



Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites

1. PURPOSE

The purpose of this guidance is to provide managers of contaminated sites, site attorneys,¹ and other interested parties with information and recommendations that should be useful for planning, implementing, maintaining,² and enforcing institutional controls (ICs) for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund); Brownfields; federal facility; underground storage tank (UST); and Resource Conservation and Recovery Act (RCRA) site cleanups.³ It highlights some of the common issues that may be encountered and provides an overview of EPA’s policy regarding the roles and responsibilities of the parties involved in the various life-cycle stages of ICs while

¹ The terms “site manager” and “site attorney,” as used in this document, refer to personnel from the lead agency involved in a CERCLA (remedial and removal), Brownfields, federal facility, UST, or RCRA cleanup project. Where the lead agency is a federal agency other than the EPA, EPA and the federal agency may share some site manager/site attorney responsibilities or EPA may retain them independently depending on the responsibility under any of the five cleanup programs. The term “site” is used generically in this guidance to also represent areas of contamination managed under all five of these cleanup programs. The terms “CERCLA,” and “Superfund,” generally include both remedial and removal sites. In addition, the term “responsible party” as used in this document is intended to mean a person or entity with cleanup or IC responsibilities or expectations under the various cleanup programs listed above.

² The term “maintenance” refers to those activities, such as monitoring and reporting, that ensures ICs are implemented properly and functioning as intended.

³ This document provides guidance to the Regions on how EPA generally intends to plan, implement, maintain, and enforce institutional controls as part of a cleanup project. While this document relies heavily in many areas on CERCLA-specific terminology and examples, it is intended to provide guidance for all EPA cleanup programs, including RCRA, Brownfields, federal facilities, and underground storage tanks. The guidance is designed to help promote consistent national policy on these issues. It does not, however, substitute for CERCLA, RCRA, or EPA’s regulations, nor is it a regulation itself. Thus, it does not impose legally binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA, State, tribal, and local decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular site will be made based on the applicable statutes and regulations.

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recognizing that there are some differences among the cleanup programs.

This is the second in a series of guidance documents on the use of ICs. The first document, *Institutional Controls: A Site Manager’s Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups*, Office of Solid Waste and Emergency Response (OSWER) 9355.0-74FS-P, EPA 540-F-00-005, September 2000, (*A Site Manager’s Guide to ICs*), provides more detailed guidance on identifying, evaluating, and selecting ICs at CERCLA and RCRA cleanups.

Both the *Site Managers Guide to ICs* and this guidance address key questions that Regions should ask when considering ICs. The recommendations provided herein should among other things, help site managers and site attorneys: (1) understand the strengths, weaknesses, and costs for planning, implementing, maintaining, and enforcing ICs, (2) evaluate ICs as rigorously as any other response alternative, and (3) develop procedures to coordinate with

implementing entities early and often throughout the cleanup process. Ultimately, this should help site managers and site attorneys choose the most appropriate ICs to protect human health and the environment.

This guidance addresses crosscutting, multi-program IC issues but recognizes that there are some important differences among the cleanup programs. Differences in state and federal authorities may warrant different approaches to response to ensure that IC decisions remain enforceable.

Site managers and site attorneys are encouraged to coordinate among different tribal and government agencies and consult with the local community throughout the cleanup process. Legal requirements for maintaining ICs and community acceptance of the need for ICs to provide protection from residual contamination often are important to the long-term effectiveness of ICs.

This document is designed to provide general guidance and does not include an exhaustive list of considerations nor does the list of considerations apply to all types of sites equally (e.g., monitoring of small UST sites may be done more infrequently than at complex CERCLA sites). Before proceeding to evaluate and select response actions that may

include ICs, Regions need to carefully consider whether the implementing entities (e.g., local, state or tribal governments) have the inherent resources and capacity to plan for, implement, maintain, and enforce ICs. In particular, Regions should not assume that state, local or tribal governments have the resources to implement and maintain ICs, but rather should give careful consideration to determine whether ICs can be put in place in a long-term protective manner.

2. DEFINITION AND ROLE OF INSTITUTIONAL CONTROLS

For purposes of this document, EPA defines ICs as non-engineered instruments, such as administrative and legal controls, that help to minimize the potential for exposure to contamination and/or protect the integrity of a response action.⁴ ICs typically are designed to work by limiting land and/or resource use or by providing information that helps modify or guide human behavior at a site. ICs are a subset of Land Use Controls (LUCs). LUCs include engineering and physical barriers, such as fences and security guards, as well as ICs. The federal facility program may use either term in its decision documents. For purposes of this guidance, the term ICs is used, but the concepts also apply to LUCs.

Site managers and site attorneys should provide adequate opportunities for public participation (including potentially affected landowners and communities) when considering appropriate use of ICs. Those opportunities should include providing appropriate notice, and opportunities for comment, such as the Proposed Plan and other steps in the CERCLA cleanup process. Site managers and site attorneys should consider the impacts of the IC on current and reasonably anticipated future land uses, and should maintain an adequate administrative record to support the Agency's cleanup decisions. ICs should be carefully evaluated, selected, and narrowly tailored to meet the cleanup objectives for the site in a manner that does not unnecessarily restrict the reasonably anticipated future land use or resources.

As an example, a response selecting a capped landfill may rely on an IC to help ensure protectiveness. It may be appropriate for that IC to prohibit heavy machinery usage on or near a capped area, while allowing for light recreational uses (e.g., soccer fields) that do not result in unacceptable risks.

Typical Key Activities in the IC Life Cycle

- **Planning** may include activities leading up to implementation of an IC. This stage may include an evaluation of: the type(s) of use restrictions necessary at a site, potential ICs that might be relied upon to implement the selected restrictions, potential parties who may be responsible for long-term IC activities, criteria for terminating the ICs, issues that might impact the effectiveness of the ICs, estimated costs, and funding sources.
- **Implementation** may include activities undertaken to put the ICs in place including drafting, negotiating, and signing the specific documents necessary to legally establish the IC.
- **Maintenance** includes long-term monitoring and reporting activities that may be necessary to routinely and critically evaluate the effectiveness of ICs in consideration of cleanup objectives and cleanup goals.
- **Enforcement** can include actions taken to address ICs that have been breached or improperly implemented or maintained. IC enforcement may involve a range of activities, including informal communications and seeking voluntary compliance to more formal, legal steps, when appropriate.
- **Modification/Termination** may include legal or administrative steps taken to modify IC instruments (e.g., changing the area that the IC restricts or modifying monitoring requirements) or terminating the IC because cleanup objectives, cleanup goals, and/or other IC conditions have been met.

⁴ The words "response action" or "response" are used to include remedial and removal actions under CERCLA and similar actions under other programs. The National Contingency Plan (NCP) provisions for CERCLA removal actions address ICs through a particular process (i.e., post-removal site controls, such as ICs, typically are implemented following removal actions, not as part of removal actions). Generally, this guidance attempts to distinguish removals from other response actions, including CERCLA remedial actions or responses under other programs covered by this guidance, through use of the term "remedy" or "remedial action." Further, for purposes of this guidance, when RCRA authority is referenced in general, this includes RCRA-equivalent state authorities that also may be used to implement ICs.

In general, at any site relying on an IC, the relevant decision documents should clearly articulate the substantive restrictions (e.g., groundwater shall not be used for human consumption) or notices needed to address the exposure pathways and risks necessitating ICs.

Definition and Role of Institutional Controls

- Role of ICs (Section 2.1)
- Types of ICs (Section 2.2)
- Program-specific Role of ICs in Cleanups (Section 2.3)

2.1 Role of ICs

As response components, ICs typically are designed to achieve the substantive use restrictions selected in a response selection document in order to achieve the cleanup objectives. The evaluation of whether an IC is needed at a site is a site-specific determination. Site managers and site attorneys should consider whether the site would meet unlimited use and unrestricted exposure (UU/UE) as one of the factors in deciding when an IC is appropriate at a site. UU/UE generally is the level of cleanup at which all exposure pathways present an acceptable level of risk for all land uses.

If any cleanup alternative being evaluated leaves residual contamination in place, ICs should be considered to ensure that unacceptable risk from residual contamination does not occur. Cleanup actions such as capping waste in place, construction of containment facilities, monitored natural attenuation, and long-term pumping and treating of groundwater, may leave residual contamination on site where restrictions or notices provided by ICs to supplement the engineering controls can help ensure protection of human health and the environment. ICs, where appropriate, can be used in the context of either short-term temporary site solutions (e.g., restoration responses that will not leave waste in place above unacceptable levels upon completion) or long-term permanent solutions (e.g., containment responses that will leave waste in place in perpetuity).

As a site moves through the response selection process, site managers and site attorneys should collect information and develop assumptions about the reasonably anticipated future land use (for CERCLA-specific guidance, see *Land Use in the CERCLA Remedy Selection Process*, OSWER 9355.7-04, May 1995 and *Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites*, OSWER 9355.7-19, March 2010). Site managers and site attorneys should consider the reasonably anticipated future land use during response selection and take it into account when selecting ICs and drafting IC language in decision documents. Furthermore, site managers and site attorneys should clearly and explicitly document reasonably

anticipated future land use assumptions upon which the response action rests.⁵

The site manager and site attorney should discuss reasonably anticipated future land uses of the site with local land use planning authorities, local and state officials, landowners, the public, tribes, and other federal agencies as appropriate, as early as possible. This can be done, for example, during the scoping phase of the Remedial Investigation/Feasibility Study (RI/FS) for CERCLA or RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) for RCRA. At sites where any media will not be cleaned up to a level that supports UU/UE, the site manager and site attorney should discuss any IC instruments (in addition to active response measures where needed) that may be appropriate, taking into account financial concerns, legal implementation issues, jurisdictional questions, the impact of layering multiple ICs, and reliability and enforcement concerns. It also is important for the site manager to recognize that, in addition to restricting certain land uses, certain types of ICs also can be used to restrict or modify specific activities at sites (e.g., fish consumption prohibitions).

2.2 Types of ICs

For purposes of this guidance, ICs are divided into four categories: proprietary controls, governmental controls, enforcement and permit tools with IC components, and informational devices. Within each category, there are a number of instruments that may be employed. The following paragraphs summarize each category of ICs and each are discussed in Sections 3 through 9 as they relate to four stages of the IC life cycle described in this guidance. For additional guidance on the benefits and limitations of the various IC types, see *A Site Manager's Guide to ICs* or Section 3.2 below.

Proprietary controls refer to controls on land use that are considered private in nature because they tend to affect a single parcel of property and are established by private agreement between the property owner and a second party who, in turn, can enforce the controls. Common examples include easements that restrict use (also known as negative easements) and restrictive covenants. These types of controls can prohibit activities that may compromise the effectiveness of the response action or restrict activities or future resource use that may result in unacceptable risk to human health or the environment. State and tribal law typically authorize proprietary controls. In some states, the authority comes solely from common law. Other states have enacted statutes that directly authorize these types of controls for the purpose of

⁵ In cases where EPA or an authorized state determines that “no action” is needed under CERCLA, the decision document should document the assumptions upon which the remedy is based. If conditions at the site change, then EPA can assert its authority to later require a response.

preventing use in conflict with environmental contamination or remedies. These statutes tend to divide into ones modeled after the Uniform Environmental Covenants Act (UECA),⁶ and other non-UECA statutes.⁷ These UECA and non-UECA state statutes can provide advantages over traditional common law proprietary controls.

Governmental controls impose restrictions on land or resource use using the authority of a government entity. Typical examples of governmental controls include zoning; building codes; state, tribal, or local groundwater use regulations; and commercial fishing bans and sports/recreational fishing limits posed by federal, state and/or local resources and/or public health agencies. In many cases, federal landholding agencies, such as the Department of Defense, possess the authority to enforce ICs on their property. At active federal facilities, land or resource use restrictions may be addressed in Base Master Plans, facility construction review processes, facility digging permit systems, and/or the facility well permitting systems.

Enforcement and permit tools with IC components are legal tools, such as administrative orders, permits, Federal Facility Agreements (FFAs), and Consent Decrees (CDs), that limit certain site activities or require the performance of specific activities (e.g., monitor and report on IC effectiveness). These legal tools may be issued unilaterally or negotiated.⁸

Informational devices provide information or notification often as recorded notice in property records or as advisories to local communities, tourists, recreational users, or other interested persons that residual contamination remains on site. As such, informational devices generally do not provide enforceable restrictions.⁹ Typical informational devices include state registries of contaminated sites, notices in deeds, tracking systems, and fish/shellfish consumption advisories.

The four categories of ICs described above typically are available for CERCLA, RCRA, Brownfields, federal facilities, and UST cleanups. However, some of the individual instruments may not be available for all site types. For example, county zoning typically is not available at an active federal facility, and Base Master Plans typically are no longer relevant at transferring federal facilities. In addition, more

than one category of IC can be used to ensure a given objective is fully addressed (see Section 3.2).

2.3 Program-specific Role of ICs in Cleanups

The challenges of planning, implementing, maintaining, and enforcing ICs may be similar across the programs. Generally, under each program, site managers and attorneys should fully evaluate ICs during the development of cleanup alternatives (e.g., during the FS stage of CERCLA or the CMS stage of RCRA) and plan for the implementation, maintenance, and enforcement challenges early in the cleanup process. However, it may be important to recognize the program-specific differences in the processes, authorities, and responsibilities for planning, implementing, maintaining, and enforcing ICs.

This section illustrates some of the program-specific factors that should be considered. It is not intended to be an exhaustive list of the requirements and practices in each cleanup program. Although the cleanup programs do have important differences, the cleanup objectives are similar in that they use ICs in implementing cleanup decisions that are protective of human health and the environment.

CERCLA. Under the NCP, the remedy selection process under CERCLA is guided by several expectations. These include: (1) treatment should be used wherever practicable to address principal threat wastes;¹⁰ (2) groundwater should be returned to its beneficial use wherever practicable in a reasonable time frame;¹¹ and (3) ICs should supplement engineering controls as appropriate to prevent or limit exposure, but ICs normally “shall not substitute for active response measures... as the sole remedy unless such active measures are determined not to be practicable, based on the balancing of trade-offs among alternatives that is conducted during the selection of remedy.”¹² Thus, consistent with the NCP, an IC-only remedy may be appropriate under certain circumstances.

The remedy selection process that culminates in an IC-only ROD should be carried out consistent with the statute (e.g., on-site remedial actions must meet or waive ARARs pursuant to section 121(d)) and the NCP, including provisions which address expectations (e.g., 40 CFR 300.430(a)(1)(iii)(D)), developing a range of alternatives (40 CFR 300.430(e)(1) and

⁶ UECA was developed by the National Conference of Commissioners on Uniform State Laws. See <http://www.uniformlaws.org/> for more information.

⁷ See, e.g., Colo. Rev. Stat. §25-15-320 (2011); Cal. Civ. Code §1471 (2011).

⁸ While enforcement documents like CDs and FFAs typically are negotiated with the appropriate entities, some administrative orders are issued unilaterally.

⁹ For purposes of this guidance, when the term “IC” is used in a general manner that suggests enforceable restrictions are required, it should be assumed that informational devices themselves provide notice rather than enforceable restrictions.

¹⁰ Principal threat wastes generally are source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained, or would present a significant risk to human health or the environment should exposure occur. For more information, please see *A Guide to Principal Threat and Low Level Threat Wastes*, Office of Emergency and Remedial Response (OERR) 9380.3-06FS, November 1991.

¹¹ For more information on remedy selection see *Rules of Thumb for Superfund Remedy Selection*, EPA 540-R-97-013, OSWER 9355.0-69, August 1997.

¹² These expectations appear in 40 CFR §300.430(a)(1)(iii).

(2)), and analyzing alternatives through the nine-criteria analysis (40 CFR 430(e)(9)). ICs often play an important role by minimizing the potential for exposure for residual contamination and by protecting engineered remedies; however, as provided in the NCP, ICs are not intended to be a way “around” treatment or groundwater restoration.

Applicable or Relevant and Appropriate Requirements (ARARs) - As with other statutory or regulatory provisions, EPA may evaluate a state IC law or regulation to determine whether all or a portion of the IC law or regulation is a potential ARAR, consistent with CERCLA, the NCP, and existing Agency guidance and policies. Such ARAR determinations typically are made on a site-specific basis considering the circumstances of the release, an analysis of the specific statutory and regulatory provisions, and a number of other factors.¹³ In general, any substantive portion of a state IC law or regulation that meets the requirements of CERCLA §121(d) and is consistent with the NCP (e.g., 40 C.F.R. §300.400(g)(4)) may be considered as a potential ARAR. Substantive standards typically establish a level or standard of control, and may include a narrative requirement; in the context of ICs, a substantive requirement could be one that, for example, is designed to protect human health and the environment by requiring land use or activity use restrictions on property with residual contamination where that residual contamination makes the property unsuitable for specific land uses.

As a policy matter, a portion of a state IC law or regulation that requires particular mechanisms or procedures (e.g., state-approved recordation) to implement the IC may be considered part of the substantive requirement if it provides for enforceability of the IC. Procedural requirements tied to discretionary state processes that could result in inconsistent applications of a state IC law or regulation generally would be considered administrative in nature (and not ARARs). For example, a provision in a state IC law or regulation that allows or requires state approval of a proprietary control, or grants authority to the state to modify or terminate a proprietary control without specified objective factors and meaningful opportunity for public participation generally would not constitute a standard that represents an ARAR.

In some cases, a portion of a state IC law or regulation that is determined not to be an ARAR may be identified by the Region in a CERCLA decision document as a to-be-considered (TBC) criteria.¹⁴ In appropriate circumstances, TBCs are used to help ensure the long-term protectiveness of the response action.

Regardless of whether a state IC law or regulation is determined to be an ARAR or TBC under CERCLA, for responses that include ICs, the Region should strive to identify enforceable ICs (such as proprietary controls) in the decision document.

Measures with IC components - EPA has elevated the importance of ensuring that ICs, required as part of a response, are implemented, maintained, and enforced when appropriate. This focus is reflected in two Government Performance and Results Act (GPRA) performance measures: the Site-wide Ready for Anticipated Use (SWRAU) measure and the Cross Program Revitalization Measure (CPRM). Both contain specific IC requirements. For example, for a SWRAU determination, the site manager and site attorney normally consider whether all ICs called for in the decision documents are in place and continue to be effective. In order for a site to qualify for this measure, all ICs used as part of the justification for considering that a site is SWRAU must first be determined to be “in place.”

An “in place” determination will depend on the nature of the IC(s) used at a site, but generally is satisfied when the IC is implemented in accordance with applicable laws and authorities. For example, an IC is “in place” through: the enactment of ordinances, codes, or other regulations by local government; recording of a proprietary control in the chain of title for a property; issuance of enforcement tools or permits by a regulatory authority; listing of a property on a state registry of contaminated sites; and for active military bases, use of Base Master Plans, instructions, orders, and dig permit systems.

The second prong of the IC component of the SWRAU measure is a finding that the IC(s) being relied upon in the response action are determined to be “effective.” Generally, the site manager and site attorney may determine ICs to be effective when they are operating as intended by the decision documents (e.g., restricting specific land or resource uses, protecting engineered remedy components, providing notice of residual contamination). The evaluation of whether ICs are effective is a site-specific determination. Site managers and site attorneys should review the compliance and enforcement history of the ICs (e.g., stakeholders are complying with the restrictions or have adequate notice of the ICs, and if not, steps have been taken, including enforcement actions, to address those events).

Further consideration for determining IC effectiveness should be given to whether enforceable ICs are needed at a site if not already required. In some cases, it may be appropriate to reinforce¹⁵ existing ICs or implement additional layered ICs to

¹³ For additional guidance on ARARs under CERCLA, see 40 C.F.R. §300.5 and 40 C.F.R. §300.400(g) of the NCP and *CERCLA Compliance with Other Laws Manual*, EPA 540/G-89/006, August 1988, pages 1-10 through 1-12.

