UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

OSWER Directive 9355.7-19

MEMORANDUM

SUBJECT: Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites

FROM: James E. Woolford, Director
Office of Superfund Remediation and Technology Innovation (OSRTI)

TO: Superfund National Program Managers, Regions 1-10

Purpose

This guidance document is designed to further EPA's policy supporting, whenever practicable, reuse of all or a portion of National Priorities List (NPL) sites where EPA has lead responsibility, consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), and existing Agency guidance.[1]

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[1] EPA has issued several guidance documents that deal with considering anticipated future land use during the remedy selection process. These guidance documents generally focus on consideration of anticipated future land use through the Record of Decision (ROD) stage of the remedy selection process and include the following:

a. "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive 9355.7-04; May 1995) available at: http://www.epa.gov/superfund/community/relocation/landuse.pdf (the 1995 Land Use Directive);

b. "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents" (EPA 540-R-98-031, OSWER Directive 9200.1-23P; July 1999) available at: http://www.epa.gov/oerrpage/superfund/policy/remedy/rods/index.htm;

c. "Reuse Assessments: A Tool to Implement the Superfund Land Use Directive" (OSWER Directive 9355.7-06P; June 2001) available at: http://www.epa.gov/superfund/community/relocation/reusefinal.pdf; and

d. "Superfund Community Involvement Toolkit" (EPA 540-K-05-002, April 2005); tab 7 Community Involvement Plans, and tab 47, Redevelopment Planning, available at: http://www.epa.gov/superfund/community/toolkit.htm.

In selecting and implementing remedies that protect human health and the environment at Superfund sites, cleanups in many instances also facilitate site reuse. In carrying out Superfund response actions that protect human health and the environment, EPA typically considers the reasonably anticipated future land use of a site in the remedy selection process. The Agency's 1995 Directive, "Land Use in the CERCLA Remedy Selection Process" (OSWER 9355.7-04) remains applicable and continues to provide useful guidance on consideration of reasonably anticipated future land use in the Superfund remedy selection process.

As with the 1995 Land Use Directive, this Directive is "intended to facilitate future remedial decisions at NPL sites by outlining a public process and sources of information which should be considered in developing reasonable assumptions regarding future land use."[2] In addition, this Directive urges Regions to consider the interplay of land use (including reasonably anticipated future land use) with remedy implementation and the remedy itself (e.g., protectiveness, compliance with applicable or relevant and appropriate requirements (ARARs), long-term effectiveness, etc.).

This Directive highlights many of the principles from the 1995 Land Use Directive and provides additional guidance on considering reasonably anticipated future land use when carrying out response actions under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA). In particular, Regions are encouraged to consider reasonably anticipated future land use consistent with CERCLA, the NCP, and existing programmatic guidance in a manner that supports the reuse of sites. At many sites being remediated under CERCLA authority, EPA has carried out response actions or overseen response actions that protect human health and the environment that also allow those sites to be reused safely and productively.[3]

Background

CERCLA, the NCP, and Executive Order 12580, provide broad authority to carry out response actions at Superfund sites in order to protect human health and the environment. Consistent with CERCLA, the NCP and existing EPA policy and guidance, the Agency considers reasonably anticipated future land use in the Superfund cleanup process in a number of ways, such as working with local governments, local residents, reuse entities, and others as it

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[2] OSWER Directive No. 9355.7-04, "Land Use in the CERCLA Remedy Selection Process" (May 1995), available at: http://www.epa.gov/superfund/community/relocation/landuse.pdf, p.3.

[3] The information and guidance in this document are intended for EPA staff, States, Tribes, and potentially responsible parties, as well as local governments and other stakeholders involved with Superfund sites and the CERCLA response process. Any decision regarding a particular remedy selection will be made based on the statute and regulations, and EPA decision makers retain the discretion to adopt approaches that differ from the guidance in this Directive, where appropriate, on a case-by-case basis. EPA may change this guidance in the future. This document does not affect determinations of CERCLA liability, and does not provide any relief from or limitation of liability.

identifies reasonably anticipated future land use[4] for sites or portions of sites being cleaned up. Whenever practicable, the Agency also seeks to avoid response actions that might hinder or prevent site reuse consistent with the Agency's assumptions regarding reasonably anticipated future land use.

