NARPM Presents:
Institutional Controls in Decision Documents

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Must have Jean Balent describe webinar protocol first; then intro speakers

Topics Covered

- Institutional Controls (ICs) overview
- NCP expectations / Decision document overview
- Selecting ICs in decision documents
- Substantive documentation of ICs
- Amending decisions for ICs
- From decision documents to effective ICIAPs
- Q & A

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IC Basics

- 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.
- Limit land and/or resource use or by providing information that helps modify or guide human behavior at a site.

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IC Basics *(continued)*

- Used on a short-term basis (for restoration remedies until UU/UE achieved) or on a long-term basis (where waste is left in place above UU/UE in perpetuity)
- Federal facilities use "LUCs" and the SF removal program uses "PRSCs"

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EPA's IC Workload

- IC implementation area amounts to significant workload for EPA's Superfund program and Regional Counsel
- EPA Superfund IC Tracking System (ICTS) – Centralized database on site-specific status of ICs; mostly construction complete (CC) sites
- Three-quarters of decision documents include ICs as a remedial component
- Over 50% of CC sites may require future IC work (IC implementation needed, necessary change in scope of implemented ICs, no information publicly available, sites need additional review)

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EPA's IC Workload *(continued)*

- Five-Year Reviews identify IC-related issues with regularity, consistent with ICTS data
- Significant percentage of FYRs identify at least one IC issue

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EPA's Recent IC guidance

- PIME Guidance (Dec 2012) – Identifies and addresses many of the common issues that may be encountered when using ICs pursuant to several of EPA's cleanup programs
- ICIAP Guidance (Dec 2012) – Provides EPA Regions with a template for developing IC plans at contaminated sites where the response action includes ICs
- Five-Year Review IC Supplement (Sept 2011) – Provides recommendations for evaluating protectiveness in five-year reviews for the IC component of remedies

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EPA's Recent IC guidance *(cont.)*

- Implementing ICs in Indian Country (Nov 2013) – Cross-program handbook designed to recognize unique circumstances distinguishable from EPA's current IC practice

These guidance documents can be found:
http://www.epa.gov/superfund/policy/ic/guide/index.htm

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NCP Expectations

- "EPA expects to use institutional controls such as water use and deed restrictions to supplement engineering controls as appropriate for short- and long-term management to prevent or limit exposure to hazardous substances, pollutants or contaminants."
- "The use of institutional controls shall not substitute for active response measures (e.g., treatment and/or containment of source material, restoration of ground waters to their beneficial uses) 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." (NCP 300.430 (a) (1) (iii) (D))

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NCP Expectations *(continued)*

- UU/UE considerations – ICs are a necessary supplement to remedial actions that leave waste in place above UU/UE. ICs should generally be included as a component of alternatives that rely on engineering controls (e.g., containment) to limit exposure to contamination. (NCP 300.430 (e) (3) (ii))