¹⁴ See 40 C.F.R. §300.400(g)(3).

¹⁵ For instance, this could include implementing a proprietary control pursuant to a state’s IC statute in place of a traditional common law instrument in order to address any relevant legal impediments to their enforceability.

ensure that ICs are effective in contributing to long-term protectiveness at a site. See Section 1.2 of *Recommended Evaluation of Institutional Controls: Supplement to the 'Comprehensive Five-Year Review Guidance,'* OSWER Directive 9355.7-18, September 13, 2011, which provides a recommended analysis of IC effectiveness during the CERCLA five-year review (FYR) process; a similar analysis to the one that typically is conducted for a SWRAU evaluation. For more information on how ICs relate to the land revitalization performance measures, see *Guidance for Documenting and Reporting Performance in Achieving Land Revitalization*, OSWER 9200.1-74, 2007.

CERCLA removals - The use of ICs following Fund-financed removal actions is discussed in previous EPA guidance that addresses post-removal site controls (PRSCs) (*Policy on Management of Post-Removal Site Control*, OSWER 9360.2-02, December 1990). Generally, site managers and site attorneys should treat ICs like PRSCs.¹⁶ The NCP states that *to the extent practicable* (emphasis added) provision for PRSCs following a Fund-financed removal action at both National Priorities List (NPL) and non-NPL sites is encouraged to be made prior to the initiation of the removal action. Such control includes actions necessary to ensure the effectiveness and integrity of the removal action after the completion of the on-site removal action (40 CFR §300.415(l)). Such controls may be conducted by state, tribal, or local governments; potentially responsible parties (PRPs); or EPA's remedial program for some federal-lead Fund-financed responses at NPL sites upon completion of the removal action.¹⁷ EPA encourages site managers and site attorneys to coordinate with the state, local governments, tribe and/or community groups prior to the initiation of the removal action, to seek commitments for conducting PRSC, and to notify the state of any recommendation or decision regarding the need for ICs. Further information to assist states and EPA with the transition of responsibilities from the EPA removal program to the state following an EPA removal action is provided in *Coordination of Federal Removal Actions and State Remedial Activities*, Association of State and Territorial Solid Waste Management Officials (ASTSWMO), 2007.

RCRA. The use of ICs for RCRA cleanups is discussed in a 1996 Advance Notice of Proposed Rulemaking (ANPR), *Corrective Action for Releases from Solid Waste Management Units at Hazardous Waste Management Facilities; Proposed Rule*, 61 FR 19,431-19,464, May 1, 1996; *Final Guidance on Completion of Corrective Action Activities at RCRA Facilities (Corrective Action Completion Guidance)*, 68 FR 8,757-8,764,

February 25, 2003; and an EPA memorandum titled *Ensuring Effective and Reliable Institutional Controls at RCRA Facilities*, Office of Site Remediation Enforcement and Office of Solid Waste, June 2007.

Generally, under RCRA, ICs are included as components of the corrective action and/or post-closure care requirements at a facility, and as such may be incorporated into a permit or an order. The *Corrective Action Completion Guidance* discusses issues associated with completing corrective actions at RCRA facilities, and provides for two types of completion determinations: (1) Complete with Controls; and (2) Complete without Controls. The Corrective Action Complete with Controls determination may be appropriate at facilities where, among other requirements, all that remains is performance of required operations and maintenance (O&M) and monitoring actions, and/or compliance with and maintenance of any ICs. Facilities, or portions of facilities, that are not conducting cleanup as part of corrective action may still have cleanup and IC requirements as part of their facility post-closure care permit requirements. RCRA permits and orders can be used to restrict the use of a property by the facility owner/operator and/or require that the owner operator implement, maintain, and enforce proprietary controls, as needed. For example, EPA-issued orders under RCRA §3008(h) or §7003 may require, or prohibit, certain activities at the facility by the current facility owner/operator, and also require as part of corrective action that proprietary and/or governmental controls are used to ensure long-term protectiveness. States may be authorized to implement either or both of the corrective action or base regulatory programs under RCRA and as such may develop their own approaches for cleanup and ICs. For more information on remedial action selection under RCRA see the ANPR, page 19,432.

Federal Facilities. The purpose of this section is to provide direction to site managers and site attorneys working on federal facility hazardous waste sites to make decisions regarding the implementation of ICs at federal facilities. Federal facilities, in contrast to most private facilities, tend to be large, often encompassing thousands of acres. The cleanups are often complex due to the high levels of industrial activities frequently occurring on Federal lands, such as manufacturing and testing of weapons, maintaining aircraft and machinery, recovering nuclear material, and disposing low-level radioactive waste. Contamination from these industrial activities can be spread over vast areas of United States property. With such widespread contamination, ICs often play a particularly crucial role in ensuring long term protectiveness of remedies.

EPA has issued guidance on describing and documenting ICs in federal facility response actions under CERCLA in Records of Decision (RODs), remedial designs (RDs), and remedial action work plans (RAWPs) in the *Sample Federal Facility Land Use Control ROD Checklist with Suggested Language (LUC Checklist)*, OSWER Directive 9355.6-12. The LUC Checklist provides recommended language for creating

¹⁶ Unlike ICs, PRSC can include a broader array of items such as site maintenance activities, repairs, Operation & Maintenance (O&M), and environmental monitoring.

¹⁷ It is important to note that EPA does not use the Fund to pay for IC maintenance or enforcement at CERCLA sites. CERCLA §104(c)(3)(A) requires states to pay for or ensure the payment of all future routine O&M following Fund-financed remedial actions. See Section 4.3.

enforceable LUC requirements to include in a ROD, RD, RAWP, or other post-ROD document. The LUC/IC information contained in these documents should be analogous to that required in an IC Implementation and Assurance Plan (ICIAP), as described in Section 3.3 of this guidance.

A Site Manager's Guide to ICs notes that federal facilities may differ significantly from privately owned sites in the process by which ICs are implemented or in the types of ICs that are available. Some ICs, such as local governmental controls, may not be available at active federal facilities. A broader variety of ICs may be available upon transfer of these facilities out of federal government ownership. For instance, the Department of Defense has the authority to restrict property by retaining property interests (e.g., implementing an easement) in those properties that are being transferred outside of federal ownership during base closure. Additionally, if a property is being transferred to another federal entity, ICs may be addressed through a transfer document and/or a separate Memorandum of Understanding (MOU). For more guidance on ICs and property transfer, see *Institutional Controls and Transfer of Real Property under CERCLA §120(h)(3)(A), (B), or (C)*, February 2000.

As discussed in Section 2.1, the evaluation of whether ICs are needed at a site is a site-specific determination. During response selection, if any cleanup alternative being evaluated leaves residual contamination in place, ICs should be considered as a means to ensure that unacceptable risk from residual contamination does not occur. At active federal facilities, land or resource use restrictions may be addressed in Base Master Plans, facility construction review processes, facility digging permit systems, and/or the facility well permitting systems.

Because some federal agencies may have somewhat different procedures, it is important when dealing with federal facility issues to coordinate with EPA's Federal Facility Restoration and Reuse Office (FFRRO) and Federal Facility Enforcement Office (FFEO) and the specific federal agency in question.

Brownfields and UST Sites. State and local governments often define the cleanup levels at Brownfields and UST sites and typically oversee cleanups and determine whether ICs will be allowed or are required. While IC tracking may be required by many state or tribal regulatory programs, ultimately, individual property owners are required to ensure that ICs remain in place and are protective. The site manager and site attorney are encouraged to work with state, local, and/or tribal governments to make sure that the types of ICs used are consistent with the level of cleanup and the proposed reuse of the site.

3. PLANNING FOR INSTITUTIONAL CONTROLS

Full life-cycle planning of ICs is recommended to ensure their long-term effectiveness. Planning for ICs should begin early and be an ongoing process. It generally should begin prior to selecting substantive use restrictions and continue during the process of converting desired use restrictions into actual IC instruments; that planning, in turn, should include establishing approaches for assuring compliance with ICs over their duration. Many common problems experienced by practitioners using ICs often can be avoided by critically evaluating and thoroughly planning for the entire IC lifespan, to the extent possible, early in the response selection and design process.¹⁸

During all stages of IC planning and particularly early on, site managers and site attorneys should seek input (and evaluate the capacity for IC involvement) from state, tribal, and local governments, responsible parties, affected communities, natural resource trustees,¹⁹ and other stakeholders in order to help ensure that the most appropriate response, including ICs, is selected. Early cooperation and coordination among these parties often can be critical to ensuring long-term IC protectiveness at a site. Affected stakeholders should be made aware of ICs under consideration and have an opportunity to provide input. The following subsections highlight additional considerations that may be important in evaluating and planning for the IC life cycle.

3.1 Selecting ICs

The *Site Manager's Guide to ICs* discusses recommended factors that generally should be considered when evaluating and selecting ICs as part of site cleanups. The process of IC evaluation and selection generally should begin with identifying the need for ICs. As discussed in Section 2.1 above, if any cleanup alternatives being evaluated leave residual contamination in place, ICs should be considered to ensure that unacceptable risk from residual contamination does not occur. In addition, as discussed in Section 2.1 above, site managers and site attorneys should consider the

¹⁸ In addition to the remedy selection process, ICs also may be chosen as part of removal actions, in which case they should be planned for and evaluated as part of the Engineering Evaluation/Cost Analysis study (EE/CA) under CERCLA.

¹⁹ Federal, state, tribal and, in some cases, foreign governments may be considered natural resource trustees. Although EPA is not a natural resource trustee itself, it usually is responsible under CERCLA §122(j)(1) for: (1) notifying federal natural resource trustees of settlement negotiations with potentially responsible parties, if the release of hazardous substances may have resulted in injuries to natural resources under their Trusteeship; and (2) encouraging the participation of Federal Natural Resource Trustees in settlement negotiations. See <http://www.epa.gov/superfund/programs/nrd/primer.htm> for more information.

reasonably anticipated future land use during response selection and take it into account when selecting ICs and drafting IC language in decision documents. Furthermore, site managers and site attorneys should clearly and explicitly document reasonably anticipated future land use assumptions upon which the response action rests.

Cleanup objectives can be used to identify the overall role (if any) for substantive land and/or resource use restrictions. Where appropriate, these objectives should “clearly state what will be accomplished through the use of ICs.”²⁰ For example, a cleanup objective may describe the need to “restrict the use of groundwater as a drinking water source...”²¹ The process of identifying appropriate substantive land and/or resource use restrictions as part of a CERCLA cleanup action generally should follow a process similar to other response components. This typically includes an evaluation of the substantive restrictions that may be needed to protect engineering controls and human health and the environment. For example, as part of the CERCLA remedy selection process, alternatives generally are evaluated using the nine criteria set forth in the NCP.²²

First, a preliminary IC evaluation typically should be included as part of site investigation efforts. These may include, for example, during an RI/FS developed for CERCLA remedial actions; an EE/CA study for CERCLA non-time critical removal actions; the RFI/CMS process during the RCRA corrective action and permitting processes, and in similar Brownfields and UST investigations and decision documents.

IC decisions generally should be documented in proposed cleanup plans and in final cleanup decision documents. For example, for CERCLA cleanups, the proposed restriction and need for ICs should normally be identified in the Proposed Plan, for notice and opportunity to comment by potentially affected landowners and the public. Such use restrictions or notices typically are then selected and memorialized in the ROD.

For emergency and time-critical removals, EPA, states, tribes, or responsible parties should conduct a preliminary IC evaluation as early in the response process as possible. As appropriate, before commencing a CERCLA removal action, EPA should discuss with the state and/or responsible parties the need for ICs following a removal action, and seek a written commitment that the state and/or responsible parties will assume responsibility for ICs at the site (*Policy on Management of Post-Removal Site Control*, OSWER 9360.2-02, December 1990). EPA may consider requiring an IC in the removal decision document (i.e., action memorandum) when

the removal action does not result in UU/UE, and especially in those cases where EPA will not likely initiate a remedial action upon the completion of the removal action.

In RCRA Corrective Action cleanups, ICs should be evaluated as early as possible, such as when contamination is first discovered at the facility or during the RFI. ICs should be more fully evaluated as part of the CMS or equivalent, or during the design of any interim measures for the facility. In cases where EPA or the state uses performance standards or a similar approach, or in less complex sites, the submission or approval of a formal CMS might not be required. However, ICs should still be evaluated as early as possible under these alternative approaches. Typically, at Corrective Action facilities, the facility owner/operator recommends a response action based on the CMS or equivalent, the lead agency evaluates the response action recommendation and decides what response to propose for public comment, and with owner/operator and public input, makes the final response selection, typically through a permit or order. Each step in this remedy evaluation and selection process provides an opportunity to evaluate and plan for the full life cycle of any ICs.

3.2 Choosing Among Different Types of IC Instruments

When cleanup objectives in general describe the type of substantive restrictions that may be needed, the next step typically involves choosing the appropriate IC instrument(s). The choice of a particular type of IC instrument (or layered instruments) may impact the approach for conducting future maintenance and assuring IC compliance.

Section 4.1 discusses documentation of ICs in decision documents. While the objectives of the IC normally should be clearly specified in decision documents, in some cases it may be appropriate to defer selection of the precise IC instrument, or combination of ICs, until after the decision document is issued.

Site-specific circumstances will ordinarily inform the selection of the most appropriate and effective IC instruments at the site. When choosing IC instruments, site managers and site attorneys generally should take into account the following considerations.

General Considerations. Although not an exhaustive list, general IC instrument considerations include:

(1) *The intended duration of the IC* – short-term ICs (especially if land sales are not expected) may not need to “run with the land,” while long duration ICs that “run with the land” (such as proprietary controls, or long-term government controls, or both) may be more appropriate.

(2) *The number of parcels that need to be restricted* – when many separately-owned parcels are to be covered by ICs, proprietary controls can become difficult to negotiate and execute. Because proprietary controls typically are parcel

²⁰ *A Site Manager's Guide to ICs*, p. 5.

²¹ *A Site Manager's Guide to ICs*, p. 5.

²² See 40 CFR §300.430(e).

specific, disparate implementation and compliance could occur among a group of parcels where proprietary controls are selected. Government controls, on the other hand, often can cover a large area with a single legal/regulatory requirement.

(3) *Whether affected landowners are supportive of implementing ICs on their properties* – as discussed in Section 4.4, establishing ICs with non-source property owners (or property owners who did not cause or contribute to the contamination on their property) can be difficult and may trigger the need for more complex negotiations with landowners to implement proprietary controls. In some cases, it may be appropriate to obtain agreement with affected landowners on ICs other than proprietary controls, such as informational devices or governmental controls, on an interim or final basis.

(4) *State/local government cooperation* – state and local governments' support for and agreement with the goal(s) of the IC is important. Whether those entities can and do agree to assist with IC implementation, maintenance and/or enforcement normally are crucial considerations, especially when governmental controls will be relied upon.

More Detailed Considerations. When evaluating different types of IC instrument(s),²³ site managers and site attorneys also should normally consider the following additional factors:

(1) Will the IC instrument(s) achieve the necessary substantive use restrictions and/or provide adequate notice of site conditions (i.e., what are the potential routes of exposures and how would the IC instrument(s) help minimize those risks)?

(2) What are the various legal and practical limits for long-term compliance assurance (e.g., are IC life-cycle costs prohibitive)?

(3) Who will ultimately be responsible for compliance assurance activities through each phase of the IC life cycle?

(4) Are the parties responsible for activities aware of their roles and capable to fulfill their responsibilities?

In addition, the site attorney should carefully examine state and local laws relevant to the ICs being considered.²⁴ Potentially relevant considerations for evaluating different possible ICs include:

- Based on an early evaluation of land title records, are proprietary controls practical and potentially effective?

- Who would have the legal authority for implementing and enforcing proprietary controls?
- Who could hold a property interest (i.e., be the grantee) for a proprietary control?
- Which state, tribal, or other agency has the legal authority and willingness to accept the transfer of an interest in real property?
- Does the jurisdiction's real property law allow proprietary controls to "run with the land" and bind future landowners?
- Are there state laws that authorize ICs, and if so, how should Regions consider using those laws when making cleanup decisions?
- What are the limits of the local government's zoning and permitting authority (e.g., what restrictions exist in current zoning ordinances, and what are the zoning amendment and variance procedures)?
- Which state and/or local agencies have the legal authorities to control the potential exposure points (e.g., commercial fishing, restaurant, sport/recreational/subsistence fishing)?
- Do these regulatory agencies actively enforce existing environmental regulations?

These and other considerations are addressed more fully in Sections 4 through 9 of this document.

IC Layering. Often ICs are more effective if they are layered or implemented in series. Layering can involve using different types of ICs at the same time to help ensure the protectiveness of the response action. For example, layering governmental controls and informational devices is a common approach used at sediment sites to control human health exposure through consumption of contaminated fish and/or shellfish.²⁵ Although layering can have its advantages as an IC strategy, site managers and site attorneys should evaluate whether layering may lead to misunderstandings over accountability or to an unnecessarily restrictive response (e.g., preventing reuse) if ICs are not narrowly tailored to meet the cleanup objectives identified in the decision documents. The layering of ICs and extent of ICs should be commensurate with the amount, concentrations, toxicity, and other characteristics of residual contamination. Site managers and site attorneys also should consider informing the entity responsible for maintaining a particular IC that layering does not diminish the importance of

²³ See also the discussion of the benefits and limitations of various IC categories in *A Site Manager's Guide to ICs*.

²⁴ For example, some state and local laws and regulations relating to land use may not be enforceable on federal facilities.

²⁵ For guidance on ICs at contaminated sediment sites, please see *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*, EPA-540-R-05-012, OSWER 9355.0-85, December 2005, or *Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites*, OSWER Directive 9285.6-08, February 2002. Guidance also is available for implementing ICs at Superfund lead-contaminated residential sites (*Superfund Lead-Contaminated Residential Sites Handbook*, Office of Emergency and Remedial Response, OSWER 9285.7-50, August 2003).

its responsibilities. For an additional explanation of layering, see *A Site Manager's Guide to ICs*.

3.3 IC Implementation and Assurance Plans

An ICIAP is a document designed to systematically: (a) establish and document the activities necessary to implement and ensure the long-term stewardship of ICs; and (b) specify the persons and/or organizations that will be responsible for conducting these activities.²⁶ As such, ICIAPs can be useful tools for planning and, in turn, for assuring effective implementation, maintenance, and enforcement of ICs because they can serve as a single-source of concise site-specific IC information.²⁷ At PRP-lead Superfund sites, the model Remedial Design/Remedial Action Consent Decree (RD/RA CD) incorporates the concept of ICIAPs and provides model language regarding their use (see *Model RD/RA Consent Decree*, Office of Site Remediation Enforcement, Office of Enforcement and Compliance Assistance, July 2011, Sections IV & IX).

ICIAPs generally should focus on the details of how ICs will be implemented, maintained, enforced, modified, and terminated (if applicable). The ICIAP should identify existing or anticipated enforcement documents and approaches that may be used to enforce the ICs, where applicable. It also should describe how the IC approach for the site relates to the reasonably anticipated future land use assumption used in the response selection process, especially for special siting circumstances (e.g., schools).

The relative role of various stakeholders can be an important component of ICIAPs, because planning for the involvement of parties such as RPs, state and local governments, and third parties can be crucial for effective IC management. By attempting to specify the roles of stakeholders, the ICIAP often can facilitate arrangements that should lead to a “common understanding”²⁸ among the parties as to their roles and obligations. For example, in a situation involving a zoning ordinance that has been selected as an IC, an ICIAP could

explain how EPA and/or the state and responsible parties are supposed to be notified before a zoning amendment, variance, or similar action is considered.