Productive reuse of a Superfund site can provide many benefits to a community. Appropriate reuse of a site can support the long-term effectiveness of a remedial action by reducing the possibility that other, potentially non-protective land uses might occur. For example, by productively putting a site into use, inappropriate activities can be discouraged, such as illegal dumping or off-road vehicle use, which could ultimately undermine the remedy's functioning and protectiveness. Stakeholder support of the property's reuse activities also may result in increased interest in maintaining the effectiveness of the remedy. Reuse also can benefit communities by maintaining or increasing property values for land on and near a site, plus improving quality of life through amenities such as parks or open spaces, and providing significant local economic benefits.

Objective

As recommended in the 1995 Land Use Directive, Regions should carefully consider reasonably anticipated future land use and solicit broad, diverse community input as part of the Superfund cleanup process. As stated in the 1995 Land Use Directive:

> EPA believes early community involvement, with a particular focus on the community's desired future uses of property associated with the CERCLA site, should result in a more democratic decision-making process; greater community support for remedies selected as a result of this process; and more expedited, cost-effective cleanups (p. 1).
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> Interaction with the public, which includes all stakeholders affected by the site, should serve to increase the certainty in the assumptions made regarding future land use at an NPL site and increase the confidence that expectations about anticipated future land use are, in fact, reasonable (pp. 5-6).

In addition to reaffirming existing policy and guidance, this guidance provides additional consideration for Regions to evaluate when they consider reasonably anticipated future land use while undertaking Superfund remedial response actions.

In evaluating the potential reasonably anticipated future use options for a site, Regions should consult with the site's stakeholder community (i.e., local governments, community groups, the site's owners, individuals, states, tribes, etc.) to obtain input on future use options and to discuss how particular remedies may affect a site's future use options. There is a

[4] When this document states that EPA "identifies" or "determines" the reasonably anticipated future land use of a site, it should be understood to mean that, based on the input of site's stakeholders (local governments, community groups, individuals, states, tribes, etc.) and other remedy selection factors described in the CERCLA statute, the NCP and EPA guidance, the Agency makes a decision on what the future land uses are likely to be, so that remedies can, wherever practicable, support those future uses.

relationship between the potential uses of a site and the potential remedies that need to be fully understood by all parties. As part of the remedy selection process, a Region should evaluate how it could address situations that may hinder various reuse alternatives. However, when a Region selects a Superfund remedy, it must be within the scope of EPA's authorities as defined by the CERCLA, the NCP, and existing guidance.

Implementation

As stated in the 1995 Land Use Directive, to ensure site protectiveness, Regions should consider reasonably anticipated future land use when determining remedial action objectives, and during the evaluation of alternatives leading to the selection of the remedy. Consistent with one of the objectives of the 1995 Land Use Directive, Regions should use information related to reasonably anticipated future land use "to formulate realistic assumptions regarding future land use and clarif[y] how these assumptions fit in and influence the baseline risk assessment, the development of alternatives, and the CERCLA remedy selection process."[5] Regions also should ensure that the Agency's consideration of reasonably anticipated future land use is thoroughly documented in the administrative record prepared for each site.

Considering Reasonably Anticipated Future Land Use Early in the CERCLA Process

The 1995 Land Use Directive encourages Regions to begin evaluating anticipated future land use early in the Superfund cleanup process:

> In order to ensure use of realistic assumptions regarding future land uses at a site, EPA should discuss reasonably anticipated future uses of the site with local land use planning authorities, local officials, and the public, as appropriate, as early as possible during the scoping phase of the [Remedial Investigation/Feasibility Study] RI/FS. EPA should gain an understanding of the reasonably anticipated future land uses at a particular Superfund site to perform the risk assessment and select the appropriate remedy.[6]

Regions should begin the process of engaging with the local community, local government, states, tribes, etc., in identifying potential land use options early in the CERCLA site response process. For example, the CERCLA site assessment process (including Preliminary Assessment (PA) and Site Investigation (SI)) may provide useful information about a release or threatened release, areas surrounding the release or the threatened release, and potential risks to human health and the environment. While this information can help define a site sampling plan and may be used to score the site for possible listing on the NPL, it can also be useful in starting to consider reasonably anticipated future land use.[7] During interviews with owners or users of

[5] OSWER Directive No. 9355.7-04, May 1995, p. 4.

