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United States Government **Department of Energy**

memorandum

DATE: December 16, 2002

REPLY TO
ATTN OF: EM-51 (Geiser: 6-9280)

SUBJECT: Initiation of Field Support for the Risk-based Cleanup Project

TO: Distribution

This memorandum initiates a series of field actions needed to support the Cleanup Program driven by Risk-based End States Project. Specifically this memorandum directs the field to take three actions.

The first action is to review and comment on two documents: the draft Departmental policy titled *Cleanup driven by Risk-based End States*; and the draft guidance titled *Development of Risk-based End States* (Attachments A and B). It is my belief that this policy and guidance, if correctly implemented, will have a profound impact on the approach the Department uses to conduct cleanup. The policy and guidance are being circulated, in parallel, to national intergovernmental groups and federal agencies for review and comment. Field Offices are encouraged to share these draft documents with local stakeholders, regulators, and Tribal Nations. Comments are due January 31, 2003.

The second action is to provide two copies of the site documents that are most relevant to the completion of site cleanup and the achievement of site end states. This request is aimed specifically at those documents that best describe the site conditions upon completion of the Department's cleanup efforts. Documents should be sent by January 8, 2003, via overnight mail to: Mr. David Geiser, Director, Office of Long Term Stewardship, EM-51/Forrestal Building, U.S. Department of Energy, 1000 Independence Avenue., S.W., Washington DC 20585

The third action is to complete a self-assessment (see Attachment C) related to risk-based end states. Site assessments are due January 8, 2003, and should be sent via electronic mail to david.geiser@em.doe.gov. Please contact Mr. Geiser with a point-of-contact to serve as your representative to this project no later than December 18, 2002. Questions regarding this memorandum should be directed to Mr. David Geiser, Director, Office of Long-Term Stewardship, at (202) 586-9280.

Jessie Hill Roberson
Assistant Secretary for
Environmental Management

13815

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Pre-Decisional Work in Progress

Risk-based End States Self-Assessment

The following questionnaire was developed for three purposes:

1. Gain an understanding of the current status of site efforts to develop and achieve risk-based end states.

2. Gather input to improve the Department's draft corporate policy and guidance on developing risk-based end state visions.

3. Provide information on what tools need to be developed to implement the policy and guidance.

The information you provide in this questionnaire will be considered pre-decisional and will not be provided for general public release under the Freedom of Information Act. Please complete the questionnaire by January 8, 2003, and forward via electronic mail to david.geiser@em.doe.gov. Questions regarding this request should be directed to Mr. David Geiser, Director, Office of Long-Term Stewardship at (202) 586-9280.

Since "risk" and "end state vision" can mean different things, the following definitions from the draft DOE Guidance Document, Development of Risk-Based End State Visions, November 29, 2002, are provided:

Risk – "...the term means the risk to human health and the environment after remediation is complete. There are three (3) components that must be considered in the analysis of end state risk: (1) expected land use, (2) remaining hazards, and (3) receptors."

End State Vision – "An end-state vision is the agreed-to vision for land use at the end of the EM mission and beyond. Factors are site specific for developing a vision. Factors can depend on whether there is any ongoing mission for the site and what the current land use is for the surrounding area, including property that the Department may continue to own (e.g., at a continuing mission site), property that is managed by another Federal agency (e.g., U.S. Fish & Wildlife Service), and property that is privately-owned and which borders the DOE property that is undergoing cleanup under the EM Program."