The ICIAP may be developed at different times during the cleanup process, depending upon the size and complexity of the cleanup and the cleanup authority or program under which it is being developed. Although information related to the development of the ICIAP may be generated throughout the cleanup process (e.g., site investigation, response selection, response implementation, and long-term stewardship), it generally is recommended that the ICIAP be initiated prior to, or at the same time as, the design (e.g., RD phase of CERCLA) of the engineered response action and finalized with the completion of that response action. This approach should allow time for the site managers, site attorneys, and other interested parties to complete detailed post-response discussions with potential IC implementers, inspectors, and other stakeholders. Finally, the criteria and authority for modifying and terminating each selected IC should be identified as part of the full life-cycle planning process in the ICIAP.²⁹

As an example, the need for early development of an ICIAP may occur at contaminated sediment sites where CERCLA remedial investigations are in progress and human health exposures from eating contaminated fish are documented. In such circumstances, developing and implementing an ICIAP in collaboration with appropriate federal, state, tribal, and/or local jurisdictions in advance of and/or in conjunction with the engineered response should help ensure protectiveness for populations at risk.

For specific information on developing ICIAPs, see *Institutional Controls: A Guide to Preparing Institutional Controls Implementation and Assurance Plans at Contaminated Sites*, OSWER Directive 9200.0-77, EPA-540-R-09-002, December 2012.

3.4 IC Cost Estimation and Funding

A thorough and realistic estimate of the full life-cycle cost of ICs is normally an important step of the IC planning process. Accurate cost estimates can help site managers evaluate the cost-effectiveness of alternative remedies during response selection. Further, a clear picture of long-term IC costs can help inform IC stakeholders of their potential financial obligations prior to parties entering into settlements or other arrangements. This may help ensure that adequate resources and funding will be available for IC life-cycle costs. Parties responsible for the cleanups often are required to provide assurances to regulatory authorities that they have the

²⁶ ICIAPs do not replace the need to consider ICs in the CERCLA Feasibility Study analysis or including ICs in decision documents.

²⁷ An ICIAP may not be appropriate for emergency removals and time-critical removals since information needed for IC planning and implementation may not be available prior to a removal action.

²⁸ A “common understanding” regarding the respective IC roles and responsibilities of the parties may be memorialized through mechanisms available under state law (e.g., a MOU, Administrative Order on Consent, contract, or enforceable agreement). For example, the City of Excelsior Springs and the Missouri Department of Natural Resources entered into an MOU together to ensure that ICs are in place to restrict the use of groundwater for a potable drinking water supply. Furthermore, the MOU provides that the city will: (1) notify the state of any deviations or modifications to the ordinance; (2) review the remediated site before siting potable water supply wells within the area covered by the ordinance; and 3) contact the Department if they intend to drill a potable well in the ordinance area.

²⁹ For less complex sites, the elements of an ICIAP may be included as part of other deliverables, such as the remedial design or O&M Plan.

financial capacity to fund the work.³⁰ See Section 4.3 for more information on state O&M assurances at CERCLA sites.

Cost information typically should be compiled early in the cleanup process, such as during the RI/FS, EE/CA, or CMS, to help inform response decisions.³¹ During the design phase of a response, more accurate IC cost information may be available and can be used to further plan for ICs. Many long-term IC costs, such as those associated with IC maintenance and enforcement activities, may extend beyond the 30-year period traditionally used in many response cost calculations and, as such, should be acknowledged when developing cost estimates.³² For more information on cost estimation, please see a *Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, EPA 540-R-00-002, OSWER 9355.0-75, July 2000.

The availability of funding resources for IC life-cycle activities also should be considered early on during the IC planning process. Consistent with the “polluter pays” policy, EPA generally strives to ensure that parties responsible for contamination pay for the cleanup, including IC-related costs.³³ The site manager and site attorney may provide state, tribal, and local governmental officials with information concerning possible approaches and strategies to ensure that adequate funding will be available by responsible parties for IC costs, including:

- Using trust funds, surety bonds, letters of credit, insurance, or other means of financial assurance, as appropriate;
- Billing arrangements with the responsible party;

³⁰ See, for example, 40 CFR §264.101 for financial assurance requirements for corrective action at RCRA-permitted facilities.

³¹ EPA’s Office of Brownfields and Land Revitalization has developed an IC and engineering controls (ECs) cost calculator for Brownfields properties. This template may assist site managers in tracking the implementation and long-term stewardship costs of ICs and ECs. While this calculator was developed specific to Brownfield’s properties, it also may provide a useful framework for local governments to consider and plan for short- and long-term IC costs for the other cleanup programs detailed in this guidance. See http://www.epa.gov/brownfields/tools/ic_ec_cost_tool.pdf.

³² “Past USEPA guidance recommended the general use of a 30-year period of analysis for estimating present value costs of remedial alternatives during the FS (USEPA 1988). While this may be appropriate in some circumstances, and is a commonly made simplifying assumption, the blanket use of a 30-year period of analysis is not recommended. Site-specific justification should be provided for the period of analysis selected, especially when the project duration (i.e., time required for design, construction, O&M, and closeout) exceeds the selected period of analysis.” (*Guide to Developing and Documenting Cost Estimates During the Feasibility Study*, EPA 540-R-00-002, OSWER 9355.0-75, July 2000)

³³ See “*Enforcement First*” to *Ensure Effective Institutional Controls at Superfund Sites*, OSWER 9208.2, May 17, 2006.

- Requiring the responsible party to set up escrow accounts; and
- Using settlement proceeds to fund site-specific special accounts³⁴ for ICs and other appropriate response actions.

In some instances, it may be possible for state, tribal, or local authorities to use CERCLA’s §107 liability provisions to secure responsible party financing for ICs. It also may be possible to ensure that future IC costs are covered by financial assurance requirements of an enforcement document (e.g., a three-party consent decree between the U.S., state, and responsible party).

A variety of programs and tools may be available to help fund IC costs. For example, EPA’s Brownfields program provides grants to states and local governments to carry out site assessment and cleanup activities and to nonprofit organizations to carry out cleanup. Pursuant to EPA’s grant guidelines³⁵ and §104(k)(4)(C) of CERCLA, a local government that is a Brownfields grant recipient can use up to ten percent of the grant to monitor and enforce ICs that are designed to prevent exposure to any hazardous substance from a Brownfields site. States can use grant funds to establish or enhance their response program for addressing Brownfields sites, including O&M or long-term monitoring activities. In addition, funding provided to state and tribal response programs under CERCLA §128(a) can be used to monitor and maintain ICs, including the development of IC databases.

Further, the site manager and site attorney may consider using CERCLA §104(d) cooperative agreements, as appropriate, to support the initial implementation of ICs (but not O&M) by state and local governments at CERCLA Fund-lead sites. CERCLA authorizes EPA to enter into cooperative agreements with state and local governments to help conduct response actions at remedial action sites and non-time-critical removal sites.³⁶ A Superfund cooperative agreement is the assistance vehicle that transfers EPA funds for a response to state, tribal, or local governments and documents both EPA and recipient responsibilities for a site. EPA generally will enter into cooperative agreements with the state-lead agency (usually the state’s pollution control agency) as designated by the state’s governor and, less commonly, with local

³⁴ For more information, please see *Guidance on the Planning and Use of Special Account Funds*, OSRTI/OSRE, OSWER Directive 9275.1-20, August 2003.

³⁵ For more information on EPA’s guidelines for Brownfields Assessment Grants, please see: http://www.epa.gov/swerosps/bf/assessment_grants.htm.

³⁶ The Bunker Hill Superfund site IC program in Idaho is funded by cleanup remedy funds including a mix of PRP funds, state contributions, and federal funds pursuant to a cooperative agreement. For more information on the IC program at Bunker Hill, see Idaho’s administrative code, available at <http://adminrules.idaho.gov/rules/current/index.html>, and additionally the Panhandle Health District’s IC program, available at <http://www.phd1.idaho.gov/institutional/institutionalindex.cfm>.

governments. To involve other essential state agencies, the state-lead agency typically enters into an intergovernmental agreement with these other agencies. States also may enter into intergovernmental agreements with local governments as an alternative to a direct cooperative agreement between EPA and the local government.

Cooperative agreements should not be used to support activities that are considered normal functions of state or local government. If the implementation of a specific IC would require the state or local government to perform activities that are not within its normal governmental functions, those activities may be funded through a cooperative agreement. Such activities, including costs for implementing, maintaining, and/or providing notice of any changes in zoning or site use, also may be funded through funding agreements between responsible parties and local government.

It is important to note that CERCLA prohibits the use of Fund monies for O&M activities at remedial sites (see Section 4.3). EPA generally does not use the Fund to pay directly for IC costs at removal sites except where the removal program is handing over responsibility for the site to the remedial program and before the remedy has been constructed and has reached O&M.

3.5 Accurate Mapping of Residual Contamination, IC Boundaries, and Other Site Features

The IC planning and selection process often benefits from the preparation of detailed maps that illustrate areas of residual contamination, remedy components, and other relevant site features such as existing infrastructure, underlying zoning, and environmentally sensitive areas. With the aid of such maps, for example, site managers can better evaluate whether ICs should be used for one or more properties. This, in turn, may influence the selection of the appropriate IC instruments (see Section 3.2). In addition, maps normally can be useful as a starting point for property record reviews that often are carried out when implementing proprietary controls. Maps also can show whether ICs should be used for only portions of or entire parcels. After the planning stages, when ICs typically are being drafted and implemented, maps often can be used or further improved for use within IC documents (such as proprietary controls) and, in turn, within IC tracking systems or as a focal point of an ICIAP or other IC planning document.

There is no standardized procedure for creating IC maps, but site managers and site attorneys should keep certain key considerations in mind during the mapping process, including that: (1) IC instruments may require metes and bound or other types of legal description of the IC area; (2) mapping using Global Positioning System (GPS) coordinates may be more easily communicated to third parties and overlaid with other relevant spatial information; (3) local governments often identify property by parcel number; (4) the underlying zoning boundaries and related restrictions often are relevant features to the map; and (5) other site features and related site

information such as buildings or underground infrastructure, and flood, seismic, or stormwater drainage areas also may be relevant to the map.

Electronic maps constructed using geographical information systems (GIS) technology may serve as effective baseline IC maps. IC areas typically can be mapped based on data collected from a land survey or other means, such as GPS technology. The real property affected by residual contamination usually can be identified from parcel maps, which often are available from the County tax assessor offices in either paper or electronic GPS-compatible format, and from existing land surveys (often available within property records). If these are not available, new land surveys can be commissioned. City planning departments often maintain zoning maps. Site features generally can be learned from recent land surveys or from site inspections. Environmental information ranging from flood, seismic, and other features normally can be gathered from local sources.

Where possible, site managers and site attorneys should avoid applying ICs to the entire site or parcel rather than the specific area requiring the restriction, where this would result in the needless restriction of areas. Since the location and dimensions of the residual contamination may change over time (e.g., due to contaminant migration), site managers and site attorneys should continuously update maps, to the extent possible, so that these maps remain accurate to changing conditions at the site.

3.6 Community Involvement

Another important aspect of IC planning normally is community involvement. Site managers and site attorneys should work with the community early in the process so that they understand the future land uses being considered at a site and how ICs may impact future land uses. Land use planning decisions generally are intended to serve the interests of the community, and communities typically play a central role in shaping policies at the local government level regarding land use planning. 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...”³⁷ Thus, community input often is critical in helping site managers and site attorneys develop assumptions regarding the reasonably anticipated future land use for a site, and in selecting ICs as a component of the response action. Further, community input may help site managers develop creative approaches for communicating the scope and purpose of ICs in order to help ensure protection of human health and

³⁷ *Land Use in the CERCLA Remedy Selection Process*, OSWER Directive 9355.7-04, May 1995, and *Considering Reasonably Anticipated Future Land Use and Reducing Barriers to Reuse at EPA-lead Superfund Remedial Sites*, OSWER 9355.7-19, March 2010.

the environment while considering the interests of local stakeholders.

Site managers and site attorneys are encouraged to work with community liaisons, such as Superfund Community Involvement Coordinators, to develop strategies to ensure that the community understands why ICs are needed (e.g., why it may not be feasible to clean up the site to levels that allow for unrestricted use), how the ICs will work as part of the cleanup to protect human health and the environment, and any potential implementation issues associated with an IC. This process often encourages multiple face-to-face meetings with local officials and community members by both site managers and community liaisons. Community understanding and support can significantly improve the likelihood that ICs will be selected, implemented, maintained, and enforced effectively. To help foster better community understanding, there may be resources available for communities to hire independent technical advisors to interpret and explain technical reports, site conditions, the use of and need for ICs, and EPA's cleanup decisions as a general matter.³⁸

Site managers and site attorneys should ensure communities have meaningful opportunity to review proposals for site remedies and provide adequate information to allow informed public comment regarding the choices between cleanup alternatives that either allows for unrestricted use or leaves residual contamination at levels that make ICs an appropriate component of the remedy.

The local community may be impacted by ICs and associated land and/or resource use limitations if there is residual contamination on site. As such, one of the critical roles a community can play is to identify potential issues regarding state, local, or tribal government capacity to carry out IC responsibilities. In some cases, issues regarding stakeholder capacity may prompt site managers and site attorneys to consider a new alternative proposed cleanup plan that increases active remediation so as to reduce the reliance on ICs, or relies on different ICs than originally contemplated that can more reliably ensure protection of human health or the environment.

3.7 Consultation with Indian Tribes

Where ICs are being considered as a component of a site response action on tribal lands, the appropriate Agency official should consult with the appropriate tribal officials consistent with the *EPA Policy on Consultation and Coordination with*

³⁸ For instance, Superfund offers grants to communities under the Technical Assistance Grant (TAG) and Technical Assistance Services for Communities (TASC) programs. For more information, see <http://www.epa.gov/superfund/community/tag/resource.htm>. See also *Interim Guidance: Providing Communities with Opportunities for Independent Technical Assistance in Superfund Settlements*, OSRE and OSRTI, September 2009.

Indian Tribes, May 4, 2011. The Agency recognizes that consultation and coordination with federally recognized tribes often is critical to ensuring the long-term effectiveness of ICs where they are a part of the cleanup.

3.8 Governmental and Stakeholder Capacity for Implementing and Maintaining ICs

When ICs are to be employed as a component of a site response, site managers and site attorneys should carry out an analysis to determine if the state, local, and tribal governments or other stakeholders (e.g., responsible parties) have the ability and capacity to implement, maintain, and enforce the ICs. The site manager and site attorney should consider a number of factors when evaluating ability, willingness, and capability for the management of ICs, including, but not limited to:

- Can the ICs be accurately mapped via GIS or other software?
- Is it possible to use the states' one-call system(s) to prevent breaches?
- Is it possible to establish a mandatory monitoring and reporting program to routinely review ICs to ensure their continued effectiveness?
- What enforcement authorities are available to ensure ICs are maintained?
- Have the responsible parties (if any) been cooperative and reliable in fulfilling obligations in the past, if applicable?
- Is it possible to establish informational ICs that effectively disseminate information on the location of controls, compliance status, and results of monitoring reports to interested stakeholders and state, local, and/or tribal officials?
- Is there a source of funding, or is it possible to establish a mechanism to provide funds, for the implementation, maintenance, and enforcement of ICs?
- How are IC expenditures to be tracked? Is there a history of expenditures that can be used to refine future planning estimates for the long-term costs of maintaining ICs?

As discussed in section 3.3, it may be beneficial for state, tribal, and local governments to work with, and reach a "common understanding" with responsible parties and other stakeholders about various IC roles and responsibilities. Whenever possible, site managers and site attorneys should document in writing any arrangements made between parties with responsibilities for IC implementation, maintenance, and enforcement.

4. GENERAL IMPLEMENTATION ISSUES

A number of factors should be considered when evaluating whether ICs can be effectively implemented as part of a response action. These factors, and the roles of the various interested parties, may differ depending on the type of IC instrument, site-specific circumstances, and which cleanup authorities are being applied. At many sites, responsible parties may have the primary responsibility for implementing and ensuring the long-term effectiveness of ICs. This section addresses some general issues and concepts typically encountered in implementing ICs.

General Implementation Issues

- Documentation of Use Restrictions and IC Instruments in Decision Documents (Section 4.1)
- Using Subject-Matter Experts and Stakeholder Input (Section 4.2)
- State Assurance for IC Stewardship at CERCLA Fund-lead Sites (Section 4.3)
- ICs and Landowners (Section 4.4)

4.1 Documentation of Use Restrictions and IC Instruments in Decision Documents

As response components, use restrictions or notices relied upon to help achieve protectiveness should be incorporated in site decision documents; often such use restrictions can be achieved by an IC that is based upon a preexisting state or local law or program. The decision document(s) should describe the rationale for using ICs in helping to achieve protectiveness (e.g., how they help reduce exposure to risk posed by contamination at the site) and should include as much detail about the ICs as possible. Specifically, the decision documents should describe how the recommended ICs accomplish the specific land and/or resource use restrictions, provide adequate notice of contamination left in place, or otherwise help minimize the potential for exposure to contamination and/or protect the integrity of the cleanup.

Different cleanup programs utilize different authorities, processes, and documentation of response actions. For instance, the main decision documents used for Superfund remedial actions generally are RODs, Explanation of Significant Differences (ESDs), and ROD Amendments. For CERCLA removal actions, the Action Memorandum is developed to select and authorize removal actions (*Superfund Removal Guidance for Preparing Action Memoranda*, September 2009). Because ICs generally are not selected as part of the removal action, the Action Memorandum generally should indicate that the state will be the lead agency for planning, implementing, maintaining, and enforcing ICs in those cases where ICs would be appropriate after the removal action and where the site is not under federal ownership. Examples of

RCRA documents that may contain IC language include permits and orders, corrective action decision documents known as Statements of Basis, Final Decision/Response to Comments, and equivalent documents issued by authorized states. Brownfields, UST, and federal facility sites often have equivalent decision documents, cooperative agreements, or work plans.

In addition to decision documents, the RD, ICIAP, O&M plan, FYR, or equivalent documents also may provide IC details at CERCLA sites. For federal facilities under CERCLA, LUC implementation details generally are placed in a post-ROD enforceable document usually called a LUC Remedial Design or Remedial Action Work Plan or a LUC Implementation Plan.

Specificity of Language in Decision Documents - Selecting Restrictions and ICs. Because many ICs involve legal analysis and issues, site attorneys should play a leading role in developing the appropriate language. Developing the appropriate language may require a combination of expertise in federal and state environmental laws, regulations, and cleanup authorities, as well as local and state real estate law and practice. One of the challenges that site attorneys and site managers may face is translating the substantive land and resource use restrictions selected in the decision document into IC instruments. Vague or missing language about the restrictions in the decision document may have unintended consequences including either under- or overly-prescriptive IC instruments. Site managers and site attorneys are encouraged to present information in decision documents that, for any ICs selected in the decision document:

- Describes the risks necessitating the ICs;
- Clearly describes the cleanup objectives (e.g., specific land and/or resource use restrictions) to be attained by the IC component;
- Includes a map and describes the geographic location of the restricted areas;
- Identifies the entities responsible for implementing, maintaining, and enforcing the ICs;
- Discusses plans for maintaining and, as appropriate, the enforceability of the anticipated IC instrument(s);
- Evaluates the likelihood that the ICs can be effectively implemented; and
- Identifies the necessary lifespan of the IC (e.g., either as temporary or permanent measures).

An analysis of this type of information generally will help the site manager and site attorney appropriately select the IC instrument(s) that can meet the cleanup objectives. Providing this information to the public also should aid the public's understanding of the need for the specific ICs and their relationship to the overall response.