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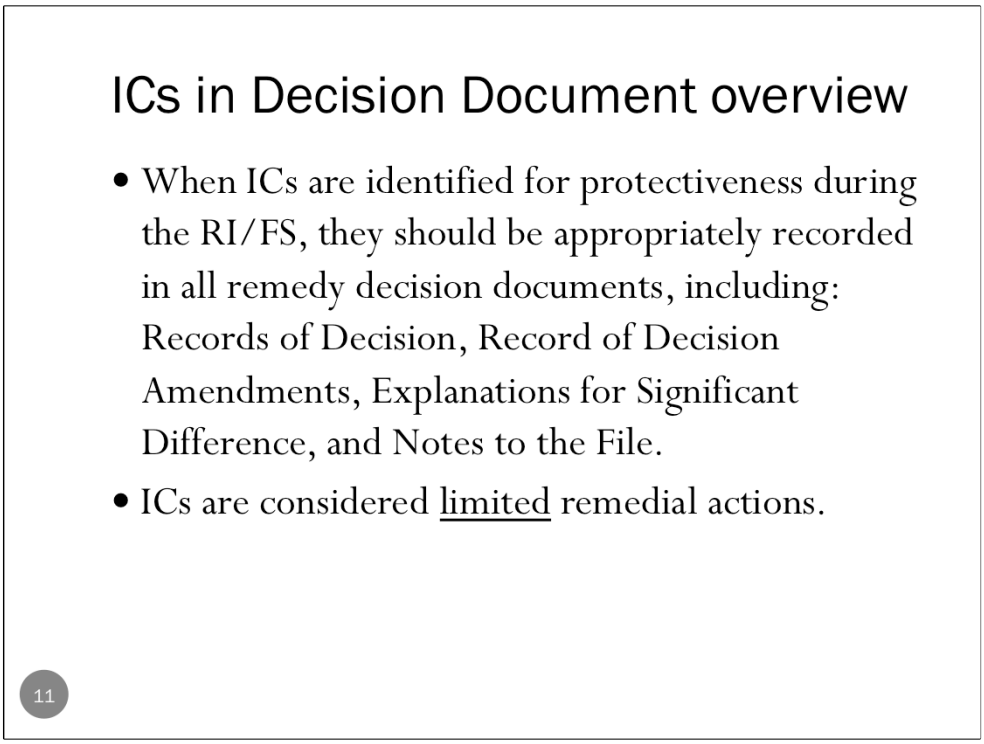
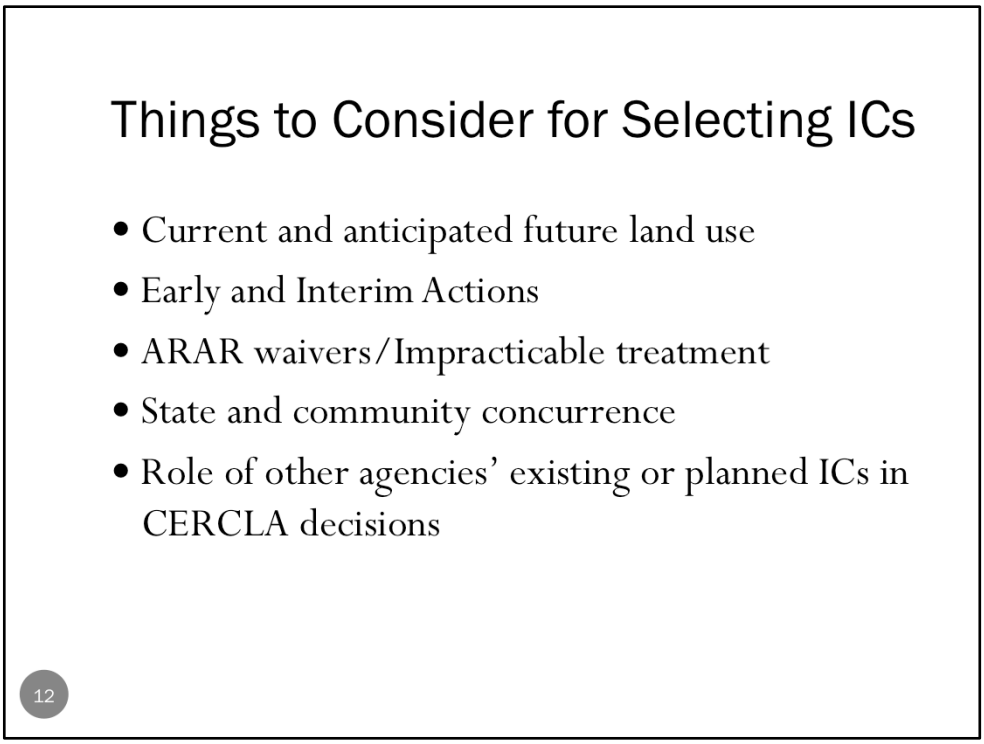


Purpose of a Record of Decision (ROD Guidance, 1.2.6):

"The ROD documents the remedial action plan for a site or operable unit and serves the following three basic functions:

- It certifies that the remedy selection process was carried out in accordance with CERCLA and, to the extent practicable, with the NCP.
- It describes the technical parameters of the remedy, specifying the methods selected to protect human health and the environment including treatment, engineering, and **institutional control components**, as well as cleanup levels.
- It provides the public with a consolidated summary of information about the site and the chosen remedy, including the rationale behind the selection."

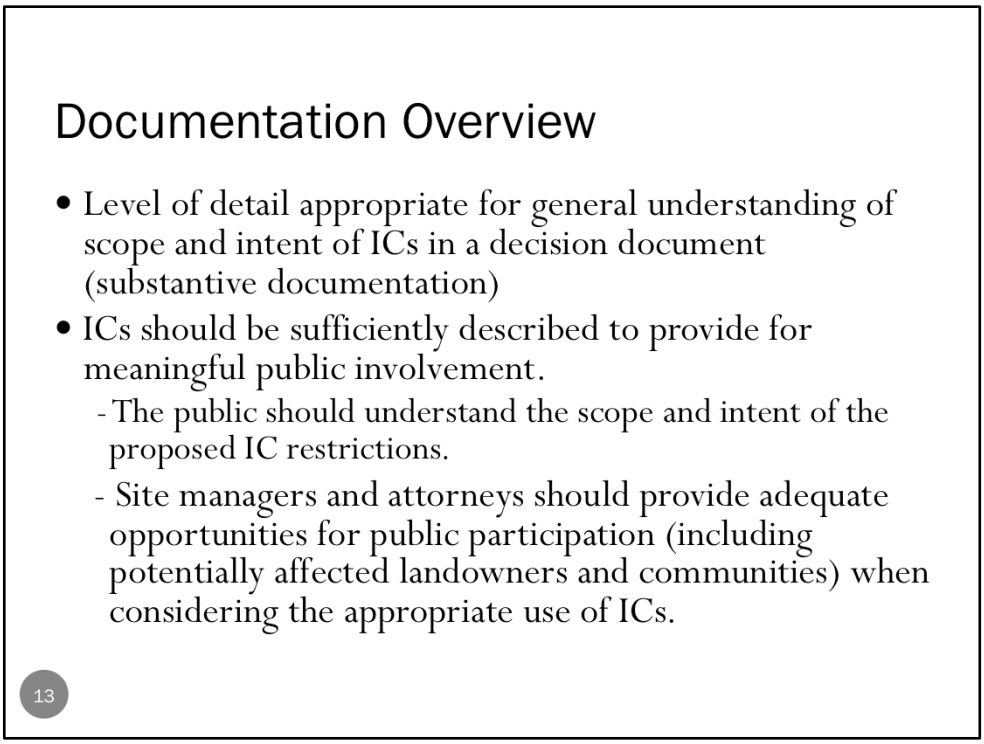
•Although ICs are considered limited actions, the same requirements for trigger for action are required to select ICs as for active remedial measures.