Pre-Decisional Work in Progress

Site Background Information	
1.	Site name:
2.	Name, phone number, and title of person completing questionnaire:
3.	Per the new EM-1 terminology for Program Accounts, is your site a 2006 Accelerated Completion site, a 2012 Accelerated Completion site, or a 2035 Accelerated completion site, or other?
4.	Is your site an EM closure site or a continuing mission site (e.g. the site continues to have an operational mission after the EM mission has been completed)?
5.	What is the primary legal/regulatory driver for cleanup of your site? (e.g. CERCLA, RCRA, AEA, state law, or other)?
6.	Does the primary legal/regulatory driver differ from one area of your site to another (please explain)?
7.	Which policies, authorities and/or guidance have played a key role in the development of cleanup standards or end-state planning to date?
Status of Land Use Planning, End State Documents, and Regulatory Decisions	
8.	If the site has an ongoing mission for the Department (i.e., national security, science, or energy), briefly describe that mission and the impact on the EM cleanup end state and the projected future use of the site.
9.	List the key documents (regulatory or other) that describe the end state when EM cleanup is to be completed and the projected future land use for the site. Note: per the memorandum forwarding this questionnaire, these documents should be provided to DOE/HQ. Briefly describe the end state and projected future land use for the site (this can be accomplished by attaching the Executive Summary of an existing document).
10.	List the key documents (regulatory or other) that describe the projected land use for the areas that are adjacent to and/or near the site. For example, the land use plans or regulatory documents for federal, state, local, tribal government and/or private land that would have an impact on the end state vision and/or projected land use for DOE property (or property where DOE has an environmental liability). Briefly describe the planned land use for the surrounding areas.
11.	Describe the relationship between and/or any inconsistencies between the planned land use for DOE land and that for the surrounding areas.

12.	Does your site have a site-wide conceptual model or other site-wide approach that identifies likely sources, pathways, and receptors? (If this information is available graphically in a concise presentation, please provide.) Does the site-wide conceptual model or approach use or consider the same end state as the land use plan?
13.	Briefly describe the disposal cell(s), capped areas or other remedies that will have a significant impact on, or drive, the end state and/or projected future land use.
14.	Briefly describe the key contaminants of concern in the soil, surface water, and ground water that have a significant impact on, or drive, the end state and/or projected future land use.
15.	Describe the level of involvement by regulators, stakeholders, local government, and Tribal Nations in the development of the conceptual site model, land use plan, cleanup standards, and/or end state vision.
Risk Based Approaches	
16.	If you were free to define site cleanup and the site end state definition on a risk basis alone, in what ways would site cleanup approaches, land use definition, and release site geography change?
17.	Is the primary receptor of concern for your end-state determination human or ecological? If human health is the primary risk consideration are the receptors of concern on-site workers, visitors (e.g. recreational, educational), intruders, off-site neighbors, adjacent workers or others?
18	Is risk balancing, or are relative risks to different receptors (including risks to workers or ecological receptors during remediation), ever/sometimes/always a key decision factor in selecting/revising remedial goals or approaches or in end state definition?
19	Are risks always calculated on a release site-by-release site basis, other geographical region or definition (i.e. watershed), or a combination? Briefly describe your efforts, if any, to evaluate risk on a "composite" or site-wide basis. How does this effort compare to risk assessments you have conduced on a release site or operable unit basis? Are the cleanup standards or criteria used for individual release sites or operable units consistent with the planned end use or land use plan?
20	Are your current plans for the post-cleanup monitoring of worker, site or potential contaminant movement, or institutional controls explicitly shaped by risk objectives/considerations? If not, how are they determined? How well are those objectives and/or the costs of these mechanisms understood by the site? Others?
21	Do you now or do you plan to include resources for the evaluation of risk and or of life-cycle risks and costs in your future budget or human resources planning?

Pre-Decisional Work in Progress

Barriers/Issues	
22	What are the barriers that would have to be overcome for the site to have a risk based cleanup program utilizing the land use plan or end state goals?
23	If new information about risk were to emerge in further site characterization or during remedial activity, would matching changes in remedial approach end state definition be impossible/ negotiable/ readily achieved?
24	What added information or support is/would be beneficial to facilitate accomplishing a risk-based end state vision (e.g. computer modeling tools information,)?

Thank you for providing this information on such short notice. Please note that David Geiser, or a member of his Corporate Team, will be contacting the site to arrange for a conference call or videoconference during the week of January 13, 2003, to clarify any questions regarding your response.

U.S. Department of Energy

POLICY

Washington, D.C.