It is recognized that at the time of decision document signature there may be some uncertainty as to the specific IC instrument to be implemented at the site. Every effort should be made to provide as much specificity at the time of the decision including, where appropriate, the types of uses of the site (i.e., the reasonably anticipated future land use assumptions made when selecting the cleanup) that should be protective based on the proposed response actions.

Modifying Existing Response Action Decision Documents. In some circumstances, it may be appropriate for site managers and site attorneys to clarify or specify IC requirements in existing decision documents (e.g., where IC language is vague or incomplete). At CERCLA sites, if the change to a remedial action is deemed minor or not significant, it may be appropriate to clarify the decision made in the ROD through a memo to be added to the site file. If the change is determined to be significant, but not fundamental, an ESD may be appropriate. Finally, in some cases, a fundamental change to a Superfund remedy may be necessary; in such cases, a ROD amendment should be prepared. This may occur in situations where, for example, an implemented remedy that relies in part on an IC fails to attain the cleanup objectives.³⁹ When documenting significant and fundamental changes made to a remedy in the Superfund program, the lead agency must comply with the public participation requirements of CERCLA §117(c); the NCP also has provisions that address public participation (see e.g., 40 CFR §§300.435(c)(2)(i) and 300.825(a)(2)).

Site managers and site attorneys should continue to review and ensure effectiveness of ICs with periodic reviews that, for example, take changes in land use into account. In the event that a periodic review (e.g., a CERCLA FYR) identifies the need to modify the existing IC(s), it may be appropriate to modify the original decision document. If the cleanup objectives in the original ROD can be met using enhanced or additional ICs, the site manager and site attorney should evaluate what type of modifications, if any, to existing remedy decision documents and associated enforcement documents may be appropriate.

In some circumstances, the Region may make changes to the engineering component of the original remedy or the original cleanup decision may need to be changed to reflect changing site conditions. In such circumstances, the site manager and site attorney should ensure that existing ICs used as a component of the original cleanup decision continue to achieve the use restrictions needed to help ensure protectiveness at the site.

To document IC changes to a removal action, the Region should either supplement or amend the action memorandum as appropriate depending upon the nature of the IC and the change.

Under RCRA, a permit modification or change to a corrective action order may be necessary if the previously understood conditions, selected remedies, or overall operations change. The requirements for modifying an existing permit may vary from state to state. If the selected response, including any ICs, differs from the proposed response as discussed in the Statement of Basis, the final permit modification should reflect such changes.

As stated previously, Brownfields and UST cleanup requirements vary by state authority, so the state site manager and site attorney should research the existing administrative procedures for modifying response decisions.

4.2 Using Subject-Matter Experts and Stakeholder Input

Vague or inappropriate IC language can lead to confusion and conflict in establishing effective ICs and, in some cases, may result in the creation of unintended rights and/or obligations. It may be useful to consult subject-matter experts and stakeholders in developing appropriate IC provisions. For example, special expertise may be needed when drafting proprietary controls that must comply with local requirements.

When developing specific IC language, the site attorney may consider consulting, where appropriate, with officials from national professional organizations; the state attorney general's office; state environmental protection agency; local government planning agencies; responsible parties; site owners (if different from the responsible party); other federal agencies; and community stakeholders. Such consultations can help to ensure that IC instruments that are identified and implemented are recorded in local land records and comply with the real property law and recording statutes of the appropriate jurisdictions. Such consultations can be especially useful because state laws can vary significantly.

For enforcement-lead cleanups, site attorneys may consider drafting enforcement documents that require the responsible parties to provide supporting information (e.g., a certification from a real estate attorney) demonstrating that the covenant, for instance, meets the appropriate requirements for the jurisdiction. In the case of local governmental controls such as zoning, the site attorney and site manager should work closely with local government staff to ensure that the IC can be implemented, maintained, and enforced effectively.

Through active interagency and intergovernmental coordination, the site manager and site attorney usually can better ensure that the language used leads to effective ICs that can help meet the cleanup objectives stated in the decision document and that can be effectively implemented, maintained, and enforced within the jurisdiction. Engaging

³⁹ See Chapter VII of *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and other Remedy Selection Decision Documents*, EPA 540-R-98-031, OSWER 9200.1-23, July 1999, for more guidance on determining which post-ROD document is most appropriate for use based on site-specific circumstances.

communities during the development process can help them understand the need for ICs and thus help increase the likelihood that those ICs are effective over time.

4.3 State Assurance for IC Stewardship at CERCLA Fund-lead Sites

In general, CERCLA §104(c)(3)(A) requires the state to provide assurance that it will assume responsibility for O&M of a Fund-financed remedial action. The NCP (40 CFR §300.510(c)(1)) provides that “the State must assure that any institutional controls implemented as part of the remedial action at a site are in place, reliable, and will remain in place after the initiation of O&M. The State and EPA shall consult on a plan for operation and maintenance prior to the initiation of a remedial action.” It generally is appropriate for Regions to consider initial implementation of ICs as part of a remedial action, and IC maintenance and enforcement activities as part of O&M. Guidance on when a remedy may be considered to be in the O&M phase is provided in *Operation and Maintenance in the Superfund Program*, OSWER 9200.1-37S, EPA 540-F-01-004, May 2001.

State assurances are normally documented in a cooperative agreement for state-lead sites or in a Superfund State Contract (SSC) for Fund-lead sites. These cooperative agreements and SSCs (and less commonly, commitment letters) can be used to clarify the state’s role in implementing, maintaining, and enforcing ICs that are part of the remedy selected in the ROD. For example, they may include detailed activities, deliverables, schedules, and tracking mechanisms. While cooperative agreements can be used to fund initial implementation of ICs, they cannot be used to provide federal funds to the state or local agencies for IC costs (e.g., expenses associated with maintaining and enforcing) that fall under the umbrella of O&M at CERCLA Fund-lead sites (see Section 3.4).

An agreement to fund the implementation of ICs and formalize O&M responsibilities may enable the state to provide the necessary CERCLA §104 assurances regarding future IC responsibilities. However, if the state is unwilling or unable to provide this assurance, the site manager and site attorney may need to consider other types of IC instruments or, if necessary, choose an alternate remedy that does not rely on ICs to help ensure protectiveness. Therefore, it generally is important that a site manager and site attorney fully understand the capability and willingness of the state to provide assurances for ICs before remedy decisions are made.

Prior to initiating a CERCLA time-critical or non-time-critical removal action, site managers and site attorneys are encouraged to seek a written commitment from the state, local government, tribe, or responsible party that they will assume responsibility for ICs. Where the state will be responsible for the ICs following a non-time critical removal action, the request for commitment could be included in the ARARs request letter (which may already be in process prior to

signature of the decision document). For PRSCs, the Region is encouraged to obtain the commitment prior to initiating the removal action. For an emergency removal, the Region may seek a written commitment after initiating the removal action. See *Superfund Removal Procedures – Removal Enforcement Guidance for On-Scene Coordinators*, OSWER 9360.3-06, April 1992.

4.4 ICs and Landowners

Generally, owners of contaminated property are responsible for addressing the contamination on their property, including implementing and/or maintaining ICs. Under CERCLA, for instance, even non-source landowners of property that hazardous substances reached, or landowners who purchased property after it became contaminated with hazardous substances, may be liable for costs associated with the cleanup. Therefore, there may be instances where a response action calls for a restriction or notice to be placed on the property of a landowner who did not cause or contribute to the contamination. As a result, these landowners may have responsibilities for implementing and maintaining ICs on their properties.

This scenario could arise, for example: (1) where contamination has migrated from a source property to separately owned neighboring properties; (2) where an IC is needed on a property as part of monitoring for the threat of an up-gradient release (e.g., in conjunction with a groundwater sentinel well); or (3) where a new purchaser acquires property with contamination solely caused by other parties.

The implementation and management of ICs in scenarios like these can be complex and problematic, and often involves negotiation between responsible parties, landowners, and EPA. EPA strives to ensure that the parties responsible for the contamination implement and maintain ICs, including those restrictions or notices on properties not owned by them.⁴⁰ Where responsible parties lead cleanup actions, they often may need to (and indeed may be obligated under enforcement documents such as settlements or administrative orders)⁴¹ negotiate with landowners in order to obtain cooperation or agreements to implement an IC on their property. If the responsible party and landowner fail to agree on IC-related issues, EPA may need to reassess the response action or pursue other strategies, including enforcement approaches (see Sections 5.2 and 9), to implement the selected IC.

⁴⁰ “*Enforcement First*” to Ensure Effective Institutional Controls at Superfund Sites, OSWER Directive 9208.2, March 17, 2006.

⁴¹ See, for example, paragraph 27 of the model RD/RA CD listing EPA’s expectations of settling responsible parties regarding ICs needed on properties owned or controlled by other persons. (*Model RD/RA Consent Decree*, Office of Site Remediation Enforcement, Office of Enforcement and Compliance Assistance, July 2011)

Conditional Limitations on, or Exclusions from, Liability for Landowners of Contaminated Property. In some cases, landowners may not immediately agree with a responsible party's request to implement an IC. In these cases, a prudent first step that either responsible parties or EPA may take is to engage the landowner as early in the process as possible. After a dialogue is initiated, the party should maintain communication⁴² with the landowner to explain: (1) the goals of the cleanup including the need for ICs; (2) EPA's legal authority;⁴³ (3) available liability protections; and (4) relevant enforcement discretion policies. Regions also may provide a copy of EPA's "Common Elements"⁴⁴ guidance, which addresses a number of issues, including: the bona fide prospective purchaser (BFPP), contiguous property owner (CPO), and innocent landowner (ILO) provisions of the 2002 Small Business Liability Relief and Brownfields Revitalization Act, Pub. Law 107-118 (the Brownfields Amendments). These liability protections, however, are conditioned on meeting certain threshold criteria and post-acquisition continuing obligations that include, among others, the need to: (1) exercise appropriate care to stop or prevent hazardous substance releases; (2) fully cooperate, assist, and provide access to persons authorized to perform a response action; (3) be in compliance with land use restrictions established or relied on as part of the response action; and (4) to not impede the integrity or effectiveness of any IC employed in connection with the response action. In some circumstances, a landowner may need to implement an IC in order to meet the statutory criteria of the relevant liability protection.

Even when landowners could not qualify for these liability protections, EPA has enforcement tools that may alleviate some concerns about their CERCLA liability exposure as owners of contaminated property. EPA issued its *Policy Towards Owners of Residential Properties at Superfund Sites*, OSWER Directive 9834.6, July 3, 1991, an enforcement-discretion policy to address residential owners' concern that they may be subject to an enforcement action even though they had not caused the contamination on the property. Similarly, EPA has issued an *Interim Enforcement Discretion Guidance Regarding Contiguous Property Owners*, January

⁴² EPA can communicate with a landowner in a variety of ways, including: websites; mailings; community meetings and public availability sessions; in-person communication; and through existing community organizations and local governments. Third-party neutrals also can be used to help explain why land or other media needs to be restricted and why ICs are necessary. EPA's Conflict Prevention and Resolution Center is a resource for information concerning third-party neutrals. See: <http://www.epa.gov/adtr/>.

⁴³ Under CERCLA, for instance, EPA has authority to obtain property access under §104(e), to order parties to perform site cleanup under §106, and to acquire real property interests under §104(j).

⁴⁴ See *Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchasers, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability* ("Common Elements"), Office of Site Remediation Enforcement, March 2003.

13, 2004, and a *Final Policy Toward Owners of Property Containing Contaminated Aquifers*, November 1995, which discuss EPA's enforcement position with respect to contiguous property owners and owners of property that contains an aquifer that has become contaminated as a result of subsurface migration. These enforcement-discretion policies outline the circumstances and explain steps that landowners could take to help assure that EPA exercises its enforcement discretion in their favor. In particular, the Residential Homeowner and Contaminated Aquifers policies provide that EPA generally will not take CERCLA enforcement actions against these classes of landowners to perform response actions or pay response costs provided that the owners did not cause or contribute to the release, cooperate with those taking response actions, and comply with ICs, among other conditions.

Additional Considerations. Where landowners resist continued efforts to implement ICs on their properties, site managers and site attorneys should carefully consider the variety of enforcement approaches and other tools (e.g., property acquisition in Sections 5.5 and 5.6, use of third-party neutrals, etc.). Often these IC implementation challenges are heightened when the desired IC is a proprietary control (see Section 5.2 for more detail on strategies to implement proprietary controls). While the implementation challenges are significant, so are the benefits of proprietary controls, such as their enforceability and long-term effectiveness. These considerations should be balanced when determining when to pursue other types of ICs such as deed notices or governmental controls.

5. IMPLEMENTING PROPRIETARY CONTROLS

Since proprietary controls typically rely heavily on state law and practice, it is important to be aware of all relevant state legislation and regulations that may affect the effectiveness of ICs when they are used as part of a cleanup. As noted previously, several states have adopted UECA model legislation (in whole or in part) or have enacted non-UECA based statutes that similarly provide for future use restrictions to "run with the land" in an effort to help reduce the legal and management complications associated with using proprietary controls as ICs. The site manager and site attorney should understand the relative role of common law or state statutes and determine whether and how the state's legal landscape for proprietary controls can help effectively ensure the protectiveness of the remedy. This should be done before the response action is chosen (e.g., as part of the RI/FS at CERCLA sites) and thereafter as part of any periodic review of the response action (e.g., as part of CERCLA FYRs).

Proprietary controls typically involve private agreements that place restrictions on, or otherwise affect, the use of property or related resources. Common examples of proprietary controls

include covenants and easements that convey to their grantees⁴⁵ “property interests” that typically provide them with the right to restrict use of the land, but generally not possession of the land.

Implementing Proprietary Controls

- Principles of Proprietary Controls (Section 5.1)
- Implementing Proprietary Controls at Enforcement-Lead Sites (Section 5.2)
- Implementing Proprietary Controls at CERCLA Fund-lead Sites (Section 5.3)
- State Assurance Requirements for Acquiring Real Estate Interests under CERCLA (Section 5.4)
- Selecting the Grantee (Section 5.5)
- Proprietary Control Documentation (Section 5.6)
- Establishing Proprietary Controls through RCRA Orders and Permits (Section 5.7)

5.1 Principles of Proprietary Controls

As discussed in Section 2.2, proprietary controls occur under the authority of state common law or, in many states, under state statutes including UECA statutes and non-UECA based statutes. Generally, proprietary controls are written agreements between the property owner (or grantor) and a second party (grantee), where the grantor agrees to refrain from certain actions or to perform certain actions designed to protect the response action or human health and the environment. Through the recording of a properly drafted and executed proprietary control, the restricted uses may “run with the land” so that future owners of the affected land would be bound by these restrictions. For example, a property owner (grantor) may agree to restrict the drilling of groundwater wells on his/her property by granting the right to prohibit the drilling of wells to another party and, in doing so, bind successor owners.

Most states, including both common law states and those relying on UECA/non-UECA statutes, authorize proprietary controls to be transferred as property interests.⁴⁶ Site managers

⁴⁵ “Grantee” is a traditional property law term describing a person to whom property is conveyed. States that have passed legislation based on UECA have created different legal concepts specific to those jurisdictions. For example, UECA jurisdictions typically define “holder” and “environmental covenant” to reflect, respectively, the grantee and the servitude that imposes the land or resource use restrictions. The model UECA provides that “[h]older means the grantee of an environmental covenant...” See definition 6 in Section 2 of the model UECA.

⁴⁶ States that follow the common law approach (e.g., those without UECA or non-UECA statutes) in some cases may treat proprietary controls, or certain types of proprietary controls, as contracts concerning the use or restriction of land, rather than as property interests. The rules governing these types of property restrictions based on contract can differ slightly from the rules governing property interests, particularly with respect to the circumstances under which they “run with the land.” In addition, in some cases, the

and site attorneys should confirm the nature of proprietary controls in their jurisdiction as property interests during the IC selection process to determine whether the rules governing property interests apply.

5.2 Implementing Proprietary Controls at Enforcement-Lead Sites

At enforcement-lead sites where ICs have been selected as part of the cleanup, the responsibility for implementing proprietary controls typically rests with the responsible party. Many of EPA’s model CERCLA enforcement documents contain provisions regarding expectations of responsible parties with regards to executing proprietary controls.⁴⁷ The Model RD/RA CD, for instance, addresses the need for the responsible parties subject to the CD (characterized in the CD as “Settling Defendants”) to implement proprietary controls. Under the Model RD/RA CD, when any Settling Defendant owns or controls the land to be restricted, that party is required to execute and record in the appropriate land records office proprietary controls that, among other requirements, grant a right of access to conduct any activity regarding the CD and grant the right to enforce selected use restrictions to one or more parties as determined by EPA. The Model RD/RA CD recommends that EPA be designated as a third-party beneficiary (see Section 5.5), allowing EPA to maintain the right to enforce the proprietary control without acquiring an interest in real property. Alternatively, the model recommends that EPA be designated as the approving “Agency” in UECA-based states.

If the land to be restricted is owned or controlled by persons other than any Settling Defendant, the Model RD/RA CD includes a provision that would require the Settling Defendant to negotiate with such landowners in order to obtain cooperation or agreements to implement the proprietary control, as discussed in Section 4.4. To do so, the Model RD/RA CD provision states that Settling Defendant should use its “best efforts”⁴⁸ to secure any required proprietary

implementation of proprietary controls characterized as contracts concerning the use of land must occur during the transfer of the underlying property, rather than as a separate transaction.

⁴⁷ See, e.g., *Model RD/RA Consent Decree*, Office of Site Remediation Enforcement, Office of Enforcement and Compliance Assistance, July 2011, Section IX “Access and Institutional Controls.” Additionally, it should be noted that many of EPA’s model enforcement documents, such as the above referenced Model RD/RA CD, contain requirements associated with other types of ICs. Among others, these provisions cover: required notices to successors-in-title of any ICs or use restrictions associated with the site; the use of ICIAPs; conditions for transfer of real property located at the site; and requirements to cooperate with EPA’s, or the state’s, efforts to secure and ensure compliance with any governmental controls. Finally, as a general matter, enforcement documents themselves can impose enforceable restrictions on the use of property by responsible parties.

⁴⁸ “Best Efforts” is defined for the purposes of the EPA CERCLA Model RD/RA Consent Decree to include the payment of reasonable sums of money in consideration of access, access easements, land/water use restrictions, restrictive easements, and/or an agreement to release or subordinate a prior

controls. “Best efforts” generally can include compensation by the responsible party to the affected landowners for the proprietary control. The valuation of the property interests, and therefore the determination of appropriate compensation, may involve one or more independent appraisals.

If the Settling Defendant cannot secure a proprietary control despite its best efforts, EPA (e.g., consistent with CERCLA §104(j)) and/or the state may acquire the property interests. Under CERCLA §104(j), EPA has authority to acquire property interests for purposes of conducting remedial action provided that the state agrees to accept transfer of the real estate interest following completion of the remedial action.⁴⁹ The Settling Defendant may be required to reimburse EPA and/or the state for all costs incurred in acquiring the property interests. For additional discussion of CERCLA §104(j), see Sections 5.3 and 5.4. For additional information on other enforcement strategies that may be appropriate when attempting to secure proprietary controls, see Sections 4.4 and 9.4.

5.3 Implementing Proprietary Controls at CERCLA Fund-lead Sites

If the cleanup is a CERCLA Fund-lead action, EPA or the state (depending upon which is the lead agency) typically will be responsible for ensuring that the control is implemented and that appropriate property interests are conveyed.