[6] Ibid.

[7] If a Region decides that a No Further Remedial Action Planned (NFRAP) or a No Further Federal Action (NFFA) determination is appropriate, this determination should be made available to the public, as it may help address any

property on and around a contaminated site, the Region may be able to learn their plans for the future use of the site or particular properties on the site or how others anticipate the site will be used in the future.[8]

Another opportunity to consider the reasonably anticipated future land use is during the Superfund site baseline risk assessment. This risk assessment is developed during the remedial investigation (RI) process, and evaluates exposures under both current and future land use conditions, using information gathered from a number of sources. These sources include the community itself, population surveys, topographic and housing data, Census projections, and other sources listed in the 1995 Land Use Directive. While multiple future land uses may be feasible at a site including non-residential exposures, EPA's Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A) (1989)[9] recommends risk assessors "assume future residential land use if it seems possible based on the evaluation of available information. For example, if the site is currently industrial but is located near residential areas in an urban area, future residential land use may be a reasonable possibility. If the site is industrial and is located in a very rural area with a low population density and projected low growth…a more likely alternate future land use may be recreational." The EPA 1999 RAGS Part A supplemental guidance[10], "Community Involvement in Superfund Risk Assessments" encourages site teams to actively engage citizens in identifying information about past, current and future land uses. "Community input is particularly important during the scoping phase and development of the risk assessment work plan." The 1999 guidance provides key questions to help engage communities and encourages the site team to seek community input on current and future anticipated land uses, and the site-specific exposure inputs (e.g., the community population and possible exposure pathways) that are critical to the cleanup decisions.

Reuse Assessments and Reuse Plans

As stated in the 1995 Land Use Directive: "[c]urrent land use is critical in determining whether there is a current risk associated with a Superfund site, and future land use is important

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uncertainty about the environmental conditions of a site and allow interested stakeholders to make an informed decision on whether and how to proceed with their reuse plans.

[8] Information on surrounding land use may suggest how the site could reasonably be used in the future. Sources and types of information that may aid EPA in determining the reasonably anticipated future land use include: current land use; zoning maps; comprehensive community master plans; accessibility of site to existing infrastructure; recent development patterns; cultural factors; and environmental justice issues. (OSWER Directive No. 9355.7-04, p.5). Discussions with the public, local land use authorities and other appropriate officials should be conducted. "By developing realistic assumptions based on information gathered from these sources early in the RI/FS process, EPA may develop remedial alternatives that are consistent with the anticipated future use" (OSWER Directive No. 9355.7-04, pp. 4-5).

[9] Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final, EPA/540-1-89-002, December 1989.

[10] Risk Assessment Guidance for Superfund: Volume 1, Human Health Evaluation Manual (Supplement to Part A), Community Involvement in Superfund Risk Assessments, OSWER 9285.7-01E-P, EPA 540-R-98-042, PB99-963303, March 1999.

in estimating potential future threats" (p. 3). However, remedial project managers (RPMs) generally should not make future land use assumptions and remedy decisions based solely on past or current land uses for the site.

Regions are encouraged to prepare a reuse assessment to develop a better understanding of the reasonably anticipated future land use, as future land use may evolve over time as the Agency learns more about the site, and as plans for the future use of the site become more certain.[11] Reuse assessments may involve collecting and evaluating information to develop assumptions about anticipated future land use, which may support: (1) baseline risk assessments when estimating potential future risks; (2) the development of remedial action objectives (RAOs); and (3) the selection of a response action. Reuse assessments may evolve over time as the Agency learns more about the site, and as plans for the future use of the site become more certain.

Regions may conduct a reuse assessment during the time the site is being investigated, and that reuse assessment may be updated and refined as new information becomes available and the community's plans for the future land use of the site become more certain.[12] Sites with a number of properties, large sites, or sites with two or more operable units and potentially different future land use scenarios, may benefit from multiple reuse assessments, where each assessment addresses a particular area within the site.