DRAFT
DOE P XXX.X

Approved: X-XX-03

SUBJECT: CLEANUP DRIVEN BY RISK BASED END STATES

PURPOSE AND SCOPE: The purpose of this policy is to ensure that the Department focuses our cleanup efforts on achieving clearly defined, risk-based end states. The Department of Energy is striving to improve the effectiveness of its cleanup program. The single most significant change that we can make is to focus the program on goals that are clearly articulated and technically defensible and achievable. Those goals must be grounded in where we want to be at the end of the cleanup effort, and not on interim milestones or conditions that are continually subject to change. With this approach we can resolutely pursue environmental protectiveness through cleanup.

When the drive to achieve risk-based end states characterizes the Department's site assessment, remedy selection and actions to assure long-term protectiveness, the cleanup program will complete its work quicker, safer, and more efficiently. It is intended that this approach apply to all sites currently undergoing clean up. The approach may cause a re-evaluation of, and changes to, current regulatory agreements/documents (such as Federal Facility Agreements) and compliance agreements. Each site will have to update site cleanup baselines and Performance Management Plans to reflect the risk-based end state vision of the site. The resulting changes will enable the Department to accelerate clean up, and achieve conditions that enable sustained protection of human health and the environment.

BACKGROUND: The Department's *Top-to-Bottom Review* (February, 2002) found that the nation's twelve year investment in the cleanup program had achieved little real risk reduction. The *Review* noted that the Department's cleanup program has been focused on, and driven by, achieving compliance with regulatory requirements in an approach that can best be described as piece meal and iterative. In addition, current regulatory requirements can be inconsistent, contradictory and/or duplicative.

The *Review* also noted that the Department, its contractors, its regulators and other stakeholders had rightly sought concurrence on remedial action through the use of Federal Facility Agreements. However, those regulatory agreements and the associated compliance milestones were generally established prior to an adequate understanding of the nature of the risks and hazards at the site. Thus, initial and subsequent agreements contained cleanup goals that were typically based on interim milestones and rarely articulated or pursued action that attained safe cleanup in a business-like and efficient manner. In addition, the Department's cleanup decisions or approaches were not adequately integrated with decisions about the future use of the facilities and property.

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Over the past decade, the Department, its regulators and stakeholders, have gained a better understanding of the future use of the facilities and property currently under cleanup. Even broader, the environmental industry and its regulators have matured towards a better science based understanding of contaminant fate and transport and the real risks posed by contaminants. The result is that acceptable cleanup strategies are evolving with goals for cleanup and contaminant containment and there is better understanding and acceptance of what DOE can reasonably achieve.

Cleanup targets have changed as more information about risk assessment and a better understanding of the site hazards has evolved. This same learning curve has caused the U.S. Environmental Protection Agency to initiate policy changes that are consistent with the new information. These include Risk-Based Corrective Action, Brownfields, and the One Cleanup Program Initiative. Like those policy changes and initiatives, this policy is an attempt to improve the efficiency of the cleanup program while clearly committing to close the sites in a manner that is protective.

In summary a lack of effective cleanup and lack of trust has been generated by diverse but applicable regulatory regimes, the absence of a clearly articulated corporate approach by DOE to its cleanup mission, the failure to adequately link remedies with future land use, and insufficient methods to assure the performance of remedies. A focused and rigorous effort by the Department, its regulators and stakeholders, is needed to clearly define and articulate end states based on risk.

POLICY: Each site currently undergoing clean up shall formulate a risk-based end state vision in consultation with regulators, stakeholders, and Tribal Nations. That vision shall be accompanied by a strategy to integrate and relate that vision to the regulatory environment in which they are operating. Sites should set the risk-based end-state vision, then redesign their clean up activities to achieve that vision. The purpose is to "do it right and completely the first time," rather than establishing interim steps to un-defined end states or by designing remedies that either don't meet the goal or unnecessarily exceed it.

Efforts to develop and achieve risk-based end states must consider the following requirements:

- The Department will comply with the requirements of the nation's environmental laws and regulations. However, the requirement to develop and achieve risk-based end states will drive the Department's compliance strategy.