For removal actions, EPA encourages the site managers and site attorneys to coordinate with the state, local governments, and/or community groups prior to the initiation of the removal action, to seek commitments for conducting any prescribed PRSCs and ICs, and to notify the state of any recommendation or decision regarding the need for ICs. Most PRSCs and ICs following removal actions are conducted by the state or responsible party. If a commitment to implement an IC cannot be obtained prior to the removal action, then EPA should continue searching for responsible parties to implement the IC and negotiating with the state to do the same.

EPA’s process for acquiring property interests in the form of proprietary controls at CERCLA Fund-lead sites is similar to that taken by a responsible party at an enforcement-lead site. Because these controls are legal documents, site attorneys typically draft IC acquisition language. One of the key responsibilities for the site manager is to provide the site attorney(s) with a clear scope of the land/resource area to be restricted. Another key activity is conducting a title analysis

lien or encumbrance (*Model RD/RA Consent Decree*, Office of Site Remediation Enforcement, Office of Enforcement and Compliance Assistance, July 2011, paragraph 28).

⁴⁹ Although EPA may acquire property interests at remedial sites, and receive reimbursement for costs incurred in acquiring the interests, there is no explicit equivalent authority for CERCLA removal, RCRA, Brownfield, or UST cleanups. See discussion in Section 5.6.

that includes an accurate legal description and identifies encumbrances and prior recorded interests. State attorneys general offices and local attorneys can be excellent resources for identifying the specific jurisdictional requirements for the control to be implemented.

In the process of implementing a proprietary control and ensuring that appropriate property interests are conveyed, site managers and site attorneys may face issues associated with just compensation, powers of condemnation, and the exercise of eminent domain.

Property Acquisition. Proprietary controls often qualify as property interests. As such, they should be acquired consistent with state and local rules and procedures that cover acquisitions of real property. Accordingly, selecting the grantee of the proprietary control property interest, as discussed in Section 5.5, normally marks an important step in proprietary control acquisition and later implementation. While the grantee can range among various parties, EPA can act as the grantee at Fund-lead sites. In these cases, the United States must acquire the proprietary control property interest and, in turn, rules governing United States real property acquisition, as well as CERCLA rules relating to property acquisition, apply.

If it is ultimately determined that the United States will be acquiring an interest in real property, 40 USC §3111 requires, as a precondition of acquisition, that the Attorney General review and approve the sufficiency of the title. This means that title evidence must be obtained, the land must be physically inspected, and the conveyance instrument must be prepared. Authority to review and approve the title rests with the Land Acquisition Section, Environment and Natural Resources Division of the U.S. Department of Justice (DOJ) and with certain other federal agencies with delegated authority, such as the U.S. Army Corps of Engineers. More detailed procedural guidance is available in DOJ’s *A Procedural Guide for the Acquisition of Real Property by Government Agencies*, 1972. Although this guide may be out of date with regard to appraisal matters, it is still current with regard to direct acquisition (negotiated purchase) and condemnation procedures. Also, DOJ’s *Title Standards 2001* contains detailed information on acceptable forms of title evidence and requirements for the form of conveyance to the United States. Further, the procedures for acquiring interests in real property are subject to the provisions of EPA’s CERCLA Delegation 14-30, “Acquisition of Real Property.” Among other things, this delegation describes the approvals needed for the acquisition of real property. Acquisition by EPA of interests in real property should be coordinated with the Office of Superfund Remediation and Technology Innovation (OSRTI), Office of Site Remediation Enforcement (OSRE), and Office of General Counsel (OGC).⁵⁰

⁵⁰ For more information, see CERCLA Delegation 14-30.

When EPA will be the grantee of a proprietary control, in addition to 40 USC §3111, CERCLA §104(j) also applies. CERCLA §104(j) authorizes EPA to acquire real property or property interests by donation, purchase, lease, or condemnation when needed for a remedial action. Consistent with CERCLA §104(j), therefore, EPA may seek donations of property interests (e.g., groundwater extraction rights) from landowners in accordance with 49 CFR §24.108.⁵¹ Alternatively, if a donation cannot be obtained, EPA may instead choose to acquire property interests through negotiated purchase for fair market value or condemnation.

The site manager should work with the appropriate state and EPA Regional and Headquarters attorneys to resolve any valuation issues. Prior to initiating negotiations to acquire real property or interests in real property, EPA should establish the fair market value. As a practical matter, the fair market value of real property interests to be acquired for use as proprietary controls may be nominal due to offsetting benefits of the cleanup project (see Section B-12 of the *Uniform Appraisal Standards for Federal Land Acquisitions*, DOJ, 2000, prepared by the Interagency Land Acquisition Conference, for a discussion of offsetting benefits).

Obtaining a voluntary conveyance through donation or negotiation is preferred over initiating a condemnation action. Federal real property acquisition regulations require agencies to make every reasonable effort to acquire real property expeditiously by negotiation (see 49 CFR §24.102(a)). However, if a property owner is unwilling to sell, is willing to sell but agreement cannot be reached on price, or if the owner is unable to correct title defects, the lead agency may, under certain circumstances, initiate condemnation proceedings under federal or state law. If condemnation is being considered, the site manager and site attorney should ensure that EPA has obtained the requisite assurance from the state to accept the transfer of the property interest once O&M has begun for that portion of the remedial action pursuant to CERCLA §104(j) and contact OGC for assistance.

There is no authority equivalent to that of CERCLA §104(j) for Superfund removal, RCRA, Brownfields, or UST cleanups. For this reason, if EPA provides oversight or is otherwise involved in a cleanup other than a Superfund remedial action, EPA is not expressly authorized by statute to acquire real property. However, the state may have such authority as a matter of state law.

5.4 State Assurance Requirements for Acquiring Real Estate Interests under CERCLA

As discussed immediately above, under CERCLA §104(j) EPA can acquire real property or any interest in real property when needed for a CERCLA remedial action (this authority exists similarly at Fund-lead and enforcement-lead sites). However, CERCLA §104(j)(2) only authorizes EPA to do so if the state agrees to accept transfer of the real property interests when O&M is initiated. In accepting the transfer of real property interests from EPA, the state's CERCLA liability as an owner is limited by CERCLA §104(j)(3).

Whether a specific proprietary control constitutes a real property interest under CERCLA §104(j), thereby requiring state assurance, is a complicated issue that requires site-specific determinations. In states with legislation based on the model UECA, for instance, as long as EPA is not the "holder," EPA's enforcement status as the approving "agency" is not considered a real property interest and therefore not subject to §104(j) assurance requirements (see Section 9.2). If there is a question regarding whether specific proprietary controls would require state assurances under CERCLA §104(j)(2), the site attorney should consult with OGC and OSRE.

In the event that it is necessary for EPA to acquire a real property interest, and the state assurance requirement under CERCLA §104(j) applies, the state must provide written assurance prior to such transfer that it will accept the transfer of the interest following completion of the remedial action. This assurance should then be documented through a SSC, cooperative agreement, or other authorized signed document. There are a few challenges common to transfers of real estate interests from EPA to a state. For example, some state agencies lack the authority to accept a real estate interest. In other states, real property can be accepted, but they are managed by a property management agency and not by an environmental agency, potentially leading to unreliable maintenance and enforcement of the IC. A few state agencies have authority to transfer real estate interests to third parties such as conservation trusts. This situation may present challenges for some states because the state is still required to provide assurances under §104(j)(2). Therefore, it is important that the site manager and site attorney understand the state-specific requirements prior to the selection of ICs that require a property acquisition.

A number of options can be considered if a state is unable to provide assurance that it will accept transfer of real estate interests. One option is to use other types of ICs as part of the response action. Another option is to have the real property interest conveyed to a party other than the state. For example, if a third party acquires a real estate interest and holds it in its own name, the exercise of CERCLA §104(j) authority may not apply because EPA has not acquired a real property interest. To minimize disruptions to the implementation of the remedy, the best practice is to raise the issue of real property acquisition early, such as during the RI/FS or development of

⁵¹ This regulation, promulgated under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, addresses requirements for donations of real property for federal and federally assisted projects.

the Proposed Plan, and certainly before the state concurs on the ROD.

As a general matter, EPA transfers or releases real property interests before a CERCLA site enters the O&M phase⁵² regardless of who will ultimately accept the real estate interest (e.g., the state or some other entity). Prior to selection of the remedy, the site manager and site attorney should thoroughly evaluate the transferee's willingness and capability to fulfill its IC responsibilities throughout the expected life of the IC.

5.5 Selecting the Grantee

Another critical issue in the effective implementation of a proprietary control can be the selection of the grantee. Generally, the grantee holds the covenant or title to the real property interest and has the primary responsibility for maintaining and enforcing the proprietary control. Examples of possible grantees of a property interest or covenant include states, responsible parties, local governments, civic or other associations (if authorized under federal, state, or local law to hold title to real property and take legal action to maintain an IC), conservation organizations, trusts, and other appropriate third parties. EPA may be the grantee at remedial action sites under CERCLA consistent with §104(j).

Common law generally allows for varying type of grantees, ranging from neighboring landowners to third-party land trusts to environmental agencies. In states with statutes covering proprietary controls, the type of grantees often varies from common law states. Statutes tend to increase the breadth of parties who can enforce the proprietary control. In the case of UECA-based statutes, a unique party known as a "holder" is introduced. A "holder" is defined to mean the grantee of an environmental covenant.⁵³ Further, UECA statutes broadly allow for many parties to act as "holders" and under these statutes it may be possible for a party (such as the affected landowner) to act as both the grantor of a proprietary control property interest as well as the grantee/holder.

Because of the important role a grantee plays in establishing and maintaining a proprietary control, a thorough evaluation of the viability of potential grantees should be performed prior to, or during, the response selection process. In evaluating potential grantees, consideration should be given to: (1) whether the potential grantee is likely to exist for the duration of the control; (2) whether the grantee is willing and able to maintain the IC (e.g., by expending necessary funds to maintain the control or taking legal action against any party that violates the proprietary control); and (3) whether it is

appropriate to assign this responsibility to an entity that is not accountable through a CD, order, permit, or other enforceable instrument (unless EPA or the state is a third-party beneficiary). If a suitable grantee cannot be identified, then alternative ICs or a change in the level of cleanup may be necessary. For further guidance on selection of a grantee, see *Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls*, Office of Enforcement and Compliance Assistance memorandum, April 19, 2004.

EPA as a Grantee Under CERCLA. EPA may choose to be the grantee of a proprietary control at remedial action sites under CERCLA to ensure that site use is consistent with the remedy. EPA also may perform this role where the land subject to restrictions belongs to a responsible party under CERCLA but the owner of the property cannot create a proprietary control through a conveyance to himself/herself under the laws of the state. However, as discussed in Sections 5.3 and 5.4, there are rules and procedures that cover acquisitions of real property interests and requirements for state assurances under CERCLA and other laws when the United States will be acquiring a property interest.

Selecting a Grantee Under RCRA. In contrast to CERCLA, RCRA does not expressly grant EPA authority to acquire property interests in order to conduct cleanups. Therefore, if a proprietary control creates an interest in real property, EPA may not be the grantee in a RCRA cleanup. However, where the cleanup is being done under an authorized state hazardous waste program, the state may have the authority to serve as the grantee.

If the state cannot be the grantee, the owner/operator or third party should be designated as the grantee of the property interest. If the property in question is being sold, the owner/operator can retain a limited interest while conveying the title to the buyer. A potential disadvantage of this approach can be that the proprietary control may not be implemented until the sale of the property. In this situation, the enforcement document should specify requirements for recording the proprietary control upon sale of the property. Before taking this approach, consideration should be given as to whether the seller will be able and willing to enforce the control for the life of the IC. If the site is cleaned up under an order, the order can require the selling owner/operator to effectively enforce the control. If cleanup is being conducted pursuant to a permit, steps should be taken to ensure that long-term enforcement is not lost through expiration of the permit. Otherwise, consideration should be given to requiring the owner/operator to transfer the retained interest to a third party (e.g., a land trust or local government), or identifying a third-party beneficiary that is willing to assume enforcement responsibilities.

Third-Party Beneficiary Status. Where available under state law, site managers and site attorneys should consider a third-party beneficiary approach whenever a proprietary control is used. Third-party beneficiary status enables the designated

⁵² "Completion of the remedial action" is the point at which O&M measures would be initiated pursuant to 40 CFR §300.435(f).

⁵³ See definition (6) in Section 2 of the model UECA, available at: http://www.uniformlaws.org/shared/docs/environmental%20covenants/ueca_final_oct03.pdf.

beneficiary to enforce the restrictions of the proprietary control. Thus, this approach can strengthen the effectiveness of the IC by providing an additional means of ensuring compliance. An example would be at a Fund-lead site where the state serves as the grantee to the proprietary control and EPA is designated as a third-party beneficiary to the agreement with rights or enforcement. This same basic approach can be taken at an enforcement-lead site where the responsible party serves as the grantee and the lead agency acts as a third-party beneficiary. Other viable parties with legitimate interests in ensuring ICs remain in place and who have the financial and organizational capabilities to maintain and enforce the proprietary control, such as neighbors, local governments, and environmental and civic organizations, also may act as third-party beneficiaries. For further information on third-party beneficiary rights, see *Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls*, Office of Enforcement and Compliance Assistance memorandum, April 19, 2004.

5.6 Proprietary Control Documentation

As previously discussed, the form of a proprietary control needs to comply with the laws of the jurisdiction in which the property is located, and should be implementable and enforceable. The language of each document should be tailored to the site characteristics, selected land and/or resource use restrictions, and performance standards (if any) designated in the decision document.⁵⁴

Responsibilities and Approvals. A draft proprietary control typically is developed by the responsible party, EPA, and/or a state (depending on site lead). The site attorney and site manager typically would review and approve the controls. The responsible party may find it necessary to obtain the services of an experienced real estate attorney in the design and implementation of proprietary controls. This can be important because the exact requirements often vary by the type of proprietary control, the jurisdiction, and cleanup authority or program.

Depending upon the complexity of the control or the specific requirements of the jurisdiction, the proprietary control also may need to be reviewed and approved by EPA's OGC, state agency attorneys, and/or the state attorney general. If it is determined that the United States is to be the grantee of a property interest at a private site, DOJ will review and approve the title to the property interest to be acquired unless the assistance of another federal agency with delegated approval authority is obtained. Once the document has been approved

by the regulatory agency, the responsible party should ensure that it is executed and recorded in the land records. The site manager should then place a copy of the recorded instrument in the site file.

Contents of a Proprietary Control Document. Proprietary controls generally should contain language of conveyance to effectuate a transfer of an interest in real property. As a general rule, such language is drafted in terms of a grantor conveying a property interest to a grantee. It often is important for the language to clearly show the relationship of the legal instrument to the land and resource use restrictions called for in the decision document. Typically, the proprietary control should, at a minimum, include:

- The legal authority for the proprietary control;
- A detailed legal description of the site;
 - A clear description of the area to be restricted, particularly where less than an entire parcel is affected;
 - A complete description of the types and location of residual contaminants and response action components, as appropriate;
- The name and location of any administrative record for the response action reflected in the proprietary control;
- A list of land and resource uses that will be restricted;
- A description of who will execute the document;
- The precise names of the parties involved (including the grantee and grantor as they appear on title documents, and any third-party beneficiaries);
- Provisions for third-party or other enforcement, as necessary;
- The parties' rights and obligations in the document;
- Language of intent to clearly express whether the IC is binding on subsequent purchasers (i.e., that the proprietary control "runs with the land");
- Specific notice and approval requirements for modifying or terminating the IC;
- A requirement to notify all parties involved (i.e., EPA, state, local government, local zoning boards, any third-party enforcement entities) prior to transfer or lease, or if there is an IC violation;
- A provision that injunctive relief may be available; and
- A provision for notification to lessees of the IC.

When developing the legal instrument, it may be important to have the site surveyed, have permanent monuments erected to properly document the location of the affected area, and conduct a review of title to the property to identify all parties who have a lien on or interest in the property. Clearly defining property and IC boundaries may prevent unnecessary confusion and may facilitate beneficial reuse. Accurate maps

⁵⁴ Where appropriate, use of sample language or model proprietary control documents may be useful. For example, some states have developed templates for proprietary controls consistent with their legislation, partly to ensure that the controls are enforceable and run with the land. Using some sample language can reduce the amount of time spent drafting and negotiating with state agencies, responsible parties, and other entities with a role in the proprietary control.

should be prepared (in both paper and GIS versions) to depict the physical areas subject to restrictions. These maps should be made available to the public, which can help provide notice and important information about the ICs.

Finally, the site manager and site attorney should attempt to resolve any “subordination” issues early in the IC evaluation and selection process before implementing a proprietary control. As a general rule, in most states, real property interests generally are prioritized according to the order in which they are recorded in the land records. A property may be subject to several recorded interests, such as mortgages, tax liens, utility easements, and judgments. In addition, a property may have surface land rights that may be separate from mineral or water rights and the separate rights may need to be considered in drafting effective proprietary controls. To avoid a situation where a proprietary control is subordinate to a prior or “senior” interest, a subordination agreement may be used to switch the priority around. A subordination agreement is a legally binding agreement by which a party holding an otherwise senior lien or other property interest consents to a change in the order of priority relative to another party holding an interest in the same real property. Obtaining a subordination agreement can help ensure that the IC is enforceable against all parties with an interest in the property and not extinguished if a senior lien holder forecloses on the property.

In order to understand whether a subordination agreement is necessary, it normally is important to conduct a thorough title search to identify all parties holding prior interests in the property. Unrecorded interests, such as leases, also may need to be subordinated to ensure that lessees abide by the easement/covenant. If subordination of senior interests is not possible, the lead agency should frequently notify the grantee(s) of the senior interest(s) and stakeholders, and identify the risk of harm that could occur, and the potential liability that may arise, if the recorded environmental restrictions are not respected.

5.7 Establishing Proprietary Controls through RCRA Orders and Permits

Many of the considerations in establishing ICs at CERCLA sites also apply to Brownfields, UST, and RCRA corrective action sites. However, the requirements under these cleanup programs often are imposed through legal instruments that differ from one program to another. In the RCRA program, states play a key role by imposing ICs under their own authorities as part of their cleanup activities.

For RCRA cleanups and post-closure care, enforceable requirements generally will be established through a permit (e.g., the corrective action portion of an operating permit, or a post-closure permit), or by EPA through an order under RCRA §3008(h) or §7003. RCRA §7003 allows EPA to require cleanup where there is potential imminent and substantial endangerment related to either solid or hazardous

waste. In addition, RCRA §7003 does not distinguish between on-site and off-site contamination. If there is solid waste as defined by RCRA §1004(27), and the other elements have been met, there is no need to show the existence of a hazardous waste to require cleanup.

Permits and orders alone can impose enforceable restrictions on the use of property by the facility owner/operator. Orders and permits can be crafted to require that the owner/operator refrain from selling the land unless the purchaser agrees to: (1) abide by the restrictions contained in the order or permit; and (2) require any future purchasers to do the same. RCRA permits for treatment, storage, and disposal have a statutory duration of ten years and should be renewed as needed to ensure maintenance of corrective measures and ICs. Although orders don't expire, care should be taken when drafting orders to ensure that enforceable IC provisions continue to remain in effect.

In cases where it is necessary for the restrictions to extend beyond the period of performance of a permit or order, proprietary controls should be crafted that run with the land and bind future landowners, as well as the current owner/operator, where feasible given state law requirements. For example, a permit or order may direct the owner/operator to convey such an interest to someone who will then maintain the IC. RCRA facility owners also may be required to reserve a property interest when they sell the property and to make the lead agency a third-party beneficiary. Model permit and order language does not yet exist under RCRA for this purpose, although several states are developing such models. If subordination of senior interests is not possible, the lead agency should frequently notify the grantees(s) of the senior interest(s), and identify the risk of harm that could occur if the recorded use restrictions are not respected.