Early/Interim - Balancing need for (quick) action with level of information at time of doc (ties into writing a future ESD, if necessary) ARAR waivers/Impracticable treatment

-NCP acknowledges that "certain technological, economic and implementation factors may make treatment impracticable for certain types of site problems. Experience has shown that in such situations, remedies that rely on control of exposure through engineering and/or institutional controls to provide protection generally will be appropriate." (NCP Preamble 300.430)

May also need tribal concurrence based on the site, or tribal considerations are considered in the state and community concurrence criteria



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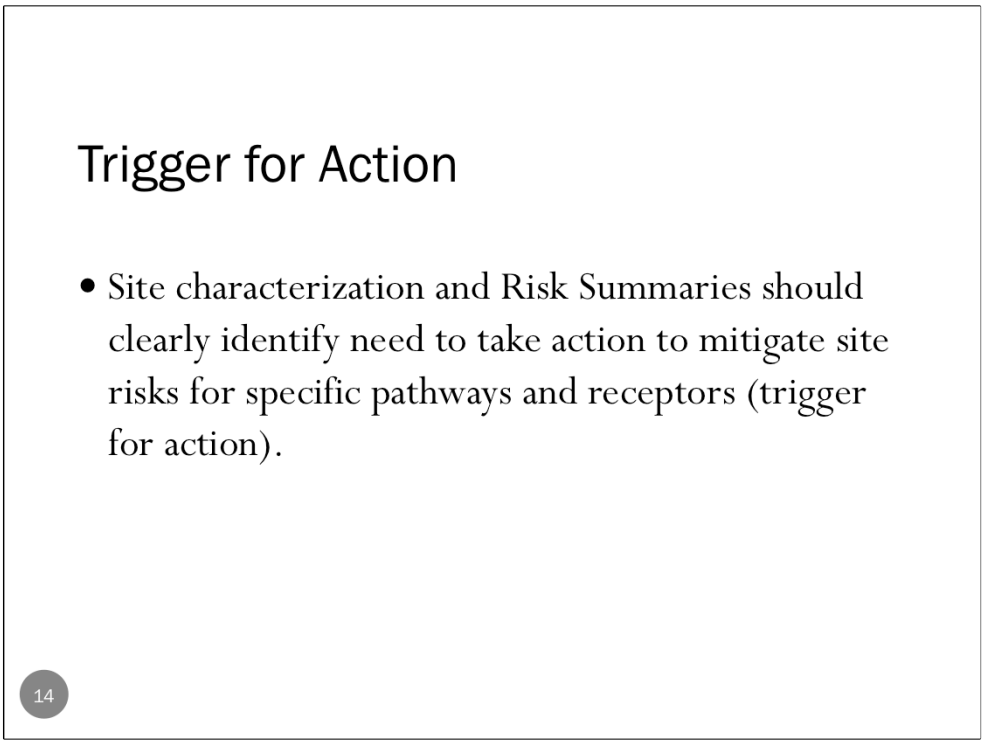
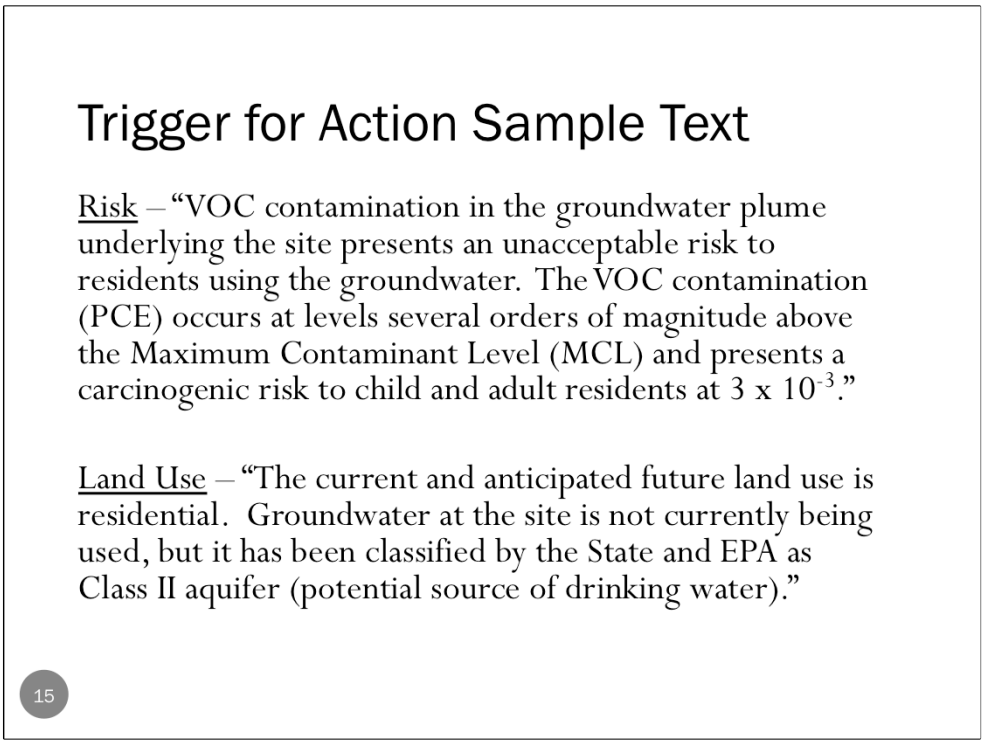