- End states, including the selected remedies, must be based on an integrated site-wide perspective (including the current and future use of surrounding land), rather than on isolated operable units or release sites.

- End states must be focused on protecting the relevant receptors based on the intended land use. Sites must document the final anticipated risk-based condition that drive a cleanup decision or activity.

- Sites must consider the interim risks to the public, workers, and the environment in the selection of actions required to achieve end states. Ecosystem health should not be

endangered nor should workers be asked to conduct cleanup activities that result in little or no reduction in risk to the public or the environment.

- Where contaminants are expected to persist but can be isolated, risk concepts should include effective and transparent institutional controls to maintain isolation. Long term monitoring and surveillance methods must be designed to assure that the contaminants remain sequestered and human health and the environment are protected.

- Stakeholders and regulators must be consulted in the actions needed to develop and achieve risk-based end states.

- End states must address how we are to manage the impacts of future risks and vulnerabilities, including the creation of contingency plans in the event that site conditions change after clean up is completed.

IMPLEMENTATION: This policy requires the Department to re-evaluate our cleanup activities. We must ensure that our actions are both realistic and appropriate for the end state conditions we are striving to achieve. Sites are expected to use risk-based principles to reformulate the cleanup strategy for their sites and to seek the active concurrence and support of regulators and public who will benefit from earlier risk reduction and completion. In some cases, this approach may cause a re-evaluation of, and changes to, current regulatory agreements (such as Federal Facility Agreements) by working with regulators and public.

The Department's sites are at different stages in their cleanup efforts and are applying a variety of approaches to developing and achieving risk-based goals. Consequently, defining or redefining the end state for some sites may be difficult. The Department will issue guidance that describes how a risk-based, end state vision should be constructed and what it should contain. Sites will need to assess their current approach and the level of compliance with this policy and the guidance in a rigorous manner. That assessment will serve as the initial step for a dialogue with the regulators and stakeholders on setting and utilizing risk-based end states for cleanup decisions.

The Department will develop a corporate strategy to ensure implementation of this policy. The corporate strategy will describe how to revise site baselines and the associated Performance Management Plans using the site-specific risk-based end state visions. Where past regulatory agreements conflict with risk-based end state goals, sites are expected to develop a strategy to renegotiate these agreements and/or milestones. Finally, the Department will identify barriers to developing and achieving end-state visions and develop tools to address them.

U.S. Department of Energy
Guidance Document

Development of Risk-based End StateVisions

X-XX-03

Predecisional Draft: *Guidance for the development of Risk-based End States*, November 29, 2002

Executive Summary

This guidance supports the implementation of DOE Policy XXX, *Cleanup Driven by Risk-based End States* dated x-xx-03. The Department's intent is to "do it right the first time." The Department must correct a cleanup process based on multiple interim steps that lead to un-defined end states and cleanup remedies that either don't meet the goal, or unnecessarily exceed it.

This guidance recognizes that implementation of Policy XXX may need to occur in phases. The Department recognizes that sites are subject to different time-constraints and/or regulatory pressures. These constraints include commitments embedded in existing site-specific regulatory agreements, that may affect the time frames by which each site can develop, and implement, risk-based end state visions.

This guidance contains:

- a description of roles and responsibilities;
- schedule requirements
- the guiding principles as provided in the draft policy;
- strategic considerations;
- a set of considerations, or process steps;
- a description of the scope and content of a risk-based, end state; and,
- [the final guidance will include] a discussion of tools that are currently available to facilitate the definition of risk-based end states for each site.

Following the development of risk-based end state visions, sites will need to revise their baselines and Performance Management Plans (PMP) to accurately reflect the activities that will ensure achievement of the site vision.