6. IMPLEMENTING GOVERNMENTAL CONTROLS

State, tribal, and local governments generally have a broad range of regulatory authority to implement a variety of ICs. The authority of government to exercise controls to protect the public's health, safety, and general welfare is referred to as “police power.” This conventional role includes, for example, zoning, land use controls, groundwater restrictions, and building codes. Often, a permitting scheme is used to control certain types of activities, changes in land and/or resource use, and excavation and grading activities. These conventional government (typically local government) regulations and activities often can be relied on or leveraged to serve as highly effective ICs if they are appropriately implemented, maintained, and enforced. Indeed, some jurisdictions expressly list pre-existing laws and regulations that are suitable for use as ICs. Further, state and local jurisdictions can, and sometimes do, enact regulations designed specifically for use as ICs. Site attorneys should review state or local laws and regulations as they pertain to ICs at a specific site if the site

manager is considering relying on or utilizing a state or local law to put ICs in place at a site.

State and local governments may impose land use and other government controls at their discretion. EPA has no authority to compel state or local governments to amend or adopt new regulations to impose an IC, or to keep regulations that currently impose an IC. Any controls established in this way generally operate independently of RCRA and CERCLA, and are enforced through local governmental processes or state law, where applicable. Where appropriate, the site manager or site attorney may consider providing information on the role of ICs in EPA cleanup programs to local governments.

In addition, when a local government is responsible for a governmental control serving as an IC, site managers and site attorneys are encouraged to help arrange a “common understanding”⁵⁵ with or between state, tribal, and local governments; responsible parties; and other IC stakeholders before the control is implemented to document and clarify the respective roles, responsibilities, and legal authorities of the parties. Details of such arrangements should be included in an ICIAP or equivalent plan (see Section 3.3).

Implementing Governmental Controls

- Groundwater Use Restrictions (Section 6.1)
- Zoning Ordinances (Section 6.2)
- Fish Consumption Bans and Waterway Use Restrictions (Section 6.3)
- Other Uses of State And Local Police Power (Section 6.4)

6.1 Groundwater Use Restrictions

Groundwater use restrictions are frequently used to limit or prohibit certain uses of groundwater. Generally, two sets of laws and regulations cover groundwater use. First, there are those concerned with maintaining an adequate water supply, and therefore address quantity of use. These laws and regulations generally are administered by states, but in some cases by local agencies. Second, health regulations may be promulgated to ensure protective water quality when groundwater is used; such regulations typically establish well construction and operation requirements. They may be administered by state health agencies, local health agencies (e.g., county health departments), or both. Further, in some cases, local regulations directly restrict the use of groundwater. These overlapping sets of laws and regulations are further divided into rules that cover: (1) small private

wells; and (2) public water supply wells, typically meaning wells serving more than 25 people.

While the legal landscape over groundwater varies among states, groundwater laws commonly involve water-use restrictions and well construction and abandonment requirements. Within these broad categories of laws, restrictions can take a variety of forms, including: the establishment of groundwater management zones or protection areas; prohibitions or limitations on certain uses of groundwater in particular areas; capping or closing of wells; and limitations on the drilling of new wells.

The State of Florida, for example, has five water management districts that protect, maintain and improve water quality including groundwater. A consumptive use program and a program to close old and/or abandoned wells, and the proper construction of new wells are among the regulatory programs each water management district may implement.⁵⁶

In Texas, state law authorizes the state environmental agency to set municipal setting designations (MSD) that limit the use of groundwater within the MSD – typically an area beneath a particular contaminated site. The state can only approve an MSD if the city approves it first by either: (1) enacting an ordinance restricting the use of groundwater at the property; or (2) by issuing a restrictive covenant, enforceable by the city, and an accompanying city resolution to do the same.

The well construction permit processes also can be used to implement restrictions on groundwater use. A number of state and local governments have adopted statutes or ordinances controlling new well installations and requiring permits for existing wells. These permitting programs may include requirements for well installation, licensing of well drillers, prohibitions or restrictions on the drilling of new wells in areas of contamination, and requirements and controls on the operation of wells (withdrawal rates/pumping rates). These types of governmental controls also often have specific administrative processes.

While groundwater-related government controls offer many possibilities for ICs, their potential usefulness as an appropriate IC, as well as the jurisdiction’s willingness to monitor and enforce them, varies with site specifics and across

⁵⁵ Common understandings between state and local governments can be achieved through a variety of mechanisms, such as EPA Cooperative Agreements pursuant to CERCLA §104(d), or state law mechanisms (e.g., MOU, Administrative Order on Consent, contract, or enforceable agreement). See also *supra* text accompanying footnote 29.

⁵⁶ For more information on these water management districts, see <http://www.dep.state.fl.us/secretary/watman/>. EPA has entered into Memorandums of Agreement (MOAs) with two water management districts to develop a framework for cooperation between parties and to set forth the mutual understanding of the parties concerning efforts to minimize the potential effects of groundwater contamination in areas within each water district’s jurisdiction that are impacted or potentially impacted by Superfund sites, including procedures for information sharing and assisting in the implementation of certain ICs through the application of regulatory practices within each water district’s jurisdiction. For the MOA between EPA and the Southwest Florida Water Management District, see: http://www.swfwmd.state.fl.us/files/database/site_file_sets/1958/Memorandum_of_Agreement_EPA_MOA_Southern_Solvents.pdf.

jurisdictions. Further, though the awareness of IC issues continues to grow, no standardized procedure for implementing local ICs exists. In many cases, therefore, the implementation of state or local groundwater use restrictions takes a significant amount of time. For this reason, the site manager is encouraged to ensure coordination begins early in the response process and to actively monitor the progress in implementing this type of IC.

6.2 Zoning Ordinances

Generally, zoning is an exercise of state and local government “police power.” Zoning ordinances typically divide the community into various land use zones (industrial, light industrial, commercial, mixed commercial and residential, residential, open space, etc.), depicted by a zoning map. Within each use zone, zoning ordinances usually enumerate a list of permitted uses. Zoning areas also can include “overlay zones” or “floating zones” that operate in addition to the conventionally zoned areas, overlaying an additional set of restrictions (e.g., flood-specific construction rules) in existing zoned areas. In addition, zoning ordinances often set forth the regulations for the development of land such as building height, area of structures, density of population, and the overall intensity of use. When the zoning designation matches the goals of the IC (e.g., zoning designation is industrial and the goal of the IC is to prevent exposures to contamination by non-workers on the property), zoning can serve as an effective instrument. Zoning can be especially useful when a large number of parcels are affected by a response action. On the other hand, special zoning tools can be effective as more targeted ICs; for example, a zoning ordinance that establishes an overlay zone restricting residential development along a contaminated stream can help reduce exposure that poses a threat to human health.

The authority to regulate land use, with the exception of federal lands, generally falls within the domain of state and tribal governments. However, states generally delegate much of this regulatory authority to municipal and county governments. Therefore, the site manager and site attorney often work with municipal and county officials regarding zoning controls.

To evaluate the potential effectiveness of zoning controls, the site manager and site attorney should first determine which local government, if any, has zoning jurisdiction over a site. The site manager and site attorney should then meet with the planning staff of the jurisdiction to discuss the objectives of the cleanup, the potential role of ICs in that cleanup, and specific land use regulations that may be considered to meet those objectives. Administrative controls vary by jurisdiction within each state. However, there are some conventional practices that are common among most jurisdictions.

If pre-existing zoning restrictions meet the goals of an IC (e.g., reduce exposure to contamination), then discussions with planning staff should address whether any anticipated changes

to the ordinance are likely and what procedures for assuring zoning compliance exist.

If pre-existing zoning restrictions would not be effective for purposes of an IC, it may be appropriate to discuss with local government officials the possibility of pursuing a re-zoning process (i.e., a zoning ordinance amendment to change the zoning designation of one or more parcels). A re-zoning process might occur as part of a jurisdiction-wide comprehensive plan and zoning ordinance amendment, or it could be initiated through a formal application by the owner of the parcel to be re-zoned.⁵⁷ In most cases, a series of public hearings before a planning commission and/or governing body (e.g., city council, county board of supervisors) may occur. It may be important for the site manager, site attorney, and/or other agency representatives to participate in these hearings to explain the cleanup process, the potential role of a proposed IC, and to answer questions posed by members of the public, planning commissioners, and members of the jurisdiction’s governing body.

Final approval or denial of the zoning application will generally come from the governing body of the jurisdiction. If the application is denied, the applicant may explore options for modifying the application and/or appealing the decision either within the jurisdiction (e.g., with a zoning board of appeals), or in a state or federal court, depending upon the nature of the challenge.

Although zoning ordinances can be useful tools, they can have significant limitations. For example, the zoning designation in a particular area may be of limited duration. Alternatively, an area can be re-zoned and/or zoning variances may be granted. Site managers and site attorneys also should be aware that some zoning ordinances can use cumulative zoning, meaning that less intensive uses, such as single family homes, may be permitted in zones designated for intensive, industrial uses. Additionally, zones broadly identified as either industrial or commercial may, depending on the actual use restriction language in the ordinance, permit certain other types of uses (e.g., child care facilities) that could pose a risk to human health based on the levels of residual contamination and potential exposure pathways at the site. Therefore, even where the site is located in an industrial zone, the ordinance may not serve as an effective IC unless it also prohibits less intensive land uses, such as new residential buildings. Some jurisdictions explicitly state the activities allowed in each district while others identify only activities that are prohibited. It is important that the site manager and site attorney understand whether the use restrictions will be adequate to help ensure protectiveness based on existing jurisdictional definitions. Finally, as with other types of ICs, zoning may not

⁵⁷ The site manager and site attorney may negotiate a consent decree, an administrative order, and/or permit language that requires the property owner to apply for a zoning change, if necessary.

be a fully effective instrument unless it is routinely maintained and enforced over the long-term.

These potential limitations point to a need for Regions relying on ICs as part of a cleanup to work with local governments to retain institutional knowledge of the use and underlying purpose of a zoning ordinance being used as an IC. For example, it may be important for the Region to coordinate with a local government regularly to evaluate whether the local zoning ordinance remains in place and is operating as intended. These long-term responsibilities may impose additional burdens on a local government and, if this is the case, the site manager and site attorney should assess whether and which opportunities for local government assistance may be available (see Section 3.4).

As is the case with groundwater use restrictions discussed in Section 6.1, zoning controls offer many possibilities for ICs; however, their potential usefulness as an appropriate IC as well, as the jurisdiction's willingness to monitor and enforce them, varies with site specifics and across jurisdictions.

6.3 Fish Consumption Bans and Waterway Use Restrictions

Fish consumption bans are sometimes used as a governmental control to ban consumption for specific species or sizes of fish or shellfish. Usually, state public health agencies and/or resource agencies establish these consumption bans. Another governmental control that may be used is a waterway use restriction (e.g., regulated navigation area) where subsurface contamination remains in place. The restriction can help ensure the integrity of the remedy (e.g., sediment capping). Generally, state and local agencies may be responsible for enforcing these types of restrictions but regulated navigation areas typically are coordinated with the U.S. Coast Guard and/or U.S. Army Corps of Engineers.

6.4 Other Uses of State and Local Police Power

In addition to land use controls such as zoning and subdivision ordinances, local governments may exercise their police power to protect the public in other ways. For example, they may adopt ordinances that regulate certain activities on contaminated sites that could threaten human health or the environment; an ordinance, for example, might include a ban on swimming or other potentially inappropriate activities in specified areas.

In addition, state or local governments may choose to use their existing permit procedures to help monitor and enforce IC restrictions that are selected as part of a cleanup. For example, local governments could decide to use a permitting process to notify anyone seeking building permits (e.g., for construction activities, excavation or grading permits, or land development permits) of remaining site contamination and to impose relevant management standards addressing human health exposure risks. Such measures could be used to control or

prohibit certain types of construction that would result in unacceptable exposures (e.g., excavation in areas where subsurface contamination has not been fully removed).⁵⁸ It also may be possible to address notification issues related to excavation by screening "One Call"⁵⁹ excavation tickets for excavations planned within IC areas.

7. IMPLEMENTING INFORMATIONAL DEVICES

Informational devices are designed to provide information or notification that residual contamination remains on site. Typical information devices include notices filed in local land records, state registries, tracking systems, and advisories.

Implementing Informational Devices

- Recorded Notices (Section 7.1)
- State Registries of Contaminated Sites and ICs (Section 7.2)
- Advisories (Section 7.3)
- Community Involvement (Section 7.4)

7.1 Recorded Notices

Unlike proprietary controls, notices contained in deeds or other instruments to be filed in the local land records by themselves generally are not designed to serve as enforceable restrictions on the future use of the property.⁶⁰ As a matter of practice, such notices usually are contained in deeds conveying real property or an interest therein, or some other written instrument that would be examined during a title search on a particular parcel or parcels. These documents are intended to provide notice to anyone reviewing the chain of title (e.g., lenders, prospective purchasers) about contamination on the property and can help identify potential land and/or resource uses that could result in unacceptable exposures to contamination.

⁵⁸ For example, the City of Aspen Ordinance No. 25 (1994) sets permitting procedures for excavation and development at the Smuggler Mountain Superfund site, <http://www.epa.gov/ictssw07/public/export/08/COD980806277/948917.pdf>. For the Mouat Industries site, a Superfund Overlay District was created by the Town of Columbus, Montana through implementation of a zoning ordinance, <http://www.epa.gov/ictssw07/public/export/08/MTD021997689/1050934.pdf>. Lastly, the Jasper County (Missouri) Commission promulgated a health ordinance requiring soil testing at properties where new residential development occurs in mining- or smelting-affected areas of the county, http://health.jaspercounty.us/environmental/environmental_ordinance/environmental_contamination_ordinance.htm.

⁵⁹ For more information about state one-call systems, please see http://www.epa.gov/oswer/docs/iwg/onecall_systems.pdf.

⁶⁰ Some states do provide enforceability of deed notices under the state's police powers.

A notice in a deed alone generally may not be sufficient to ensure protectiveness. Nevertheless, often there are benefits from the use of such notices. For example, notices may effectively discourage developers from purchasing the property for inappropriate land uses and lenders from funding development for such uses. Furthermore, recorded notices may serve to notify property purchasers as to the release or threat of a release of hazardous substances at the property, which could prove relevant to purchasers who wish to qualify for CERCLA liability protections, such as the BFPP protection.

Notices to be filed in the local land records have been commonly used for general notification of site conditions in remedies under RCRA, Brownfields, UST, and CERCLA programs. This includes, for example, the requirements of §120(h)(3) of CERCLA pertaining to federal facilities or the Model RD/RA CD requirement that any settling defendant owner record a notice to successors-in-title informing future owners of the NPL listing, the ROD, and the CD. (See *Model RD/RA Consent Decree*, Office of Site Remediation Enforcement, Office of Enforcement and Compliance Assistance, July 2011, Section V, paragraph 9).

Additionally, there are explicit notice requirements for certain situations under RCRA. Specifically, 40 CFR §264.119(b)(1) states that for post-closure notices, owners/operators of RCRA hazardous waste disposal units are responsible for submitting a survey plat and ensuring that a permanent notation is made on the deed stating that: (1) hazardous waste management occurred on the property; (2) its use is restricted under RCRA 40 CFR §264 Subpart G; and (3) the survey plat and other applicable information is available at the local zoning authority or other authority with jurisdiction over local land use and with the EPA Regional Administrator. According to 40 CFR §264.119(b), these actions must be completed within 60 days of closure certification.

Because individual state requirements for Brownfields and UST sites vary, the site manager and site attorney should research the specific requirements within the appropriate jurisdiction.

Notices can be somewhat easier to develop and implement than proprietary controls. Notices typically consist of a legal description of the property; description of the type, location, and concentration of residual contamination; and any recommended use restrictions. The drafter(s) of the notice should take care to avoid unintentionally suggesting that the notice creates rights and/or obligations. For example, the recording requirements of some jurisdictions may actually require the conveyance of a property interest as a condition of filing an instrument in the deed records.

The site attorney may work with an attorney familiar with the recording statutes of the jurisdiction where the site is located to determine the requirements, limitations, and consequences relating to recording notices on a piece of property. This should be done well in advance of selecting a notice as part of

the response action. For example, a statute may indicate what documents are recordable, the contents of a recordable document, and the procedures for their recordation. Also, jurisdictions vary on whether the landowner's approval is needed to record a notice. In some jurisdictions, third parties can record notices, whereas in other jurisdictions only the landowner can record a notice. In jurisdictions that allow the removal of the notice by the owner at any time, the enforcement device and/or permit should be clear that the notice must remain in the land records. Also, a small number of jurisdictions remove notices after a specific period of time. In these jurisdictions the enforceable agreement and/or permit should have a re-filing requirement for the notice.

7.2 State Registries of Contaminated Sites and ICs

Many states maintain registries of contaminated sites or ICs that may serve as useful informational devices. Registries can include database listings, web-based maps, document-based inventories, or all of these. Registries are sometimes established under state law registry acts and may impose other requirements, such as: annual reporting to the state legislature summarizing the status of sites on the registry; recording a notice in the local land records that the property is contaminated; or disclosing to potential purchasers that the property is on the registry. Some registry acts also require state approval of any substantial change in the use of the property. In addition to those prepared under registry acts, many states otherwise prepare web-based maps or database registries, providing access to ICs. The majority of states maintain some type of IC registry, though the scope and comprehensiveness varies.

A potential limitation on the use of state registries as informational devices is that the procedures for listing and removing sites and information about them from registries vary from state to state and often are discretionary, potentially rendering available site information inconsistent or out of date. In addition, prospective developers and local government officials who are involved in the development application review process may not consistently access site registries (or state IC resources). Nevertheless, when used in combination with other cleanup measures, registries may be a useful component of overall site response.

7.3 Advisories

Advisories typically are publicly issued warnings that provide notice to potential users of a land, surface water, groundwater, or other resource of existing or potential risk associated with that use. For example, an advisory may be issued to owners of private wells in areas where contamination has been detected in groundwater at levels that pose a threat to human health; or

a state may issue fish/shellfish consumption advisories⁶¹ to protect people from the risks of eating contaminated fish/shellfish caught in local waters. Advisories generally are issued by public health agencies, either at the federal, state, or local level (e.g., health advisories issued by the U.S. Agency for Toxic Substances and Disease Registry under CERCLA §104(i)). The site manager and site attorney should work closely with the Agency for Toxic Substances and Disease Registry (ATSDR) and state or local government officials to discuss the appropriateness of such advisory services, and to explore options for supporting advisories. Depending on the situation, certain advisories have a specific threshold that must be met for issuance. Therefore, the site manager and site attorney should coordinate early with the appropriate agencies if an advisory will be a component of the response.

7.4 Community Involvement

Due to the nature of informational devices, particularly advisories, community involvement and outreach often are an important part of the process. Consideration should be given to using multiple tools to inform the community such as web sites, mailings, outreach to community associations, and possibly public meetings.⁶² Informed community members can be in a position to provide valuable information on possible IC breaches that might otherwise go unnoticed. In developing informational devices, it is helpful to provide information about the ICs and contact information for reporting incidents that might result in unacceptable exposure to contamination.

8. MAINTAINING INSTITUTIONAL CONTROLS

Often the most useful post-implementation approach to ensuring the long-term effectiveness of ICs and maintaining the integrity of the cleanup is rigorous periodic monitoring and reporting. The site manager and site attorney should examine available tools designed to ensure IC compliance at all stages throughout the enforcement process. Generally, the responsible parties, including federal facilities, have the primary obligation to monitor and report on the effectiveness of the ICs. This section discusses some of the tools that may be available to the site manager for ensuring appropriate monitoring and reporting of ICs.

⁶¹ Unlike fishing bans, fish consumption advisories are not enforced by a state or local agency but rather provide notice to the public of risks posed by contamination.

