure real needs are met in an efficient IT solution will require people skilled in this part of the process. An effort to align systems will require start-up funds to realize long-term site and business efficiencies and this fiscal need could be perceived as a barrier.

The integration of data in the current systems with similar data sets, such as the EDL, CHF nomination module, CHF Cost Tracking System, contaminated site maps, and others in the Department or bureaus, could take one to two years. During this process, other potential system efficiencies with existing platforms, such as FBMS, could be explored. While system alignment is taking place, a shared, collaborative platform should be developed that would function as a repository for contaminated site documents and provide document management workflows and access to standard cleanup templates. The Department is currently developing a pilot, which is expected to be functional in the next six months.

Objective 3: Advancement of Contaminated Site Cleanup Best Practices – Identify, disseminate, and implement proven methodologies to produce consistent, high quality results.

G. Recommendation: Establish a Department “Cleanup Management Framework”

- Institutionalize a standard cleanup management framework for the Department’s contaminated sites cleanup discipline that identifies and describes its standard phases and required milestones (projected implementation timeline – six months).

A Departmental framework for contaminated sites cleanup can provide an organizing structure and lexicon for identifying and applying best practices and system integration and coordination opportunities, and promote ease of communication in the contaminated sites cleanup discipline.

An anticipated challenge will be agreeing on a common framework, which will require collaboration across the bureaus. One approach may be to consider the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process as the foundation for such a framework recognizing, however, that the CERCLA process is not the only regulatory framework that addresses contaminated sites (e.g., some sites may be addressed under other

regulatory authorities such as the Resource Conservation and Recovery Act and the Clean Water Act). Nevertheless, a unified framework for all sites is both possible and desirable to expedite prioritization and funding across all site types.

By necessity the proposed framework will be high-level, and used to capture activities that are similar across all DOI contaminated sites. This framework would not list specifics such as methods for site cleanup or the extent to which sites are remediated, in recognition of differing mission imperatives across bureaus. The framework will instead provide a standardized way to discuss the type of site, its characteristics, and key project milestones, and will be the basis for identifying and establishing best practices.

H. Recommendation: Identify and disseminate cleanup best practices

- Identify templates, standard operating procedures, and other tools that should be evaluated for inclusion in a DOI contaminated site cleanup “best practice” database. From this evaluation, DOI, advised by technical experts, should adopt, sanction, and disseminate best practices to all DOI contaminated site cleanup practitioners (projected implementation timeline – initial best practices in six months with ongoing development).

Established best practices will promote efficiency, effectiveness, and consistency, as well as opportunities for additional improvement. Best practices can foster increased accountability and be developed to support reduced impacts on disadvantaged populations and foster other Departmental and bureau priorities. This recommendation could be accomplished in tandem with the establishment of a common Departmental framework for contaminated sites cleanup.

The challenge will be identifying opportunities for consistent implementation in the context of different bureau missions and established practice. However, using proven approaches to common cleanup challenges or needs that can be utilized across the bureaus, initial best practices should be fairly easy to identify and adopt.

Identified best practices could be adopted and made available through a Department cleanup portal (see next recommendation) and sanctioned through a Departmental Manual chapter, an Environmental Compliance Memorandum issued by OEPC, or other mechanism.

I. Recommendation: Establish a Department cleanup clearinghouse/portal

- Establish a central Department clearinghouse or portal to share guidance, approaches, technical references, and best practices that are needed across cleanup projects (projected implementation timeline to develop prototype – one year).

DOI cleanup professionals would benefit from having a centralized portal to access in researching and referencing cleanup information. There are numerous webpages and references on cleanup training, techniques and approaches scattered across the web; however not all of them are relevant or can be applied to cleanups on DOI-managed lands. A central portal will allow Department and bureau staff to easily share guidance, “best practices,” and technical information. If done correctly, it would be the first place a project manager would go to identify useful resources for their project.

In establishing this portal, the Department should ensure that it will allow designated personnel easy access to retrieve and post information easily. In addition, the Department should ensure that adequate staff resources and funding are provided to support technology changes over time. The Department should also provide adequate content management to ensure that the site has updated information and obsolete information is removed.

A work group should be established to meet with staff from the Office of the Chief Information Officer (OCIO) to evaluate needs and identify a best approach. The work group could develop a prototype and test it with bureau staff to determine access and identify informational needs.

J. Recommendation: Standardize approach to Department guidance on contaminated sites

- Establish a common approach to issue policy and guidance as it relates to contaminated sites for the Department (projected implementation timeline – one year).

Each of the Offices within the Office of Secretary takes a different approach in providing policy and guidance to the bureaus. It is time consuming and a challenge, at times, to find these policies and guidance documents. For example, the Office of Restoration and Damage Assessment (ORDA) issues policy memos from the Director for the Natural Resource Damage Assessment and Restoration (NRDAR) Program and currently posts all of its policy and guidance in the Office's internal SharePoint site. The Office of Environmental Policy and Compliance (OEPC) uses memoranda for policy and "Environmental Compliance Memorandum" or ECMs for guidance. An exception is the Environmental Disposal and Liability (EDL) program where they use a "handbook."

In addition, cleanup policy and guidance should extend to other offices and programs. Where there are landfills or repositories left on DOI-managed lands, the Office of Property and Acquisition Management should consult with OEPC and ORDA to determine how long term management of these sites should take place. A standardized approach in issuing policy and guidance will simplify the dissemination of the information to the bureaus and project managers. It would also be beneficial if they are also kept on a portal or clearinghouse site for easy access.