Table of Contents

Guidance for the Development of Risk-based End State Visions

1.0 Introduction

DOE Policy XXX states that cleanup at a site should be driven by a risk-based end state vision. It is the Department's goal to have the site end state vision supported by the site regulators and stakeholders within the time frames outlined in this guidance. The Department recognizes that Closure Sites have a more time-critical need to define and achieve these end state visions. This document provides guidance on what a vision statement is, and how it should guide risk-based cleanup decisions. The U. S. Environmental Protection Agency and/or States under CERCLA and/or RCRA regulate site cleanup programs. Site vision statements should be supported by the regulatory community, the local community, Tribal Nations, and affected stakeholders.

An end-state vision is the agreed-to vision for land use at the end of cleanup. Factors affecting this vision include the Department's mission requirements for the site and the land use in the surrounding area. The land use includes property that the Department may continue to own (e.g., at a continuing mission site), property that is managed by another Federal agency (e.g., U.S. Fish & Wildlife Service), and property that is privately-owned and borders the DOE property undergoing cleanup.

The end state vision will allow the Department, its regulators and stakeholders to make decisions based on an end state for the cleanup. Knowing the end state will enable the site to know what is required to ensure adequate protection of human health and the environment for the intended land use. Sites may determine there is more than one land use for the property, as a whole. In such cases, it will be important to determine the boundaries of these land uses, so that points of compliance can be determined and that actions taken by the Department are protective of human health and the environment at those points of compliance.

It is important for sites to consistently apply the same definition of "risk" during the development of risk-based end state visions. For purposes of implementing Policy XXX and this guidance, the term means the risk to human health and the environment after remediation is complete. There are three primary components that must be considered in the analysis of end state risk: the expected land use, the remaining hazards, and the primary receptors.

2.0 Roles and Responsibilities

Assistant Secretary for Environmental Management (EM-1): Monitor site compliance with Policy # XXX and this guidance. Act as DOE Advocate of Policy # XXX and this guidance, including coordination with U.S. Environmental Protection Agency, national stakeholder groups, tribal nations, other Federal agencies, and other interested parties. Provide necessary resources to sites to implement Policy # XXX and this guidance.

Field Office Managers: Implement Policy # XXX and ensure that all sites under his/her purview follow the guiding principles, process requirements and schedules outlined in this guidance. Provide necessary resources to subsidiary sites to implement Policy #XXX and this guidance.

Site Managers: Implement Policy # XXX and follow the guiding principles and process requirements outlined in this guidance to define and achieve a risk-based end state vision, and meet all schedule requirements outlined in this guidance. Plan for and request the necessary resources to implement Policy # XXX and this guidance.

3.0 Schedule Requirements

Sites provide their draft End State Visions to regulators and stakeholders for review and comment by June 1, 2003.

Sites should receive endorsement of End State Visions from regulators and stakeholders by September 1, 2003.

Sites shall revise their cleanup baselines and associated Performance Management Plans (PMP) to be in alignment with their risk-based, end states by March 31, 2004.

4.0 Guiding Principles

As outlined in DOE Policy XXX, efforts to develop and achieve risk-based end states must be based on the following principles:

- The Department will comply with the requirements of the nation's environmental laws and regulations. However, the requirement to develop and achieve risk-based end states will drive the Department's compliance strategy.

- End states, including the selected remedies, must be based on an integrated site-wide perspective (including the current and future use of surrounding land), rather than on isolated operable units or release sites.

- End states must be focused on protecting the relevant receptors based on the intended land use. Sites must document the final anticipated risk-based condition that drive a cleanup decision or activity.

- Sites must consider the interim risks to the public, workers, and the environment in the selection of actions required to achieve risk-based, end states. Ecosystem health should not be endangered nor should workers be put at risk by requiring them to take actions that result in little or no reduction in risk to the public or the environment.

- Where contaminants are expected to persist but can be isolated, risk concepts should include effective and transparent institutional controls to maintain isolation. Long term monitoring and surveillance methods must be designed to assure that the contaminants remain sequestered and human health and the environment are protected.

- Stakeholders and regulators must be consulted in the actions needed to develop and achieve risk-based, end-states.

- End states must address how we are to manage the impacts of future risks and vulnerabilities, including the creation of contingency plans in the event that site conditions change after clean up is completed.