⁶² For example, the Fish Contamination Education Collaborative (FCEC) was developed as a public education and outreach organization for the Palos Verdes Shelf Superfund site. The FCEC's outreach includes outreach to anglers, communities, and commercial fishermen in the risks of consuming fish contaminated with PCBs and DDT. The FCEC also maintains a public website that contains information related to fish consumption guidelines. For more information, see the FCEC website at <http://www.pvsfish.org/index.php/home>.

Maintaining Institutional Controls:

- General Considerations (Section 8.1)
- Operation and Maintenance (Section 8.2)
- Periodic Reviews (Section 8.3)
- State, Tribal, and Local Government Participation in IC Maintenance Activities (Section 8.4)
- Out-Sourced IC Monitoring (Section 8.5)
- Community IC Monitoring (Section 8.6)

8.1 General Considerations

Because land use and ownership changes can occur over a relatively short time, developers and other parties may not be fully aware of the ICs that have been put in place as part of a cleanup. It generally should be more effective and protective of human health to proactively address potential weaknesses in ICs revealed by changes in land and/or resource use before land and/or resource use changes actually occur. The site manager should ensure that there is a process in place to facilitate the routine and critical evaluation of the ICs to determine: (1) whether the instrument remains in place; and (2) whether the ICs continue to be effective in helping avoid exposure risks as part of the cleanup selected in the decision document, and/or are helping protect the integrity of the response action.

Comprehensive monitoring generally is more effective when there is early planning and coordination, a clear delineation of roles and responsibilities, and detailed reporting requirements. In most situations, it is recommended that monitoring and reporting requirements be layered to increase the likelihood that any breaches will be detected early (e.g., by assigning the monitoring responsibility for an IC to more than one party). At the same time, it is important to ensure that each party with monitoring and reporting responsibility is held accountable and does not make shared responsibility a reason for less vigilant monitoring. Where monitoring and reporting is assigned to more than one entity, a mechanism, such as the designation of an entity with the lead monitoring and reporting responsibility, may be useful in ensuring a successful monitoring and reporting effort. In addition, the site manager may want to include frequent reminders of the restrictions via such means as correspondence, notification in access letters for routine monitoring, and affixing warning labels to well casings that reiterate applicable restrictions. In many cases, a good way to help ensure effective and comprehensive monitoring is to develop and use an ICIAP or equivalent planning document early in the site management process.

State one-call systems may be an effective way to help ensure that activities, particularly site excavations, do not conflict with land and/or resource restrictions during the life cycle of the IC. States typically established one-call systems to help excavators identify underground utility lines and other infrastructure before they start digging into the ground.

Depending on how such systems are designed and operated, they also may be useful in identifying ICs.

8.2 Operation and Maintenance

Effective IC monitoring typically begins with a thorough understanding of the use restrictions, the desired audience for each IC, and recognition of the potential weaknesses of each IC. A primary tool for site managers can be a detailed O&M plan, an ICIAP, or other plan related to the long-term stewardship of ICs that should describe at a minimum: (1) monitoring activities and schedules; (2) responsibilities for performing each task; (3) reporting requirements; and (4) a process for addressing any potential IC issues that may arise during the reporting period.

Provisions describing IC monitoring, reporting, and enforcement mechanisms can be included in an appropriate decision document, ICIAP, and/or enforcement document. Such provisions can include a requirement in a CD to develop a detailed monitoring and reporting plan, or a description of the requirements themselves. At RCRA sites with a permit or order in place, the IC monitoring and reporting requirements may be specified in a separate document (and referenced in the permit or order) or in the permit and/or order itself. Most Brownfields and UST sites have similar decision documents, cooperative agreements, or work plans, and IC monitoring and reporting should be included in those documents as well. If the site manager anticipates that monitoring or reporting requirements may be changed at some point, language should be added to the appropriate enforceable document to explain the process for approval of the change.

The requirements and frequency of IC monitoring normally will vary depending upon site-specific circumstances, such as the types of IC instruments and monitoring tools used and how the IC is used to help ensure protectiveness. In many cases, inspections and reporting can be incorporated into other site activities, such as routine groundwater monitoring and annual reports. If, after a sufficient period, the reliability of the ICs is better understood, the site manager may revisit the monitoring practices on a site-specific basis.

Long-term stewardship procedures should be in place to ensure proper maintenance and monitoring of effective ICs. The procedures can be included in the site O&M plan. The plan should address procedures to ensure regular inspection of ICs at the site; in appropriate circumstances, an annual certification to EPA that the required ICs are in place and effective may be useful. The entities responsible for implementing the plan also may send annual or semi-annual reminder letters to property owners to remind them of the existence of an IC and its provisions. Additionally, such entities should explore whether additional actions can help ensure compliance with the ICs. These actions could include the development of a communications plan and exploring the use of the state's one-call system as part of a site's long-term stewardship plan.

8.3 Periodic Reviews

As discussed above, monitoring should be sufficiently frequent to ensure that ICs remain effective. In the absence of information to support a different review period, annual reviews are recommended. Reviews may include documentation to show that ICs remain in place and are effective.

A shorter review period, or more frequent monitoring that supplements an annual review, may be appropriate when more frequent land activities or potential changes in land and/or resource uses are anticipated; this could be the case, for example, in more urban settings. Changes in land use might be anticipated, for example, when the site is located in an area being redeveloped or in an area where there has been a change in the zoning designation. Examples of activities that could compromise the integrity of a response action (e.g., rupture an engineered cap) or result in unacceptable exposure to residual contamination may include excavations, new construction, utility repairs, and building alterations or demolition. Further, when engineering controls require more frequent inspection or maintenance (e.g., with vapor intrusion mitigation systems), more frequent visual inspections (or remote integrity monitoring) may be necessary to ensure that the IC component of a cleanup is still effective.

If it is highly unlikely that site conditions will change, a monitoring period longer than a year may be appropriate. Some laws or regulations may specify a minimum review period for certain situations, such as the FYR required for certain CERCLA remedial actions. Section 121 of CERCLA requires FYRs when remedial actions result in hazardous substances, pollutants, or contaminants being left in place. The NCP further clarifies that FYRs are to be conducted when remedial actions do not allow for UU/UE. In order to evaluate the continued protectiveness of a remedy during the CERCLA FYR process, monitoring and site inspection activities generally take place. Therefore, a periodic review (such as the FYR process at CERCLA sites) provides an important opportunity for a site manager to conduct an objective evaluation of the status and performance of ICs.⁶³

During the periodic review, the site manager, facility owner/operator, or other review/enforcement authority normally should inspect the site and critically evaluate the effectiveness of the ICs in protecting human health and the environment and/or ensuring the integrity of any engineered response action (e.g., conduct site visits and/or field surveys if appropriate, and review aerial photos or other physical documentation to determine if there is any land or resource use inconsistent with the response). In addition, the site

⁶³ For additional guidance on determining protectiveness of IC remedies during the CERCLA FYR process, see *Recommended Evaluation of Institutional Controls: Supplement to the 'Comprehensive Five-Year Review Guidance,'* OSWER Directive 9355.7-18, September 13, 2011.

attorney generally should review updated title work to the property to determine whether proprietary controls have been modified or terminated, and should review the local government's zoning regulations for the site to determine if there have been any changes. Also, the enforcement team should follow up on the review provision in any settlement document and, if appropriate, request that the settling parties investigate the performance of the ICs.

If more frequent monitoring events are appropriate, the Region should consider a focused review of building permits, zoning code amendments, zoning variance requests, and well permit applications; this review can be done through a coordinated approach with local agencies who issue these permits or are responsible for zoning matters. Monitoring also could include a review of one-call excavation records or of real estate listings, sales, and foreclosures. Finally, more frequent monitoring also could include visual inspections by Regional personnel who are routinely present on site to carry out oversight duties.

If the ICs are not in place by the time of the periodic review, a schedule should be prepared that indicates when the ICs are to be implemented and the person or entity responsible for that activity should be identified. If EPA determines that additional ICs are necessary to protect human health and the environment, the site manager and site attorney should review the enforceable document to determine if the settling party may be required to implement additional ICs consistent with the cleanup's decision documents, or take additional actions (e.g., enforcement tools that may allow for modifications or pursuit of additional work under certain circumstances). An ESD or ROD amendment also may be necessary at CERCLA remedial sites if additional ICs are contemplated or if ICs are being discontinued (see Section 4.1). In the case of RCRA, when the IC is being implemented by a facility-specific mechanism like a RCRA corrective action permit or order, that document may need to be amended to reflect the current status of the facility.

8.4 State, Tribal, and Local Government Participation in IC Maintenance Activities

State, tribal, and local governments generally are important partners in the long-term stewardship of cleanup sites, including the IC component at those sites. Depending on the IC instrument and which agency is the lead agency, the state, tribal, or local government may have direct authority for the long-term maintenance and enforcement of ICs. At sites where this is the case, the parties responsible for the cleanup should cooperate with those governmental authorities to ensure the ICs remain in place and are effective. The site manager and site attorney are encouraged to coordinate with these governmental authorities and other IC stakeholders (e.g., responsible parties) when proposing a comprehensive, long-term approach to using ICs at the site, and where appropriate, help those authorities and stakeholders make their own arrangements for a "common understanding" on their

respective roles for maintaining ICs over the long term.⁶⁴ Further, the site manager and site attorney should actively encourage the state, tribal, and/or local governments and interested stakeholders to ensure proper monitoring of ICs, and explain that if this is not done, it may be necessary to change the response action to ensure protectiveness of human health. Such monitoring activities may include:

- Inspecting and reporting on sites following the issuance of building/excavation permits to ensure compliance with their terms;
- Inspecting and reporting on sites for compliance with proprietary controls when the state, local government, or tribe is the grantee (or "holder" if this term is used in a state's UECA-based law) of a property interest;
- Inspecting and reporting on compliance with zoning restrictions; and
- Reporting proposed zoning amendments that may significantly alter land use at the site or in the vicinity of the site.

State, tribal, and local government laws also may influence the implementation of proprietary controls. As discussed in Section 2.2, proprietary controls generally are authorized under state common law or, in many states, under state statutes. In states that have adopted legislation enabling statutory proprietary controls, state law may specify certain criteria as to who qualifies as a grantee or "holder" in UECA-based states, and also may provide enforcement authority for the state or local jurisdiction even if not named as the grantee. Since the grantee may assume responsibility for monitoring and reporting on the IC status, a potential grantee should understand its responsibilities before accepting the conveyance of a proprietary control. Thus, it is critically important for the site manager and site attorney to evaluate thoroughly the capability and willingness of a state, tribal, or local government to report on and pursue problems with the IC for as long as it remains in place.

In some cases, the grantee may share monitoring responsibilities with contractors (see discussion on third-party monitoring below), community stakeholders, local governments, or others who have agreed to participate in the monitoring and reporting. Where possible, the arrangements among these parties should be documented in writing to describe commonly understood roles and responsibilities for proper and effective monitoring, reporting, and follow-up. In situations where EPA is the grantee, the site manager and site attorney should ensure that procedures are in place to appropriately monitor, report on, and follow-up on whether the parties are fulfilling their responsibilities at the site and to transition or terminate those responsibilities once the response action is complete.

⁶⁴ See *supra* text accompanying footnotes 29 and 56.

8.5 Out-Sourced IC Monitoring

In some instances, IC monitoring activities (such as title searches, mapping, internet-based remote monitoring of land activities, site inspections, and reporting services) may be contracted out, or otherwise arranged by the entity that assumes responsibility to do monitoring. This arrangement does not alter any legal obligations of responsible parties, grantees, and others for maintaining the response action and ensuring its protectiveness. When monitoring and reporting activities are conducted under a contract, the site manager and site attorney should ensure that the scope of monitoring activities is clear, an adequate funding source is available for the duration of this monitoring, and the reporting obligations are clearly defined (i.e., to whom the contractor reports and the frequency and content of reports).

8.6 Community IC Monitoring

Local residents, community associations, and interested organizations can be valuable resources for day-to-day monitoring of ICs. Because community members who live or work near the site often will have a vested interest in ensuring compliance with the ICs, they generally are the first to recognize changes at the site. Although local residents should not be relied upon as the primary or sole means of monitoring, the site manager should encourage local stakeholders to become involved in monitoring ICs. Community monitoring can be fostered through public outreach activities to inform nearby residents of the purpose of the ICs and what types of activities may adversely affect the integrity of the response action. In addition to public meetings and notices, mailings to nearby homeowner associations and property owners may be used to provide community stakeholders with information about the ICs and contact information for reporting a breach.

9. ENFORCING INSTITUTIONAL CONTROLS

This section provides an overview of the types of enforcement tools that may be available for dealing with potential problems involving improper or incomplete implementation, maintenance, and breaches of ICs. The site manager and site attorney should examine IC compliance at all stages throughout the enforcement process. This section illustrates some of the more common enforcement actions that site managers and site attorneys may encounter, and is not intended to provide a comprehensive discussion of all enforcement actions available at a given site.

Enforcing Institutional Controls

- General Considerations (Section 9.1)
- Enforcement of Proprietary Controls (Section 9.2)
- Enforcement of Governmental Controls (Section 9.3)
- Enforcement and Permit Tools with IC Components (Section 9.4)
- Enforcement of Informational Devices (Section 9.5)
- Commencement of New Actions (Section 9.6)
- Other Enforcement Concerns (Section 9.7)

9.1 General Considerations

Often, the preferred and fastest approach for dealing with IC enforcement is to seek voluntary compliance through early problem identification and informal communication. Many issues can be addressed effectively at the site manager and site attorney level with a phone call and appropriate follow-up. Such follow-up may include site visits, letters to ensure complete communication, and creating a record. However, there may be occasions when more formal steps are necessary. Enforcement can occur in several ways depending upon the type of IC instrument, the authority being used, the party attempting to compel an activity, and the party responsible for taking an action.

For CERCLA responses that include ICs, EPA strives to ensure that the responsible parties implement, maintain, and enforce ICs, as appropriate (see *“Enforcement First” to Ensure Effective Institutional Controls at Superfund Sites*, OSWER 9208.2, May 17, 2006). EPA uses a variety of negotiation and enforcement tools to obtain responsible party participation in carrying out Superfund site cleanups, including any IC obligations.⁶⁵ Ensuring that ICs are properly implemented and remain protective is important to both EPA and responsible parties. Therefore, case teams should first pursue a cooperative approach when working with responsible parties to enforce ICs.

9.2 Enforcement of Proprietary Controls

As discussed in Section 2.2, proprietary controls generally are authorized under state common law or, in many states, under state statutes, including UECA-type statutes. Accordingly, the legal requirements, including those related to the authority granted to parties for enforcing proprietary controls, may vary considerably among states, and site attorneys are encouraged

⁶⁵ See *Negotiation and Enforcement Strategies to Achieve Timely Settlement and Implementation of Remedial Design and Remedial Action at Superfund Sites*, Office of Enforcement and Compliance Assurance memorandum, June 17, 1999.

to coordinate with attorneys familiar with the contract and real property laws of the particular jurisdiction.

If proprietary controls are implemented pursuant to state IC legislation, there likely will be clear enforcement procedures outlined in the statute. Generally, under state-adopted laws modeled after UECA, many parties may have the authority to enforce an “environmental covenant,” including: (1) any parties to the covenant or any party given the right to enforce under the covenant; (2) the state environmental agency; (3) a person whose interest in the real property or liability may be affected by the violation of the covenant (this can include responsible parties); and (4) a unit of local government.

Regardless of whether the authority for a proprietary control is from state statute or common law, certain enforcement challenges may arise. The grantee (or “holder” if this term is used in a state’s UECA-based law) generally will have the primary responsibility for enforcing a proprietary control. EPA typically will rely on another party to act as the grantee, due to the limitations on EPA’s authority to hold proprietary interests. The grantee may be able to enforce the proprietary control against the owner(s) of the property pursuant to state law in state court. To help ensure that a grantee other than EPA takes appropriate action in the event of an IC violation, it can be useful for that grantee and other parties to enter into agreements that clearly define the roles and responsibilities of the grantee.

In those cases where EPA is the grantee or has authority to enforce a proprietary control as a third-party beneficiary, the Region should refer the case to DOJ for appropriate action in state or federal court where an enforcement action can remedy the violation. For a more detailed discussion of the third-party beneficiary status, consult *Institutional Controls: Third-Party Beneficiary Rights in Proprietary Controls*, Office of Enforcement and Compliance Assistance memorandum, April 19, 2004. When enforcing a UECA environmental covenant, the Region may be able to refer an enforcement action to DOJ for appropriate action in state or federal court where EPA qualifies as an “agency” that signed the covenant. Site managers and site attorneys should note that state law may specify that the agency’s enforcement right in the covenant is not based on an interest in real property, and is thus not an acquisition of real property by EPA.

In the RCRA, Brownfields, and UST context, EPA has no authority to be the grantee, so enforcement by EPA is not available unless it is a third-party beneficiary or it has agency rights under a state’s UECA or other statute. If a proprietary control is used and another party is the grantee, the regulatory agency may be able to rely on the grantee to act as the enforcement party.

9.3 Enforcement of Governmental Controls

Governmental controls typically are implemented and maintained by government agencies other than EPA. For

example, local government agencies generally control zoning, land use designations, and well installations, even though EPA and/or a state environmental agency may oversee and approve the response action. Tribal, state, and local governments generally are authorized to amend their existing regulations or adopt new ones, to keep in place current rules or regulations, or to enforce rules or regulations that ensure compliance with ICs.

Several difficulties can arise when using ICs in the form of governmental controls including: (1) the IC instrument may not have been implemented or, if implemented, may not address the specific environmental problem because of vagueness or some other deficiency in the drafting of the IC; (2) the IC may not have been appropriately monitored or reported (e.g., failure to notify environmental regulators that a zoning ordinance expires); (3) a governmental entity may not actively respond to an identified problem or breach of an IC; and (4) a governmental entity may inadvertently undermine the IC through its own actions, undertaken for unrelated purposes (e.g., amending zoning to allow uses that would not have been allowed under the prior designation).

A challenge for site managers and attorneys in relying upon and enforcing governmental controls is that IC implementation, maintenance, and enforcement generally fall within the authority and discretion of the originating governmental entity. This challenge is compounded if communication between environmental regulators and the relevant governmental decision-maker (e.g., the well permitting office) is not part of the entity’s established administrative process. Thus, where site managers and attorneys are unable to determine whether a governmental control remains in place and effective, they may choose to rely on EPA’s inspection, information gathering, or remedy review authorities to obtain information necessary to make that determination. Moreover, as discussed in Section 3.3 and 3.8, an ICIAP may be in place or a “common understanding” may have been reached among state, tribal, or local governments and other stakeholders. If so, the ICIAP or the document memorializing the “common understanding” may contain provisions that describe appropriate steps to take if local or state agencies are not maintaining or enforcing the governmental controls being relied on as ICs.

Where state, tribal, or local agencies are not monitoring or enforcing their own governmental controls, the selected cleanup for the site may need to be modified to ensure protectiveness of human health. Under a CERCLA CD, responsible parties may remain responsible for IC compliance, for performing any required monitoring and reporting on the effectiveness of the ICs (e.g., notifying regulators of any change to or breach of a relied upon governmental control), or for additional work (e.g., carrying out a modified remedial action). Further, as discussed in Section 9.6, EPA has additional enforcement options.

Typically, governmental control activities are governed by a defined administrative process. Site attorneys should familiarize themselves with this process, including written petitions and/or administrative hearings, in the event an action to enforce a governmental control is necessary.