Specific reuse plans developed by the landowner(s), local governments, states or other stakeholders may identify more specific end uses (e.g., office complex, shopping center, soccer fields). For a site or portion of a site where there is a specific reuse plan, the RPM should give strong consideration to the reuse plan as the reasonably anticipated future land use for that site or a portion of that site. A specific reuse plan also may help a Region prepare a reuse assessment. Regions are cautioned that current use may not be indicative of future use. Based on the nine remedy selection criteria EPA must use, the Agency may select a remedy that supports a future use different than what is described in the reuse plan.

Community Involvement

Important information about reasonably anticipated future land uses can be learned from community members. As the RPM initiates field work to fully assess contamination at a site, the site's Community Involvement Coordinator (CIC) should begin interviewing local officials,

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[11] The primary purpose of a reuse assessment is to identify the future land use assumptions for a Superfund site, or portions of a site. Examples of land use assumptions that appear likely based on the conclusions of a reuse assessment include, but are not limited to, residential, commercial, industrial, recreational, and ecological. See "Reuse Assessments: A Tool to Implement the Superfund Land Use Directive" (OSWER Directive 9355.7-06P, June 2001).

[12] As stated in the 1995 Land Use Directive: "Especially where there is some uncertainty regarding the anticipated future land use, it may be useful to compare the potential risks associated with several land use scenarios to estimate the impact on human health and the environment should the land use unexpectedly change. The magnitude of such potential impacts may be an important consideration in determining whether and how institutional controls should be used to restrict future uses." (pp. 6-7).

community leaders, businesses, and residents to gauge their knowledge of, and concerns about, the site. RPMs are also strongly encouraged to accompany the CIC on these information gathering efforts so that technical questions can be answered and also to facilitate the RPM's understanding of future use options. This aspect of the Superfund process often can provide important information for cleanup decisions. CICs should work closely with the RPM (and others as appropriate) to coordinate engagement with community individuals, community organizations, local governments, developers, owners, renters, etc. at a site. When conducting interviews, the CIC should discuss with and solicit from stakeholders the known, possible, or desired future uses of sites. As mentioned in the 1995 Land Use Directive, where there are concerns that "the local residents near the Superfund site may feel disenfranchised from the local land use planning and development process...EPA should make an extra effort to reach out to the local community to establish appropriate future land use assumptions..." (p. 6). The CIC may also meet with the community to discuss whether a Community Advisory Group (CAG) might be appropriate for getting nearby individuals involved in identifying the anticipated future land use at a site. Information from the community should be documented in the site's Community Involvement Plan, and the RPM should consider this information when developing assumptions regarding the reasonably anticipated future land use for the site.[13]

As stated in the 1995 Land Use Directive, "[w]here there is substantial agreement among local residents and land use planning agencies, owners and developers, EPA can rely with a great deal of certainty on the future land use already anticipated for the site" (p. 6). In all cases, the Regions should expect, and be prepared to address, questions, comments, issues, or concerns from stakeholders on the reasonably anticipated future land use assumptions made by the Agency.

Developing Remedial Action Objectives

As stated in the 1995 Land Use Directive:

> "Remedial action objectives provide the foundation upon which remedial cleanup alternatives are developed. In general, remedial action objectives should be developed in order to develop alternatives that would achieve cleanup levels associated with the reasonably anticipated future land use over as much of the site as possible. EPA recognizes, however, that achieving either the reasonably anticipated future land use, or the land use preferred by the community, may not be practicable across the entire site, or in some cases, at all." (p.7) (Emphasis in original)

The 1995 Land Use Directive also states that where the remedial action alternatives identified by the Region are not cost-effective or practicable, "the remedial action objective may be revised which may result in different, more reasonable land use(s)" (p. 7). However, "in cases where the future land use is relatively certain," the guidance recommends that "the remedial action objective generally should reflect this land use" (p. 7).

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[13] See the "Superfund Community Involvement Toolkit" (EPA 540-K-05-02, April 2005); Community Involvement Plan and Redevelopment Planning.