5.0 Strategic Considerations

The Department's strategy for implementing Policy # XXX and this guidance will depend on the stage that cleanup is in for each particular site. For sites that have not yet established future land use, or cleanup criteria suitable for that land use, discussions with the regulatory agencies should begin as soon as possible. For those sites that are further along in the process, for example, all the Records of Decisions and cleanup criteria have been negotiated and approved by the DOE, EPA, and State, more internal planning may need to be completed before the regulatory agencies or stakeholders are approached.

The steps in this DOE-internal planning should include:

1. An initial evaluation of what new cleanup criteria could be established that are based on a "pure" risk-based end state;

2. The cost savings resulting from any changes to cleanup criteria, renegotiation of regulatory agreements;

3. Legal options and pathways for any change;

4. Schedule constraints (for example, can such changes be made in a timely manner while still meeting legally-required milestones already agreed to?); and

5. The "climate" for changes, with the regulatory agencies, stakeholders, and Tribal governments, and a plan to successfully re-negotiate the original cleanup criteria.

If an internal plan is developed that considers the above points and demonstrates that significant benefits can be gained by the Department as well as the communities most affected by DOE's historical operations and ensuing EM cleanup, then the likelihood of successful implementation of Policy# XXX will be greatly increased.

Once a risk-based end state vision has been established, a strategy for reaching that end state can be created. Sites will need to assess if site conditions have been adequately characterized, in order to clearly define the end state goals. This characterization must include a validated site conceptual model that defines what data needs exist. The strategy will determine the extent of active remediation required, versus using barriers or contaminant containment efforts or other engineered and/or institutional controls.

The strategy also needs to meet all applicable regulatory requirements. At some sites, there may be more than one regulation driving the cleanup (e.g., CERCLA, RCRA, AEA, TSCA). At an NPL site, for example, Section 121(d) of CERCLA requires compliance with site-specific Applicable or Relevant and Appropriate Requirements (ARARs), unless the action qualifies under a limited list of ARAR waivers. NPL sites are encouraged to take advantage of the

waivers process in defining a risk-based end state. Other cleanup authorities may also have flexibility similar to the ARAR waiver process. Sites may also need to renegotiate Federal Facility Agreements or other regulatory agreements, in order to achieve the new end state.

Finally, consideration of the long-term cost of stewardship requirements for the end-state goals must be incorporated in the strategy. Sites should document the risk-based considerations driving the requirement for all cleanup activities.

6.0 End State Vision Considerations

Nine considerations to be discussed during the preparation of a site's risk-based end state vision.

1. Life-cycle cost must be considered.

Each site must possess the ability to adequately characterize the problem, forecast remediation achievements, link these achievements to future use, and forecast the engineering and/or institutional controls needed to both secure the blocked pathway and to monitor performance of the remedy. "Trade-offs" between characterization, remediation, future monitoring and any institutional or engineered controls is a necessary part of end state definition and remedy design.

2. The "end state" begins when a steady state in the remedy is achieved.

For the purposes of the end state vision document, the end state begins when the remedy is proven to be operating as designed . For example, the end state can be achieved once a ground water pump and treat system is operational. It does not mean that the final objective of the pump and treat system is attained and the system is dismantled.

3. A focus on site restoration, property revitalization and reuse.

The use of a reasonable land use scenario in setting cleanup standards is expected. Land use considerations include: the continued DOE mission on site; transfer of land ownership to another Federal agency, State or Local government; and recreational use.

4. Minimize the creation of new waste disposal sites.

If it is not technically feasible to clean a site to an unrestricted or recreational use standard, then the site should not design a remedy that involves the transfer of waste materials to an otherwise "clean" site. Transfer of waste materials to an existing waste disposal site is acceptable, however, the site should first consider whether it may be best to simply cap and leave wastes in-place, particularly if technological limitations prevent complete removal of all wastes.