Keep in mind that documenting ICs is no different than providing the framework for other remedial components. As with all remedial decision documents, the "story" should be clear. What is contaminated and where. Who/what is at risk, and from what contaminants and by which pathways. RAOs should reflect unacceptable risk pathways and levels required for protectiveness. Alternatives should present options to achieve ARARs and protectiveness and to meet RAOs. Selected Remedy should provide the best balance of the 9 Criteria from the alternatives.

- Site characterization and Risk Summaries should clearly identify areas of contamination that pose an unacceptable risk to receptors (Trigger for Action). Trigger for Action is required for all remedial components, both active and limited action. No Action and No Further Action RODs should generally not identify new ICs.

- ICs should be reflected in the decision document as a component of a remedial alternative. Can be a "common element" or aspect of individual remedial alternatives in the Description of Remedial Alternatives.



Some elements of the decision document will provide the context for selecting ICs without specifically calling attention to the use of institutional controls.

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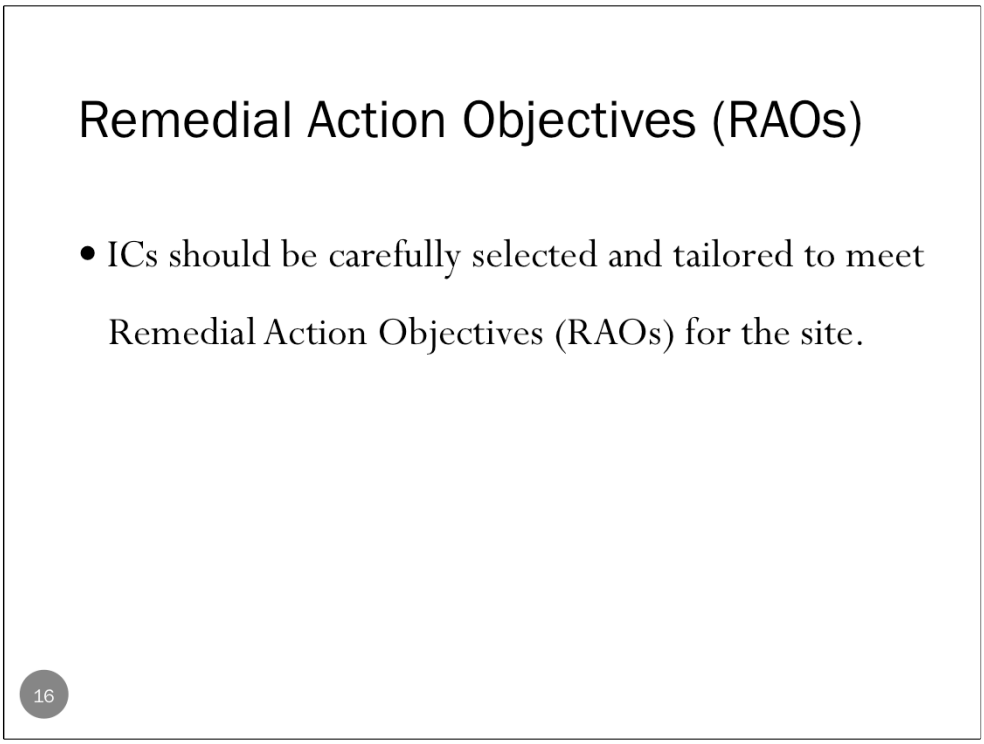

Alternatives should present options to achieve ARARs and protectiveness and to meet RAOs.