Furthermore, "[t]he remedy selection process will determine which alternative is most appropriate for the site and, consequently, the land use(s) available following remediation" (p. 8). In many circumstances, Regions may find it helpful to thoroughly explain to the community, local governments, states, tribes and other stakeholders the process used for developing the Agency's assumptions regarding reasonably anticipated future land use, especially when they differ from the preferences or assumptions of the community or other stakeholders.

Remedy Selection

Consistent with CERCLA and the NCP, Regions must ensure that CERCLA remedies protect human health and the environment. Generally, evaluating the protectiveness of a remedy includes analysis of the underlying assumptions for exposure based on the reasonably anticipated future land use at the site. As stated in the 1995 Land Use Directive:

> "As a result of the comparative analysis of alternatives with respect to the NCP's nine evaluation criteria, EPA selects a site-specific remedy. The remedy determines the cleanup levels, the volume of contaminated material to be treated, and the volume of contaminated material to be contained. Consequently, the remedy selection decision determines the size of the area that can be returned to productive use and the particular types of uses that will be possible following remediation." (p.8)

EPA's "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents" provides further guidance on selecting and documenting the remedy for a site, and addresses consideration of the reasonably anticipated future land use in that process.[14]

When evaluating remedy alternatives using the NCP's nine criteria, Regions should keep in mind the reasonably anticipated future land use of the site and how it could affect the integrity of the remedial action the Agency will select. As discussed above, the Regions should work with stakeholders (e.g., PRPs, states, tribes, local governments, the affected communities, developers, etc.) to ensure the potential effects related to remedy implementation and the remedy itself are understood by all parties; this outreach can also help ensure that the remedy selected does not create unnecessary barriers to site reuse.

In the remedy selection process, a Region also may become aware of actions related to the cleanup that could facilitate the reasonably anticipated future land use and help preserve the integrity of the remedial action. Where such actions are within the scope of CERCLA authority, it is appropriate for the Agency to include them as part of the remedy selected in the Record of Decision (ROD). To implement such actions, Regions may fund them or include them in actions

[14] See "A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents" (EPA 540-R-98-031, OSWER 9200.1-23P; July 1999).

being undertaken by the potentially responsible party (PRP).[15] If such actions are not within the scope of the Agency's authority, some other party (e.g., state, PRP, local government, tribes, developer, etc.) must fund the entire additional costs associated with those actions. Regions should ensure that integrity of the CERCLA remedial action is not adversely affected by any activities carried out by such other parties at the site.

Examples of actions that, depending upon the circumstances, fall within EPA's CERCLA authority include but are not limited to:

- moving wastes to a location other than the place that might otherwise have been chosen, in order to ensure the integrity of the disposal area in light of a site access point that will be needed for the site's anticipated future use;
- placement of monitoring or extraction wells, air-stripping towers, or other treatment units so that they will not be affected by the placement of structures needed for the anticipated future use of a site; and
- providing for the placement of clean utility corridors in landfill caps, which will allow others to install utilities without piercing the caps.

Post-ROD Changes

Future land use assumptions or land use designations may change or become better defined at any stage of the CERCLA response process. When this occurs prior to ROD signature and the Region determines that there is a change in the reasonably anticipated future land use assumption that should be integrated into the remedy selection process, the Region should refer to the 1995 Land Use Directive (and other appropriate guidance documents) and may need to supplement or revise other key documents (e.g., the baseline risk assessment, RI/FS, and proposed plan) consistent with the NCP.

If a person or party wants to change the land use after a ROD is signed, the Region should evaluate the proposed change to determine whether the proposed change will adversely affect the protectiveness of the remedy and if remedy modifications would be necessary to allow the changed land use. As stated on page ten of the 1995 Land Use Directive:

> "Should land use change, it will be necessary to evaluate the implication of that change for the selected remedy, and whether the remedy remains protective. EPA's role in any subsequent additional cleanup will be determined on a site-specific basis."

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[15] For example, actions that help ensure the protectiveness of the remedy or are otherwise needed to carry out the cleanup normally should not constitute unauthorized "enhancements." See NCP 300.515(f).