5. Use a risk-based site conceptual model that includes land use considerations.

The site conceptual model must take into consideration all sources of contamination, all release mechanisms (e.g., volatilization, leaching), all exposure points (e.g., air, groundwater), all exposure routes (e.g., inhalation, dermal contact), and all human receptors (e.g., site worker and

member of public) as well as environmental receptors (e.g., endangered species, ecologically significant biota) or other considerations (e.g., cultural resources, historically significant properties). During final development and acceptance of the end state vision, sites should consider the relevant pathways and receptors when analyzing risk to human health and the environment. The site conceptual model must also include a vision of the contamination footprint, after remediation is complete, as well as the proposed land use.

6. A regulatory strategy that allows completion of the cleanup mission.

The regulatory strategy must allow DOE to articulate when the end state begins and when the remedy is complete. The RCRA and CERLA regulations clearly state which documents are enforceable, however, there may be unenforceable documents (e.g., plans) - that constitute an important element of the exit strategy.

7. Use decision analysis and logic tools that are relevant and appropriate.

Sites should conduct site-wide risk evaluations using, as appropriate, decision/risk analysis, visualization, and logic tools that promote understanding of alternative risk-based end states that protect human health and the environment. These evaluations should include, at a minimum, the following attributes: present and future hazards (e.g., surface and subsurface contamination footprints); institutional controls (e.g. land use); and credible pathways of exposure (i.e., exposure assessment). The evaluations should include groundwater and ecological considerations related to postulated end state activities. Sites should use these human health and environmental risk assessment tools in conjunction with broader "systems" evaluations, such as short-term worker and ecological exposure, as well as cost impacts, to compare the impacts and benefits of alternative end states.

8. Establish an integrated soil and groundwater compliance strategy.

The end state vision may consider a property transfer in its entirety, or the property may be divided for different land use scenarios. Depending on the situation, a single or multiple groundwater points of compliance may be established as a part of the cleanup strategy. In such cases, it is vital that the soil compliance strategy be considered in conjunction with the groundwater compliance strategy. Furthermore, contingency plans should be designed along with the integrated compliance strategy, in the event that future site conditions change unexpectedly.

9. Integrate monitoring and surveillance plans with the end state vision.

As a part of the long term management plan for cleanup sites, monitoring and surveillance plans must be designed to effectively support the end state vision. Stakeholders, regulators, local communities and future property owners must be well informed of any residual contaminant risks. Monitoring data accumulated in accordance with an agreed-to schedule gives all parties full disclosure of site conditions beyond just the cleanup activities.

7.0 Scope and Content

This section describes the scope and content of the document that contains the risk-based end state vision. First, it is important to clearly state what the vision document is not.

The vision document is not:

- a "plan", per se, and will not prescribe "how" to achieve the site-specific risk-based end states. The vision document describes the end state of the site when the risk-based end state cleanup is completed.
- a document to present every details of remaining hazards (every isotope), controls (e.g., location of every single well) or every facility in place. It needs to show a comprehensive end state picture but not necessary a detailed one.
- a budget or baseline document. Upon completion of the vision document, each site will be required to update site-specific baseline and/or Program Management Plan (PMP) to reflect the risk-based end state vision document.
- a regulatory document. Upon completion of the vision document, each site may be required to revisit current regulatory agreements/documents (such as Federal Facility Agreements) and compliance agreements. Each site will work with local regulators and stakeholders to update the regulatory and compliance agreements to reflect the risk-based end state vision of the site.

The vision document should:

- be consistent with the *Cleanup Driven by Risk-based End State* policy (dated March 30, 2003) and the contents of this guidance document (dated xx);
- contain discussions on the remaining hazards in terms of risks from the contaminants, risks to receptors, and measures undertaken to protect the environment and human health;
- contain maps, drawings, and other data points to communicate what the end state looks like. Any tools used to depict the end state must clearly articulate remaining contaminants, any protective measures undertaken, and remaining operating systems;
- contain discussion of land use on and around the site. It should contain discussion of expected use when cleanup is completed;
- 10-40 pages[1] in length depending on the complexity of the sites;

[1] The length of document is provided only as a reference only. It is not a requirement.