A work group should be established to meet with OCIO staff to evaluate a standardized approach to issuing policy and guidance. The process should be coordinated with all relevant offices.

K. Recommendation: Coordinate remediation and restoration activities, when feasible, at Department cleanup sites

- Where appropriate and feasible, promote the use of coordinated response and restoration implementation frameworks within the bureaus that allow for development of restoration activities and improved efficiencies in using Department resources (projected implementation timeline – one year with ongoing development).

Where appropriate, early coordination of remedial and restoration objectives can result in cleanups that are not only protective, but also advance the Department's natural resource stewardship mission. Early coordination of remedial and restoration activities can enable the

Department to reduce costs associated with repetitive field work. A multi-disciplinary project team comprising experts from both the restoration and remedial programs will provide consistently high quality outcomes.

There may be sites where it will not be feasible or appropriate to coordinate remediation and restoration. Both programs must ensure that their respective funding sources are used only for authorized purposes. In addition, both programs will need to develop guidance and training to promote this coordination at the field level. To implement this recommendation, future workshops and training events for field staff should include segments that define how coordination can be achieved.

Objective 4: Deployment of Optimal Project Management Teams – Develop and retain seasoned professionals to staff project management teams with the requisite expertise to match the complexity of the projects they manage.

L. Recommendation: Establish a “Center of Excellence”

- Create a DOI “Center of Excellence” (Center) to advance the Department’s contaminated sites practice. Staff the Center with seasoned professionals with the requisite expertise and ability to develop and implement a strategy for advancing the cleanup practice within the Department and bureaus, and maintain it over time. Use Center staff to recommend and deploy personnel suited to address the demands of complex sites, and to provide and recommend training to further develop the skills of contaminated sites team members (projected implementation timeline – one to three years with ongoing development).

Contaminated site cleanup requires specialized knowledge of technical subjects, understanding of a complex regulatory environment, ability to navigate multi-jurisdictional settings, and an appreciation for the nuances of community and stakeholder engagement, all under the demands of rigorous administrative requirements. To advance DOI’s capacity in this area, the Department should establish a Center of Excellence. In addition to providing the technical expertise and understanding of the wide range of existing cleanup practices required to effectively manage complex cleanup projects, the Center would be focused on the unique federal land stewardship mission that must inform cleanup decisions affecting DOI-managed land. The Center would be the logical focal point for the development and implementation of many of these recommendations including, for example, development of the contaminated sites inventory, resolution of business system impediments, dissemination of best practices, and management of the portal.

The establishment of a Center of Excellence is timely for the Department because of recent public attention on contamination of federal land, mounting concern over climate change and sustainable development, and growing awareness of the unique federal land manager role and authority in the field of contaminated sites cleanup. The Center will signal the Department’s intention to become a leader in this important field. The Center will provide a consistent level of expertise for cleanup activities at the bureaus, augmenting and *enhancing* the capacity of the bureaus to address contaminated sites, not replacing existing bureau capacities. The Center should be positioned within DOI so that it can align and optimize the various program areas involved with contaminated site cleanup, including OEPC, ORDA, Abandoned Mine Lands

programs, and the Office of the Solicitor. The National Interagency Fire Center (NIFC) could serve as a reasonable model for the Center, with the Center focusing on cleanup and restoration resources and expertise for efficient deployment on federal lands.

It will be challenging to recruit and hire the appropriate personnel to design and implement the strategy to achieve its objectives. The Center should utilize standard contaminated site classified position descriptions (*see Objective #2*) to identify and provide the requisite expertise to meet DOI and bureau needs. The cost of establishing this Center may be considered prohibitive if viewed in the context of current funding levels. However, if the Center is viewed as an important investment in effectively addressing the Department's full inventory of contaminated sites, the return on investment would be substantial, and substantially greater than the cost.

Establishing the Center will require the active support and engagement of senior leadership to ensure the Center's appropriate authority and position within the Department is established and recognized. Implementation of this recommendation is anticipated to take one to three years.

Objective 5: Avoid or minimize future contamination on Department-managed land

M. Recommendation: Implement steps to avoid, minimize, and mitigate risks associated with, future contamination on Department-managed land

- Establish policy applicable to ongoing and future operations and activities on DOI land that will avoid the addition of new contaminated sites that require cleanup, and/or minimize the likelihood of such contamination and the associated risks (projected implementation timeline – several years with ongoing development).

Contamination on the Department's land undermines the Department's ability to manage and utilize resources for their intended purpose, whether that purpose is preservation, habitat conservation, or multiple use. The Department's inventory of contaminated sites and the associated costs are substantial, and already far exceed the resources available to address this challenge. Preventing future contamination whenever possible, and mitigating contamination (and the associated risks) that cannot be prevented, is simply responsible land stewardship.

The obvious challenge is that many uses of DOI land involve inherent risks that may result in contamination. However, public awareness and concern about contamination of public lands, and pressure to reduce or avoid future contamination, are likely to increase. Undoubtedly, this will be among the most challenging of the recommendations, but may have the most significant impact in terms of management of DOI land.

Implementing this recommendation will require the engagement of the highest levels of leadership in the Department to evaluate the contamination risk potential of operational activities, and curtail or better regulate those activities that exceed an unacceptable level of potential risk. For activities that do not exceed the risk potential but still may result in contamination, the authorization of such activities should be contingent upon assurances that such contamination will be remediated to background or risk-based levels.