

**Subject: USE OF RISK-BASED END STATES**

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**PURPOSE AND SCOPE:**

The purpose of this policy is to focus the Department line management officials on conducting cleanup that is aimed at, and achieves, clearly defined, risk-based end states. Risk-based end states are representations of site conditions and associated information that reflect the planned future use of the property and are appropriately protective of human health and the environment consistent with that use.

The Department of Energy (DOE) is striving to improve the effectiveness of the cleanup program by focusing our efforts on clearly articulated and technically defensible and achievable goals. These goals should be grounded in the vision for the site at the end of the cleanup effort (the “end state”), which in turn should be driven by the expected future land use. The Department will complete cleanup work quicker, safer, and more efficiently when a vision of risk-based end states drives its site assessment, remedy selection, and actions to assure long-term protectiveness. With this approach, we can focus our cleanup efforts so that they are both cost effective and protective.

This policy is intended to be consistent with and emphasizes the provisions in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and the Atomic Energy Act, that either explicitly or implicitly authorize the consideration of future land use and risk in making cleanup decisions. Emphasis is needed because there has been uneven progress at DOE sites in implementing cleanup strategies that integrate both risk and future use considerations. This risk-based end state approach attempts to gain a common acceptance of the site-wide post-remediation future prior to individual remedy evaluation and selection actions.

This approach applies to all sites currently undergoing cleanup, including those under the authority of the National Nuclear Security Administration. It is recognized that individual sites are at different stages of cleanup, have attained these goals to varying degrees, and may have operational constraints. Once sites develop their risk-based end state vision, they will re-evaluate their cleanup activities and strategic approaches to determine if it is appropriate to change site baseline documents and renegotiate agreements. Sites will then work with their regulators to modify, as needed, their cleanup strategies, cleanup agreements and baselines. Consistent with those modifications, sites will update their cleanup baselines and associated performance plans to reflect the risk-based end state vision of the site.

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**DISTRIBUTION:**

All Departmental Elements

**INITIATED BY:**

Office of Environmental  
Management

**POLICY:**

In implementing this policy, each site undergoing cleanup will be compliant with applicable requirements. In addition:

- A risk-based end state vision will be formulated in cooperation with regulators, and in consultation with affected governments, Tribal nations, and stakeholders (as appropriate);
- The vision will be followed-up with a site risk-based end state implementation strategy that includes an assessment of current cleanup strategies and baselines to align them with the end state vision; and
- The site's cleanup strategy, and baseline will be revised, as needed, using a graded approach to be consistent with the end state strategy and governing legal requirements.

**IMPLEMENTATION:**

Efforts to develop and achieve risk-based end states shall incorporate the following requirements:

- The Department shall continue to comply with applicable Federal, state, community, and treaty requirements when proceeding with this effort, including but not limited to RCRA, CERCLA, the National Contingency Plan and its Natural Resource Damage Assessment provisions, and other applicable requirements.
- End states should 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. This is not a license to do less at individual release sites, but rather to better link narrowly considered decisions to a larger perspective. Multiple land use will be appropriate at some sites.
- End states are the basis for exposure scenarios developed in baseline risk assessments that help establish acceptable exposure levels for use in developing remedial alternatives in the feasibility study.
- Risk reduction measures, life-cycle costs, uncertainties, and other relevant policy factors of the decision shall be made visible in site cleanup strategies and remedy decision documents.
- When CERCLA is the response authority, all nine CERCLA remedy selection criteria shall be evaluated. Remedies passing the threshold criteria will require a complete evaluation of the balancing criteria. Modifying criteria shall also be considered in remedy selection.

- When the selected remedy results in the need for long-term surveillance and maintenance on site, risk control concepts should include layered and redundant institutional controls, commensurate with the risks to maintain protectiveness. Long-term surveillance and maintenance methods shall be designed to assure that the contaminants remain isolated to the extent practicable, and that human health and the environment is protected.
- Regulators shall be asked to concur and affected and interested governments shall be consulted in the development of the risk-based end states. Site managers will establish communication approaches for working with stakeholders for all phases of this effort in conjunction with preparation of their site vision.
- To ensure protection of human health and the environment once the end state is achieved the Department shall address how it manages the impacts of future risks, uncertainties, and vulnerabilities, including the creation of contingency plans and the identification of responsible parties in the event that site conditions change after cleanup is completed. In the case of CERCLA sites, such plans should be integrated with the five-year reviews.

This policy will result in re-evaluation of the Department's cleanup activities. The Department's goal is to ensure that its actions are both appropriate for, and aligned with, the end state conditions it is striving to achieve. The evaluation of the site cleanup strategy and baseline may result in the need to change the existing regulatory agreements (such as Federal Facility Agreements). DOE will work with and seek the early and active concurrence of regulators and the involvement of appropriate community, tribal governments and the public in modifying cleanup baselines and regulatory agreements.

The Department's sites are at different stages in their cleanup efforts and are applying a variety of approaches to developing and achieving goals that are consistent with risk-based end states. Consequently, defining or redefining the end state for some sites may be difficult, or in other cases unnecessary. The Office of Environmental Management will develop and issue guidance that describes how a risk-based, end state vision should be formulated and what it should contain and propose a departmental strategy for graded implementation. The guidance and strategy will be developed in cooperation and concurrence from affected Program Secretarial Offices and General Counsel. DOE officials responsible for these sites will need to assess their current approach and the level of compliance with this policy and the guidance in a rigorous manner. Site risk-based end state visions and related strategies or plans must have the concurrence of the responsible Headquarters lead program secretarial office (LPSO), and sites shall obtain concurrence from affected program offices. Except at those sites where the NNSA is LPSO, or has property at a site where NNSA is not the LPSO, the NNSA site manager will coordinate NNSA visions and plans with affected PSOs. NNSA land use perspectives for their facilities will prevail at all sites (or portions of sites) where the

NNSA mission is impacted pursuant to Section 3213 (a)(2) of the National Nuclear Security Act. The site vision and strategy for implementation of risk-based end states should promote regulator and stakeholder acceptance of risk-based end states for cleanup decisions.

DOE line management will be responsible for implementing this Policy and for ensuring that risk-based end states are addressed as part of relevant integrated safety management and environmental management systems.

BY ORDER OF THE SECRETARY OF ENERGY:



KYLE E. McSLARROW  
Deputy Secretary