RAOs Sample Text

RAO- "Prevent human exposure to contaminated groundwater above levels that are protective of Residental exposure (MCLs)"

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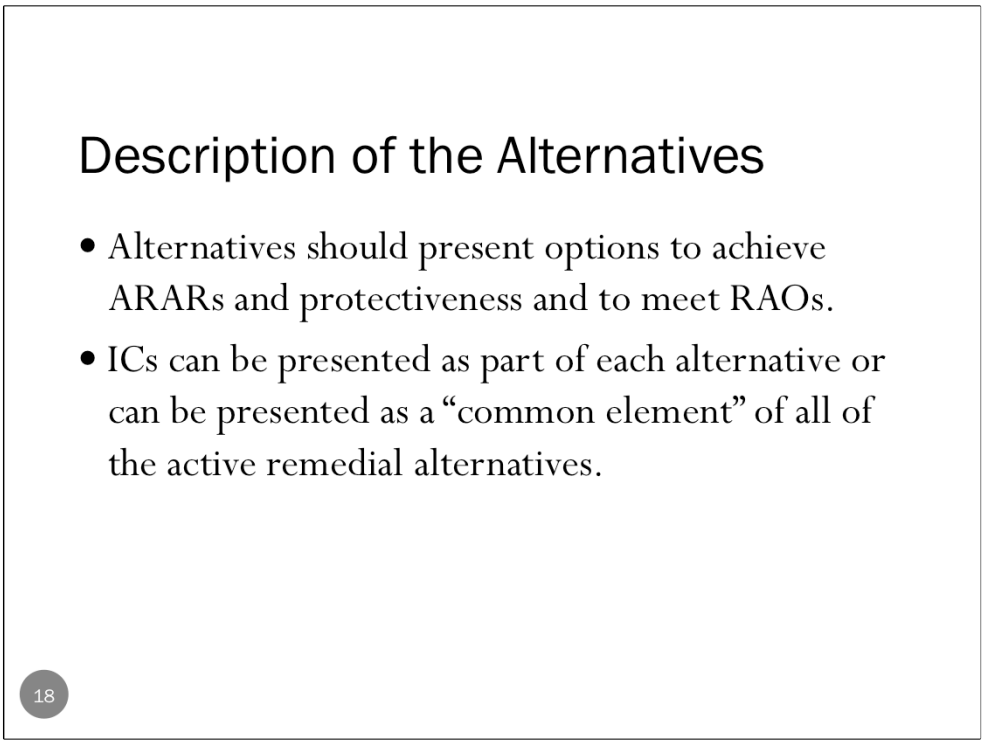

(from ROD Guidance)
Description of Alternatives The objective of this section is to provide a brief explanation of the remedial alternatives developed for the site.
The description of each alternative in this section should contain enough information so that the comparative analysis of alternatives (the next section of the ROD) can focus on the differences or similarities among alternatives with respect to the nine evaluation criteria.

- Identify that there may be a difference in amount of detail between alternatives and selected remedy description, which is supported by the ROD Guidance. ICs should be included in both with the appropriate amount of detail. In some cases, ICs are identified as a "common element" for all action alternatives, or ICs may be identified as a component of each individual alternative. ICs can be the same for alternatives or may be different across alternatives based on the variability of the active remedial components

Alternatives Description Sample

(In "Common Elements of the Alternatives" section)

"All of the remedies require institutional controls (e.g., deed restrictions such as an easement or covenant) to limit the use of portions of the property or to ensure that the water is not used for drinking water purposes. Institutional controls are required to prohibit the installation of drinking water wells and/or the use of groundwater within the VOC contaminated plume. These resource use restrictions are discussed in each alternative as appropriate. Consistent with expectations set out in the Superfund regulations, none of the remedies rely exclusively on institutional controls to achieve protectiveness. Monitoring to ensure the effectiveness of the remedy, including deed restrictions, are a component of each alternative except the "no-action" alternative."