The Region should also determine whether all additional response costs associated with changing the land use, including, for example, costs of studies, designs and remedy changes needed, will be paid by the party(ies) seeking the changed land use. Attached to this Directive are a number of factors that a Region should consider in evaluating whether it would be appropriate to pursue a change in the selected remedy (see Attachment A)[16]. Before agreeing to or taking any action, the Region should consult with the Director of the Assessment and Remediation Division (ARD) in the Office of Superfund Remediation and Technology Innovation (OSRTI) to ensure a nationally consistent approach and to learn what other Regions have done in similar situations.

A Region has the discretion to modify the selected remedial action (e.g., based on an action suggested through the public participation process) as long as the proposed change is within the scope of the Agency's CERCLA authority. In the case of supporting the reasonably anticipated future land use, any additional costs associated with changing remedial action decisions generally should be considered as CERCLA response costs. If the Region believes that the proposed change is not within CERCLA authority but that it would not interfere with the CERCLA remedial action, the Region may modify the selected remedial activity after obtaining a commitment by the state, tribe, PRP, developer, local government or other responsible entity to fund the entire additional cost associated with the change (including a performance bond or other financial assurance, where appropriate). The Region should ensure that the work done by a state, tribe, PRP, developer, local government or other responsible entity in this case does not in any way conflict or be inconsistent with, impede the effectiveness of, or otherwise negatively impact the protectiveness of the CERCLA remedial action.

Where the Region, after consulting with ARD, determines it would be appropriate to pursue a change in the selected remedy based on new reasonably anticipated future land use assumptions, any action needed, (e.g., modifying a ROD) should follow the NCP and existing Superfund guidance. The Region should promote full and meaningful public participation, and should ensure that its actions and supporting documentation and analysis are included in the Administrative Record for the site. Furthermore, when a change in reasonably anticipated future land use assumptions results in a change in the remedy after the ROD has been signed, the Region will likely need to prepare, as appropriate, an Explanation of Significant Differences (ESD) or ROD Amendment, consistent with the NCP and EPA guidance.

Institutional Controls

As components of remedial actions, institutional controls (ICs) are used to achieve the precise substantive restrictions articulated in the decision documents that are needed at a site to achieve cleanup objectives. Appropriate consideration of the use of ICs should be given to providing adequate involvement to potentially affected landowners, renters, businesses, the general public, etc. (including providing appropriate notice, and opportunities for comment), the impacts of ICs on land uses, and maintaining a solid administrative record.

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[16] See also, A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents. (EPA 540-R-98-031, OSWER 9200.1-23P; July 1999).

ICs should be carefully evaluated, selected, and narrowly tailored to meet the cleanup objectives.[17] It is important that site managers involve the appropriate local government agencies in discussions on the types of controls that are being considered as early in the remedial process as possible. Local government officials can offer valuable information on the land use controls available in their jurisdiction and may offer creative solutions that protect human health and the environment while also protecting other local stakeholder interests. Discussions with the local government and community give the Regions the opportunity to identify whether a particular stakeholder group may be affected as a result of a proposed IC or to determine if the community has special needs in regard to an IC. In addition, discussions with individuals living on or near a site may reveal information regarding the potential efficacy of an IC. It may also be possible to provide technical assistance to the community so they can obtain a technical expert to assist them in evaluating ICs and the overall remedy.

The site manager should ensure that there is a process that routinely and critically evaluates the ICs to determine: (1) whether the mechanism remains in place; and (2) whether the ICs are providing the protection required by the remedy. This is routinely carried out through Institutional Control Implementation Plans with monitoring schedules and through statutory Five-Year Reviews.

Regions should take into account reasonably anticipated future land uses when selecting ICs and drafting the specific IC requirements and evaluating which IC instruments may be best to achieve the IC objectives. For example, putting in place ICs that require the prior approval of the state environmental agency in addition to the local government prior to any disturbance of a remedy may help to limit the activities that may compromise the remedy and/or result in exposures to humans. The IC may, however, allow for other uses of the site that do not negatively affect remedy protectiveness (e.g., prohibit heavy machinery usage on or near the remedy, while allowing light recreational uses, such as soccer fields).