9.4 Enforcement and Permit Tools with IC Components

Enforcement and permit tools that may be used to require implementation and maintenance of an IC, or seek a remedy for an IC breach, include CDs, FFAs, Unilateral Administrative Orders (UAOs), and permits. Through these instruments, EPA or another regulatory agency may be able to specify the restrictions and requirements for implementing, maintaining, and/or fixing a breach to the IC in the enforceable document. If the responsible parties fail to carry out their obligations under a CD, order, or permit, EPA or another regulatory agency may be able to enforce those obligations under the appropriate CERCLA, Brownfields, UST, or RCRA authority.⁶⁶ The remedies available may include requiring the defendant to implement the IC or, in some circumstances, pay certain costs or penalties. Such payments may be required to reimburse an agency that has incurred the cost of implementing or maintaining the control, cover the costs incurred when addressing IC breaches, and/or pay penalties (stipulated and/or statutory).

An action pursuant to the CD, order, FFA, or permit generally will be effective only against the parties specified in these documents. For example, a provision in a CD or Administrative Order on Consent (AOC) may require a facility operator to secure a proprietary control to prevent a particular type of land use. However, the landowner may not be a party to the CD or AOC and, therefore, would not be obligated to convey the interest. Furthermore, the requirements of the CD may not be enforceable against any successor-in-title if the successor was not a party to the CD.

If proprietary controls are needed on property that is not owned by a responsible party, enforcement documents generally require that the responsible party use “best efforts”⁶⁷ to obtain access and to implement the controls. In cases where the responsible party does not use its best efforts to implement the proprietary controls, EPA can seek to enforce the relevant provisions of the CD, order, FFA or permit in place. If the responsible party is unable to acquire proprietary controls on the property of concern despite exercising its “best efforts” (e.g., the property owner is unwilling to sell or agree on a price for an easement or other property interest), there are several approaches to consider, depending on the situation. For CERCLA remedial actions, the site attorney may consider acquiring or condemning the necessary real property interests

subject to the requirements of CERCLA §104(j).⁶⁸ Under CERCLA, many state statutes, and typically under consent agreements such as CDs, the responsible party may be required to reimburse EPA and/or the state for the cost of acquiring the control either through negotiated purchase or condemnation. Alternatively, this may be resolved by selecting and implementing different types of ICs. If other ICs are not viable and the long-term protectiveness of the response is threatened, it may be necessary to reconsider the response action that was selected. For additional discussion of strategies that may be appropriate when attempting to secure proprietary controls, see Sections 4.4 and 5.2.

9.5 Enforcement of Informational Devices

The most common informational devices used in UST, Brownfields, federal facility, RCRA, and CERCLA cleanups are notices filed in local land records, state registries, and advisories. Notices are useful devices, but typically are not enforceable. However, some states recently have established laws that allow the state to enforce placement of notices in the local land records under state environmental laws. Similarly, many states are developing laws that require sites with ICs to be placed in a registry. However, these laws typically only apply to the listing of sites in registries, and do not affirmatively limit land or resource use at a site.

9.6 Commencement of New Actions

Where ICs are not properly implemented or maintained, it may be necessary to commence an enforcement action against the responsible party. For example, it may be possible to issue a UAO to require the responsible party to use “best efforts” to acquire real property interests limiting future land use where zoning restrictions are repealed.

In the event of an IC violation, the site attorney may consider issuing an administrative order under CERCLA §106(a) and/or RCRA §7003(a) requiring that the IC be maintained if there is a resulting actual or threatened imminent and substantial endangerment to human health and the environment. If the administrative order is not complied with, EPA may seek judicial enforcement of the order. If the party responsible for enforcing an IC fails to do so in a timely manner, EPA also may use these authorities to seek a court order imposing the IC.

In cases where ICs that were originally selected as a component of a cleanup are not or cannot be implemented in a manner that helps ensure protectiveness of human health, different ICs or additional active remediation may be needed and it may be necessary to amend the decision documents

⁶⁶ A consent decree also can be enforced as an order of the court.

⁶⁷ See *supra* text accompanying footnote 49.

⁶⁸ Under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (URA) (Pub. L. No. 91-646), negotiations that include offering compensation are required to be completed first.

(e.g., ROD) to ensure that the response action is protective of human health, as required by CERCLA §121.

9.7 Other Enforcement Concerns

One significant enforcement concern may be the premature close-out of CDs, orders, FFAs or permits despite a long-term requirement for ICs. Often, a responsible party is anxious to close out its CD, order, or permit and end its relationship with regulatory agencies through those documents once the construction work is complete and routine site maintenance has commenced. It is important that the site manager and site attorney retain the appropriate enforcement authority for ensuring satisfactory completion of the cleanup (which may require state, tribal, or local government actions to implement, maintain, and enforce the ICs over the duration of the period in which ICs may be needed).

An additional area of concern is the change of ownership of facilities subject to orders (e.g., RCRA corrective action order) without proper notification to the site manager. A RCRA order, or other enforceable device, may include a requirement for notification of change of ownership.

10. SUMMARY

ICs often are a vital component of remedies in most cleanup programs, including the five programs addressed in this guidance. However, over time, site managers and site attorneys should continue to review their effectiveness in light

of any changes to land use, laws, the condition and location of hazardous substances, and responsible entities. This guidance document provides an overview of some key issues the site managers and site attorneys may encounter when evaluating whether ICs are properly selected, implemented, maintained, and enforced.

- When planning and selecting ICs, the site manager and site attorney should familiarize themselves with appropriate state statutes and identify the governmental bodies that have jurisdiction over the site. It may be useful to collaborate with attorneys and remedial and/or removal practitioners familiar with the laws, regulations, and practices in the jurisdiction where the site is located.
- Meeting with community members and local government representatives often is important throughout the IC life cycle to ensure that the need for ICs is understood and accepted as necessary for ensuring protection of human health and the environment.
- An appropriate tool, such as a CD, order, FFA, or permit (e.g., under CERCLA, RCRA, and/or state law) should be used in order to implement the cleanup, including any ICs that are part of the cleanup action.
- If a proprietary control is being implemented, close review of appropriate statutes and common law and, in turn, selection of an appropriate grantee and careful drafting of the language of the conveyance often is important.

Figure 1. Examples of IC Categories and Enforcement Processes

| IC Categories | IC Authorities and Examples | Typical Enforcement Processes |
|---|--|---|
| Governmental Controls | <p><i>Police Power</i></p> <ul style="list-style-type: none"> • Zoning ordinances • Groundwater use restrictions • Building codes/permit requirements | <p>Local government jurisdiction; enforcement may be possible through administrative process or legal action.</p> <p>State agency; enforcement may be possible through administrative process or legal action.</p> |
| Proprietary Controls | <p><i>State statutory and common law</i></p> <ul style="list-style-type: none"> • Easements and covenants | <p>The grantee of a proprietary control may be able to seek legal action against the property owner for activities prohibited by its proprietary control.</p> <p>EPA, the state, or another party may be able to enforce the proprietary control under state property law if they are a third-party beneficiary of the easement or covenant.</p> <p>Even if they are not the grantee, EPA or any other state or federal agency that signed the covenant may be able to enforce the proprietary control in states that have adopted legislation similar to UECA as the “agency” that approves of the covenant.</p> <p>EPA may be able to order a responsible party to implement a proprietary control.</p> |
| Informational Devices | <p><i>Police Power</i></p> <ul style="list-style-type: none"> • Health advisories • Fish consumption advisories • Deed notices • State registries of waste sites • Tracking systems | <p>While informational devices typically are not themselves enforceable, site-specific circumstances may warrant action by EPA. Site managers and site attorneys should consult with the Office of Enforcement and Compliance Assurance (OECA) to discuss possible action such as issue an order to a responsible party if an imminent and substantial endangerment exists at a site due to lack of a recorded notice.</p> <p>Public health agencies; issuance through administrative process.</p> |
| Enforcement and Permit Tools with IC Components | <p><i>Federal and State statutory law</i></p> <ul style="list-style-type: none"> • Superfund CDs, UAOs, AOCs, and FFAs • RCRA orders and permits • Orders issued under state authority | <p>EPA may be able to use a variety of legal instruments to require responsible parties or the signatories of the agreement to control the use of land or resources.</p> <p>If a responsible party is the grantor or grantee of the proprietary control, EPA may be able to employ these tools to enforce the requirements of the IC as the “agency” that approves of the covenant.</p> |

- If an IC in the form of a governmental control is used, the site manager and site attorney should work closely with the state or local government that has jurisdiction to ensure that it has the capability and willingness to implement and enforce the control.
- A good way to ensure effective implementation of ICs is to develop an ICIAP that documents responsibilities over the full life cycle of each IC, and include this plan, or a reference to it, in the final decision documents. EPA is developing guidance on recommended contents for such a plan.
- A strategy for implementing and maintaining ICs should be included in the O&M plan for Superfund sites, included in an ICIAP, or developed as part of the permit or order that implements a response decision under RCRA. For federal facilities under CERCLA, the analogous information should be placed in a ROD, RD, RAWP, or other post-ROD enforceable document. In addition, the site manager and site attorney should discuss appropriate monitoring roles with the local government and appropriate state agencies.
- If an IC is not being properly maintained, or is violated, appropriate enforcement actions or other measures should be taken to ensure protectiveness.

APPENDIX A: REFERENCES

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APPENDIX B: GLOSSARY OF TERMS

For purposes of this guidance, the following terms are defined as:

Administrative Order on Consent (AOC) - a legally enforceable document signed by EPA and an individual, business, or other entity through which the party agrees to pay for the correction of violations, take the necessary corrective or cleanup actions, or refrain from an activity. An AOC, which may be subject to a comment period, describes the actions to be taken, is civil rather than criminal in nature, and can be enforced in court.

Advisories - Warnings, usually issued by public health agencies, either at the federal, state, or local level, that provide notice to potential users of land, surface water, or groundwater that there is some existing or impending risk associated with the use of these resources.

Brownfields Site - Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. See CERCLA §101(39) for additional information on what sites may qualify as Brownfields under CERCLA.

Chain of Title - A history of conveyances, judgments, and encumbrances affecting title to real estate from the time that the original patent was granted, or as far back as records are available.

Common Law - The body of English law developed primarily from judicial decisions based on custom and precedent, unwritten in statute or code, and constituting the basis of the legal system in all of the U.S. except Louisiana.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) - Legislation enacted in 1980 to identify, investigate, and clean up the nation's most contaminated hazardous waste sites and respond to emergency situations involving hazardous substances, pollutants, or contaminants.

Condemnation - The process by which a government agency, exercising the power of eminent domain, acquires an interest in property.

Consent Decree (CD) - A legal document, approved by a judge, that formalizes a settlement reached between EPA and responsible parties through which responsible parties will conduct all or part of a cleanup action at a Superfund site, cease or correct actions or processes that are polluting the environment, or otherwise comply with an EPA-initiated enforcement action. The consent decree describes the actions responsible parties will take and is subject to a public comment period.

Conveyance - The transfer of title to property or an interest in property (e.g., an easement) from one person to another.

Cooperative Agreement - An agreement, including CERCLA §104(d) agreements, that transfers money for the accomplishment of authorized activities or tasks.

Corrective Action - EPA can require RCRA treatment, storage, and disposal facilities (TSDFs) handling hazardous waste to undertake corrective actions to clean up contamination resulting from failure to follow hazardous-waste management procedures or other mistakes.

Covenant - A promise by one landowner to another generally made in connection with a conveyance of property (e.g., warranty of title) that may or may not run with the land. Covenants also may include a promise by the grantee of a possessory interest in property to use or refrain from using the property in a certain manner. Covenants are similar to easements but have been traditionally subject to somewhat different formal requirements.

Deed - A written instrument that transfers legal title to real property or an interest therein from one party to another. Generally, it contains the names of the grantor and grantee, a description of the property, and the estate being conveyed. It is signed by the grantor, usually acknowledged before a notary public, and should be recorded.

Deed Notice - Commonly refers to a non-enforceable, purely informational provision in a deed that alerts anyone performing a title search to important information about a particular property but also may be used, somewhat confusingly, to refer to other purely informational documents that are recorded in local land records.

Deed Restriction - Not a traditional real property law term, but used in the NCP as a shorthand way to refer to various types of proprietary controls.

Easement - A right that allows the grantee to use the property of another or restrict its use according to the terms of the easement. An "affirmative" easement allows the grantee to enter upon or use another's property for a particular purpose (e.g., ingress/egress). A "negative" easement imposes limits on how the owner of the servient estate can use the property.

Emergency Removal Action - A CERCLA emergency removal action generally occurs when a release or threatened release requires the lead agency to initiate on-site cleanup activities promptly after determining that a removal is required.

Enforcement and Permit Tools with IC Components - Tools, such as administrative orders or consent decrees, available to EPA under CERCLA and RCRA that can be used to restrict the use of land. Enforcement authority can be used to either (1) prohibit a party from using land in certain ways or from

carrying out certain activities at a specified property, or (2) require a settling party to put in place some other form of control, such as a proprietary control.

Explanation of Significant Differences (ESD) - A CERCLA decision document prepared when there has been a significant change in performance or cost of a remedy selected in a Record of Decision (ROD). The significant change to the remedy may be as a result of new information.

Five-Year Review (FYR) - An evaluation that may be required by §121(c) of CERCLA. Consistent with the NCP (40 CFR §300.430(f)(4)(ii)), Regions should conduct a review at Superfund sites where the remedy does not allow for unlimited use and unrestricted exposure. FYRs are designed to determine whether the remedy at a site remains protective of human health and the environment. Where remedial actions are still under construction, FYRs can help confirm that immediate threats have been addressed and that the remedy is expected to be protective when all remedial actions are completed.

Governmental Controls - Controls using the regulatory authority of a government entity to impose restrictions on citizens or sites under its jurisdiction. Generally, EPA turns to state, local, or tribal governments to enforce existing controls of this type and to establish new controls. Typical examples of governmental controls include zoning, the issuance of building permits, and state and local groundwater use restrictions.

Grantee/Grantor - The entity to/from which ownership of a property interest (e.g., an easement) is transferred.

Holder - a term used in the UECA model defining a special type of grantee with specified rights and obligations related to environmental covenants; this term typically also is expressly set forth in UECA-based state laws. UECA provides that "Holder means the grantee of an environmental covenant..."

Institutional Control Implementation and Assurance Plan (ICIAP) - An ICIAP is a tool designed to help systematically describe and document the recommended activities related to implementing and ensuring the long-term stewardship of ICs. It also should specify the persons and organizations responsible for conducting these activities. A detailed ICIAP can help ensure that ICs are properly implemented; that ICs operate effectively during their entire lifespan; and is intended to serve as a single source of concise, site-specific IC information.

Informational Devices - IC instruments that provide information or notification that residual contamination could remain on site. Common examples include state registries of contaminated properties, notices in deeds, and advisories.

Institutional Controls (ICs) - Non-engineered instruments, such as administrative and legal controls, that help to

minimize the potential for human exposure to contamination and/or protect the integrity of a response action. They typically are used in conjunction with, or as a supplement to, other measures, such as waste treatment or containment. There are generally four categories of ICs: governmental controls; proprietary controls; enforcement and permit tools with IC components; and information devices.

Land Use Control (LUC) - Any restriction or control, including institutional controls and engineering controls, arising from the need to protect human health and the environment, such as the restriction of access or limitation of activities at a site that has residual contamination.

Layering - The use of different types of institutional controls at the same time to enhance the protectiveness of the remedy.

Memorandum of Understanding (MOU) - A non-enforceable document that outlines the intentions of its signatories.

Non-Time-Critical Removal Action - A CERCLA non-time-critical removal action occurs when at least six months are available after determining that a removal is appropriate and before on-site cleanup activities must begin.

Overlay Zone - A set of zoning regulations that supplement (i.e., overlay) those of the underlying district. Developments within the overlay zone normally conform to the requirements of both zones, or the more restrictive of the two. Overlay zones may be used to address issues such as historical areas, flood plains, and environmental contamination.

Post-Removal Site Controls (PRSCs) - Actions necessary to ensure the effectiveness and integrity of the removal action after the completion of the on-site removal action.

Proprietary Controls - Controls on land use or activities that are considered private in nature because they tend to affect a single parcel of property and are established by private agreement typically between the property owner and a second party who, in turn, can enforce the controls. Common examples include easements that restrict use (also known as negative easements) and restrictive covenants.

Prospective Purchaser Agreement - An agreement between EPA or a state and the prospective purchaser of a property known to be contaminated. Under the agreement, EPA or the state typically provides the purchaser with a covenant not to sue for the contamination existing at the site as of the date of the agreement. In return, the purchaser usually provides EPA with a benefit, which may include carrying out actual cleanup work and/or funding for cleanup at the site. EPA generally would enter into such an agreement at sites where an EPA action has been, is currently being, or will be taken. Parties seeking to operate on or lease contaminated property also may be eligible for such an agreement.

Record of Decision (ROD) - A document that selects the remedial action at a CERCLA site. It is a legal document that is an important part of the remedy selection process carried out in accordance with CERCLA. It includes, but is not limited to the following: a basis for the action, the selected remedy, a discussion of the supporting rationale, and response to stakeholder comments.

Record of Decision Amendment - A CERCLA decision document prepared to document a fundamental change to the remedy selected in a ROD. The fundamental change to the remedy may be needed as a result of new information.

Resource Conservation and Recovery Act (RCRA) - The public law that creates the framework for the proper treatment, storage, and disposal of hazardous and nonhazardous solid waste. RCRA focuses on active and future facilities and does not address abandoned or historical sites that are managed under CERCLA, commonly known as Superfund.

Responsible Party - The term “responsible party” as used in this document is intended to mean a person or entity with cleanup responsibilities (including ICs implementation, maintenance, and/or enforcement) under the various cleanup programs addressed in this guidance.

“Run with the Land” - A term indicating that a proprietary control will bind subsequent owners of the affected parcel as opposed to one that is personal and binds only the original parties.

Site-wide Ready for Anticipated Use (SWRAU) - A performance measure under the Government Performance and Results Act to describe final and deleted construction-complete NPL sites where, for the entire site: (1) all cleanup goals in the ROD(s) or other remedy decision document(s) have been achieved for media that may affect current and reasonably anticipated future land uses of the site, so that there are no unacceptable risks; and (2) all ICs or other controls required in the ROD(s) or other remedy decision document(s) have been put in place.

Subdivision Ordinance - A local ordinance that regulates the conversion of land into building lots for development. The regulations establish requirements for streets, utilities, site design, and procedures for dedicating land for open space or other public purposes to the local government (or fees in lieu of dedication). In short, subdivision ordinances regulate land conversion, whereas zoning ordinances regulate land use.

Superfund State Contract (SSC) - An agreement between EPA and a state generally before remedial action begins at Superfund sites. Typically, the SSC documents the state’s assurances under CERCLA and outlines the roles and responsibilities of both parties.

Time-Critical Removal Action - A time-critical removal action occurs when less than six months are available after determining that a removal is appropriate and before on-site cleanup activities must begin.

Uniform Environmental Covenants Act (UECA) - A model for state legislation that addresses the use of proprietary controls as ICs (e.g., environmental covenants) and can be used to reduce the legal and management complications and common law impediments associated with ICs. UECA was developed by the National Conference of Commissioners on Uniform State Laws.

Unilateral Administrative Order (UAO) - A legal document signed by EPA directing any person to take corrective action or refrain from an activity. It describes the violations and actions to be taken and can be enforced in court.

Unlimited Use/Unrestricted Exposure (UU/UE) - As discussed in EPA guidance documents, UU/UE generally refers to a situation when there are no exposure or use limitations required for the remedy at a site to be protective.

Zoning - A widely used type of land use control that is based upon the police power. Zoning ordinances typically consist of a map indicating the various land use zones (or districts) in the jurisdiction, and text that sets forth regulations for the development of land by zone.