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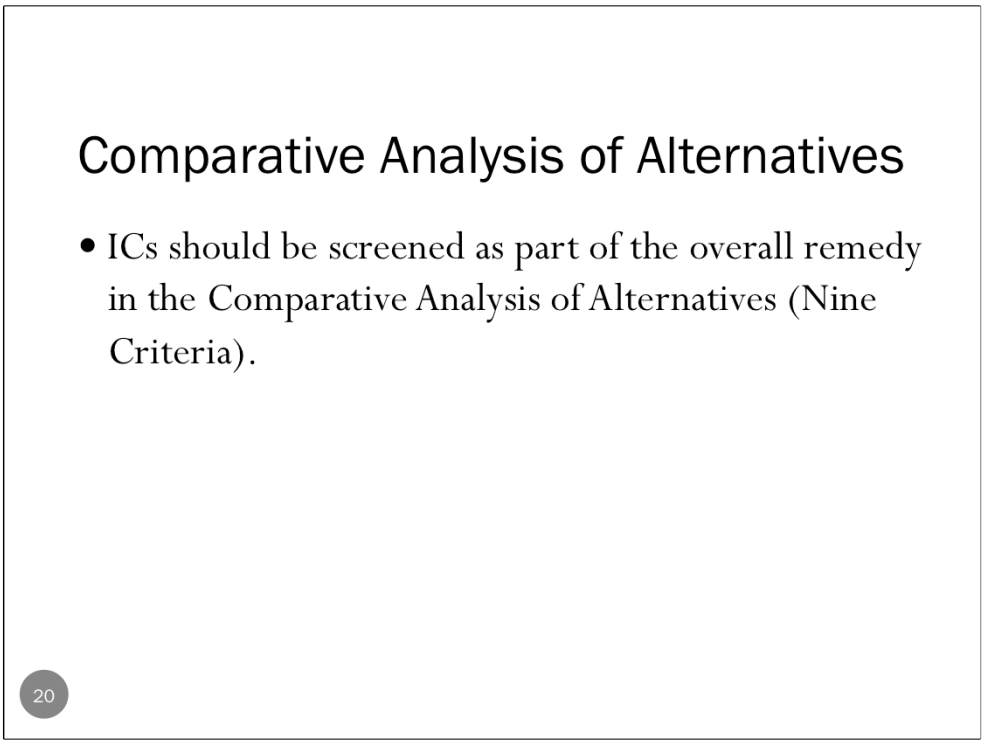
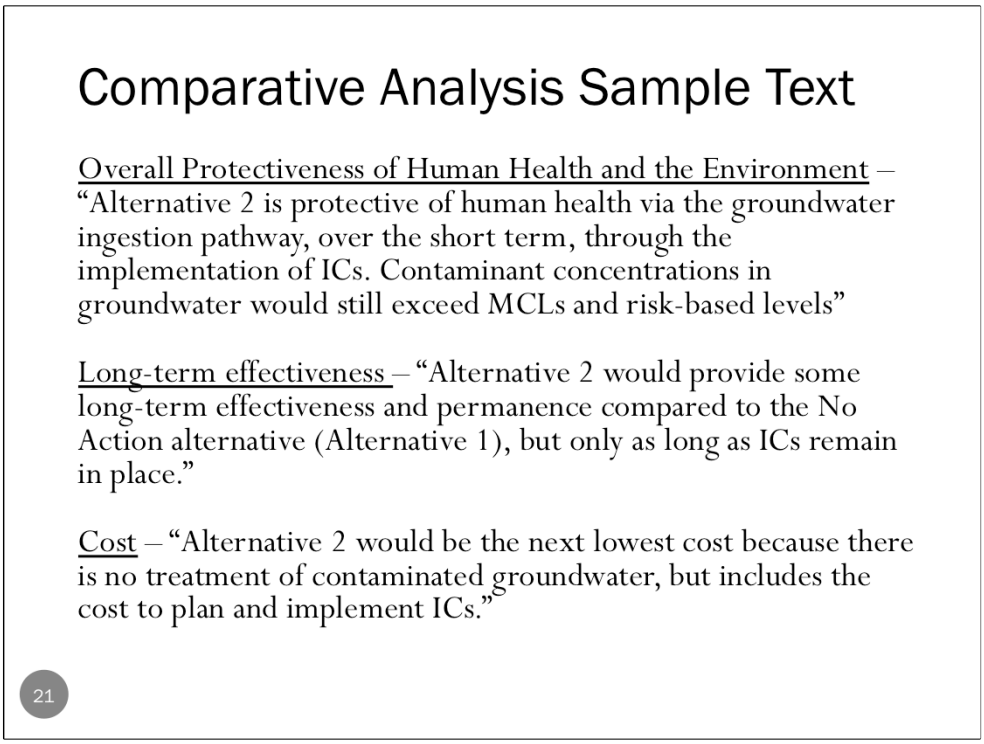
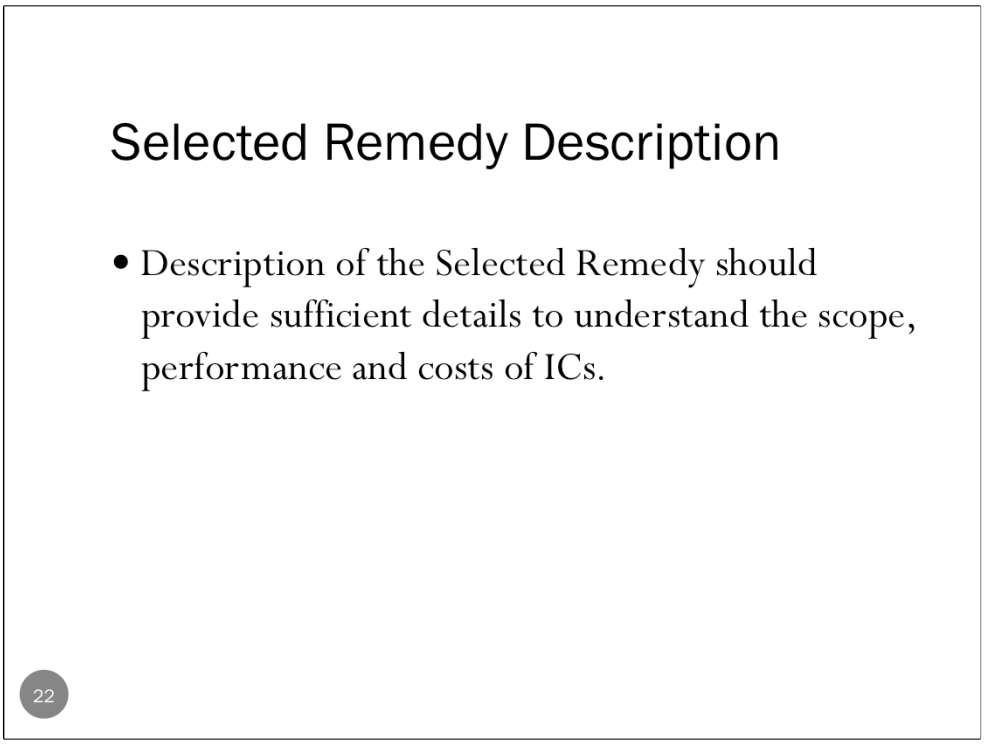