Depending on the type of IC, there are different recommendations on how to enforce them. For governmental controls (e.g., zoning, permitting, etc.), EPA may encourage the local government to enter into agreements with the responsible parties and other stakeholders to memorialize various IC commitments, such as monitoring them periodically, correcting breaches, etc. For proprietary controls (e.g., restrictive covenants), EPA can refer violations to the Department of Justice or to a State's environmental agency to take action in federal or state court. For enforcement tools (e.g., consent decrees), EPA can use CERCLA or other cleanup authority to enforce the restrictions defined in these documents. Finally, information devices (e.g., placement of warning signs, fishing restrictions, registries, etc.) are not easily enforced by the EPA, but some states can enforce the placement of notices and some states can require that all ICs be placed in the state registry.

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[17] "Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Action Cleanups," EPA-540-F-00-005, OSWER 9355.0-74FS-P, September 2000. Available at: http://epa.gov/superfund/policy/ic/guide/guide.pdf.

Additional Information

Copies of this guidance and other EPA reuse guidances are available on the Superfund website, at http://www.epa.gov/superfund/programs/recycle/policy/reuse.html.

For questions, please contact Melissa Friedland in OSRTI at 703-603-8864 or at friedland.melissa@epa.gov.

Attachment

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Attachment A

When a change in reasonably anticipated future land use assumptions or a remedy occurs at any time after a Record of Decision (ROD) has been signed (including a change that occurs after construction has been completed) and there is an anticipated use of Fund money, Regions should consult with the Assessment and Remediation Division (ARD) in the Office of Superfund Remediation and Technology Innovation (OSRTI) and should be prepared to discuss the questions below and provide other information as appropriate. For Potentially Responsible Party (PRP) lead sites, Regions also should coordinate with the Office of Site Remediation Enforcement (OSRE) as to whether additional Agency costs can be recovered and other related enforcement issues. The Region should consider a number of factors in evaluating whether it would be appropriate to pursue a change in the land use or selected remedy. These include, but are not limited to:

1. Is the potential change in the reasonably anticipated future land use consistent with the Region's analysis of the remedy selected in the ROD? For example, would the remedy remain protective of human health and the environment in light of the potential change in anticipated future land use? Is a new risk assessment needed to estimate potential risks to human health and the environment due to the proposed changes?

2. Does the potential change in reasonably anticipated future land use appear reasonable and feasible? If the potential change occurs after the remedy is constructed, is the proposed use compatible with the existing remedy (including ICs), or is additional work needed? If so, who will be responsible for the additional costs?

3. Does the potential change in anticipated future land use affect any of the nine NCP criteria used to evaluate alternatives? (e.g., long-term effectiveness may be improved by certain types of reuse that help preserve the integrity of remedy).

4. How have the affected communities (including environmental justice communities) and other stakeholders been involved in identifying the potential change in reasonably anticipated future land use? Are there conflicting views about the potential change in reasonably anticipated future land use?

5. Does new, reliable, and up-to-date information support a re-evaluation of the assumptions regarding reasonably anticipated future land use made by the Region previously in the ROD? Was the new proposed reasonably anticipated future land use identified and rejected previously in the CERCLA remedy selection process? If so, does new information or a change in circumstances justify a re-examination of the issue?

6. What is the potential financial impact on the Agency's budget associated with modifying the remedial action based on the potential change in reasonably anticipated future land use? What is the estimated cost of revising already-prepared analysis and documents, modifying, terminating or re-implementing ICs? Does the potential change in land use

present long-term savings through, for example, reduced Operation and Maintenance (O&M) requirements, fewer ICs that require monitoring, etc.?

7. At a Fund-lead site, could any additional expense be characterized as a prohibited enhancement or betterment?

8. At a PRP-lead site, is the PRP or other private party (e.g., a bona fide prospective purchaser) willing to assume any additional cost that might be associated with modifying the selected remedy based on a new anticipated future land use assumption? Has the PRP or other private party provided sufficient, reasonably reliable financial assurance to ensure completion of any revised remedial action?

9. Is the potential change in reasonably anticipated future land use designed primarily to position a site for more stringent cleanup or a less stringent cleanup?