- Like other active remedial components, ICs should be screened through the NCP's Nine Criteria and discussed as appropriate in the Comparative Analysis of Alternatives.
- The Comparative Analysis should clearly identify the rationale for selecting the preferred alternative by demonstrating the relative performance of the alternatives so that the advantages and disadvantages of each are clearly understood.
- The role of ICs should be evident in the comparisons



- Overall Protectiveness of Human Health and the Environment – discusses the role that ICs play in providing protectiveness of receptors for specific media and identifies if the ICs are used to provide short- or long-term protectiveness

- Again, keep in mind that some ICs may be used temporarily, while other ICs are required in perpetuity to ensure long-term protectiveness of receptors. It is important to identify what role ICs play in both the short- and long-term protectiveness of the site. This should be clarified in the Nine Criteria.
- Short-term effectiveness – ICs may be relied upon, in the short-term, to ensure protectiveness during remedial actions, until cleanup reaches levels that are protective of receptors
  Long-term effectiveness – LTE is defined as "Adequacy and reliability of controls such as containment systems and institutional controls that are necessary to manage treatment residuals and untreated waste.") (NCP 300.430 (e) (9) (iii) (C) (2))
  Cost – ICs should be identified as a component of O&M costs in the FS for alternatives, should be included as a part of the overall costs and discussed here as part of the whole.



(from ROD Guidance)
Selected Remedy
This section expands upon the details of the Preferred Alternative from that which was provided in the Description of Alternatives section of the ROD. This section should provide the appropriate level of detail about the engineering details and estimated costs for the Selected Remedy so that the design engineer has enough information to initiate the design phase of the response action. This will minimize the likelihood of unanticipated changes to the scope and intent of the Selected Remedy. This discussion should be organized in four sections: (1) Summary of the Rationale for the Selected Remedy (2) Description of the Selected Remedy, (3) Summary of Estimated Remedy Costs, and (4) Expected Outcomes of Selected Remedy.

- Think about the "end game". When/if ICs can be removed, how to document this
- Level of detail may vary between documents, but detail should be sufficient to understand the substantive restrictions intended by the remedy decision.

Selected Remedy Description Sample

EXAMPLE 1:

"EPA chose the development of ICs to ensure the protection of human health until Site RAOs are met. No one is currently drinking contaminated water since all of the affected homes are connected to a public water supply. ICs will be implemented to restrict the potable use of groundwater until the contamination is remediated. Use restrictions selected in this ROD could be implemented with a variety of tools, including local ordinances, orders issued by the Commonwealth of Pennsylvania or environmental covenants. IC's will also include requirements that the Plant property owner not interfere with the action, or the integrity of equipment for the duration of the remedial action. Details of the estimated costs to construct and implement the Selected Remedy are included in the Appendix."

Selected Remedy Description Sample

EXAMPLE 2:

"Institutional controls (ICs) are non-engineering measures, usually legal controls, intended to limit human activity in such a way as to prevent or reduce exposure to hazardous substances. Since hazardous substances will remain in the Site surface soil at levels which do not allow for UU/UE, ICs are necessary to assure protectiveness, taking into account expected future land use. The goal of the ICs for the Site is to restrict future land use of the Site to industrial uses only.

Specifically, the ICs will restrict land use to non-residential, require public recordation of the site's NPL status, and require notification of EPA if a future land use change or property transfer is anticipated.

- Prohibit residential use or use as a school, childcare, playground or for other outdoor recreational activity;
- Prohibit any change in land use without prior EPA notification…

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Selected Remedy Description Sample

EXAMPLE 2 (cont.):

- Require the current and future owners of the Site property to incorporate these land use restrictions into any real property documents necessary for transferring ownership, in the event of sale or transfer of any property rights related to the Site property. The real property document would include a discussion of the NPL status of this Site, as well as a description of all contamination at the Site;
- Require the then-current owner of the Site property to establish and enforce a negative easement or covenant to ensure that the use restrictions run with the land and are maintained; and,
- Require the then-current owner of the Site property to submit to the local land records office or recording authority a Deed Notice for the purpose of providing public notice of the environmental condition of and limitations on the use of the property."

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Figures/Maps

- ICs, like active remedial components, are tied to a specific release and the location of contamination that poses an unacceptable risk. Therefore, the scope and location of the ICs should be carefully considered and tailored to the areas of contamination where unacceptable risk for a pathway exists (not applied everywhere "just in case").
- ICs can be layered and scaled for various uses as appropriate; incorporate buffer zones as appropriate.
- Figures/maps provide additional information to the public and EPA for the purpose of understanding and implementing ICs.

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Figures/Maps *(continued)*

- Harm in selecting ICs outside of areas of contamination (outside of CERCLA authority; unnecessary restrictions on reasonably anticipated land use or resources to public)
- Soil IC figures, groundwater area of contamination/ area of influence vs. administrative boundaries (identify where usage should be prevented)

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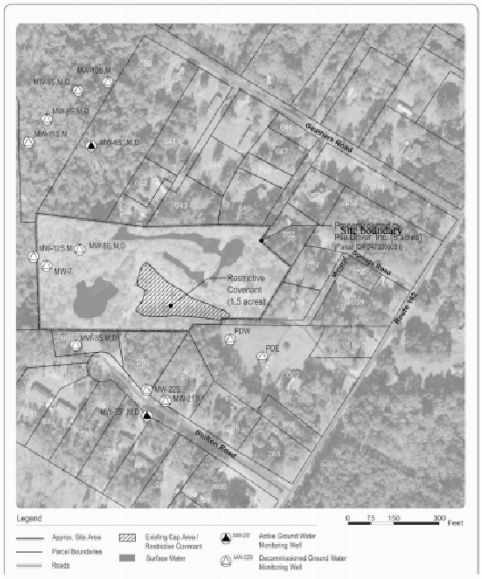
Sample IC Overlay



Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map does not purport to be a survey. The map is for informational purposes only regarding EPA's response actions at the Site, and is not intended for any other purpose.

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Sample Groundwater IC Location

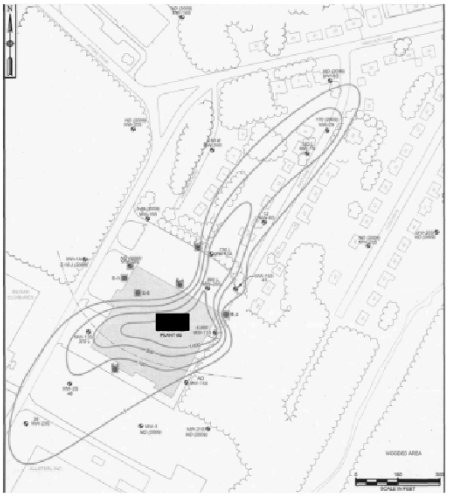

FIGURE X: Institutional controls (ICs) will be necessary to restrict the potable use of groundwater within the contaminated plume, identified above, until groundwater cleanup goals are met.

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Amending documents for ICs

- Circumstances leading to amending documents for ICs:
  - New Information such as change of anticipated land use or newly-identified contamination or pathway
  - Role of FYRs
  - Construction Completion
  - Deletion
- Consider significance of ICs in overall remedial strategy:
  - IC only remedies
  - Short- or Long-term needs
  - Evaluate extent of change to overall waste management approach

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- FYR: to identify need (land use change ID'd, change in science/cleanup levels, change in scope/area of contamination)
- Roadblock to deletion/CC if ICs are not included in doc
- Other documents - (early/interim action, component of a ROD amendment, ARAR waiver docs, etc…), discuss role in each
- (IC only or short-term?) may be used if ICs are required as part of a fundamental change in the overall waste management approach (changing from treatment to containment).

Amending documents for ICs *(cont.)*

- ESD or ROD Amendment?
  - ESD is used to document significant changes.
  - Public participation consideration through an "ESD+" or ESD with public comments.
  - ROD Amendment is used to document fundamental changes. A ROD Amendment may be appropriate if IC changes relate to a fundamental change in the overall waste management approach (changing from treatment to containment).

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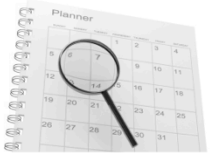
Planning ICs– General Considerations

- Starts during RI/FS . . . continues through implementation
- Choosing the right type of IC instrument depends on…
  - IC objectives
  - Intended duration of the ICs
  - Number of parcels requiring restrictions
  - Support for ICs by affected landowners
  - State/tribal/local government cooperation
  - And many more!



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Developing IC plans

- IC Implementation and Assurance Plans (ICIAPs) are used to help implement, maintain, enforce, and terminate (if applicable) the ICs selected in decision documents
  - Do not replace or substitute for decision document
  - Develop during RD phase
  - Revise as site conditions warrant (but does not substitute for a remedy decision document)
- Discusses roles and responsibilities for IC life-cycle among various stakeholders
- EPA guidance provides a recommended template for this type of IC plan

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Questions?

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