STATE STATUS
IN THE
IMPLEMENTATION OF INSTITUTIONAL CONTROLS:

SUMMARY OF INVENTORY FINDINGS

Association of State and Territorial
ASTSWMO
Solid Waste Management Officials

STATE SUPERFUND FOCUS GROUP

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Cover photos of the Industri-Plex Superfund Site, Woburn, Massachusetts. Photos show 1) site in operation; 2) installation of soil cover over contamination; and 3) post-remediation site as redeveloped relying on institutional controls to protect the constructed remedy and to prevent exposure to contamination remaining on site.

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INTRODUCTION

With the continuing development of State Cleanup Programs, the use of risk-based closure has increased. Along with risk-based closures, a corresponding increase in the use of institutional controls (ICs) has also taken place. Many States and Territories (hereafter referenced as "States") now allow the use of ICs as part of an overall cleanup strategy. ICs are non-engineered instruments such as administrative and/or legal controls designed to protect constructed remedies and/or minimize the potential for exposure to contamination remaining on-site. ICs accomplish this by limiting land or resource use, and by establishing mechanisms to inform current and future generations of hazards and risks. ICs are generally used in conjunction with engineering measures such as waste treatment or containment and can be "layered" (i.e., use multiple ICs) or implemented in a series to provide overlapping assurances of protection. In the September 2000 EPA document titled, "Institutional Controls: A Site Manager's Guide to Identifying, Evaluating and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups", EPA defines 4 categories of ICs: governmental controls; proprietary controls; enforcement tools; and informational devices.

In a document published by ASTSWMO in December 1997 (i.e., "Survey of State Institutional Control Mechanisms"), 14 of 27 responding States acknowledged the use of ICs in site remediation. Now in 2007, 39 out of 41 States that participated in this project acknowledged the use of ICs in at least some of their cleanup programs.

Absent federal mandates to States on IC management, most States have independently developed an IC management procedure to address their needs. Because of the independent evolution of different needs and objectives of ICs at the State level, the ASTSWMO State Superfund Focus Group conducted an inventory of the States and Territories to determine how they are approaching the subject.

The objective of this phase of research focused on States to learn "who's doing what" and identify specific areas for future research by collecting information on IC management and sharing that information with all States. Ultimately we hope this information will help States improve their programs and processes. The Focus Group recognized at the onset of this research that what works in one State may not work in another, but

inventorying all of the States' IC management practices may assist States in enhancing their own IC Management procedures. This report is the first product of the endeavor.

Information Gathering

The Focus Group's scope was to take an inventory of the IC usage at State Cleanup programs. In February 2007, members of the Focus Group prepared a research tool that was distributed electronically to all States and Territories. This effort was designed to gather specific information on IC implementation and management practices. The research tool consisted of 30 questions, which were categorized into six major categories consisting of the Use, Management, Tracking, and Enforcement of ICs, States' use of the Uniform Environmental Covenants Act (UECA), as well as Barriers to Implementation. In order to assist those respondents as well as allow rapid compilation of the data, a list of predetermined responses were created and presented in a drop down menu format. The responders then checked the most appropriate responses and e-mailed the entire solicitation back to the Focus Group's regional representative. Space on the form was also allocated for editorial comments on any IC-related issues the respondents wanted to add. See Attachments A and B for a copy of the research tool (Attachment A_Research Tool.doc and Attachment B_All Potential Answers.xls). See Attachment C for a summary of all the information obtained from States (Attachment C_Final Compilation of Results.xls).

FINDINGS

Below is a summary of the responses received for the six categories used in the query. For clarification, references in this paper to percentages of States are based on the number of respondents (41) unless otherwise noted.

States' Use of Institutional Controls

One of the purposes of this project was to determine how States were using ICs and what authorities allowed their use. As indicated above, 41 States provided information by completing the query provided, of which 39 States (95%) indicated that ICs are allowed to be used as part of the final remedy when standards for unrestricted use are not achieved.

The results showed that not all States allow ICs in all of their cleanup programs. When asked which regulatory cleanup programs allowed the use of ICs, 95% of the responding States indicated that their voluntary cleanup programs did. (See Figure 1, "Cleanup Programs Allowing ICs".) Eighty-three percent of responding States allowed the use of ICs in their Brownfields program. Use of ICs in other programs such as State Superfund, Hazardous Waste, Solid Waste and Leaking Underground Storage Tanks varied from 53% - 68% (see Figure 1). The fact that the use of ICs in State voluntary cleanup and Brownfields programs is so prevalent may reflect the national interest in the redevelopment of impacted sites and the States' willingness to aid in this redevelopment.

Allowing the use of ICs as part of an overall cleanup plan may also provide an incentive for parties to perform cleanups voluntarily.

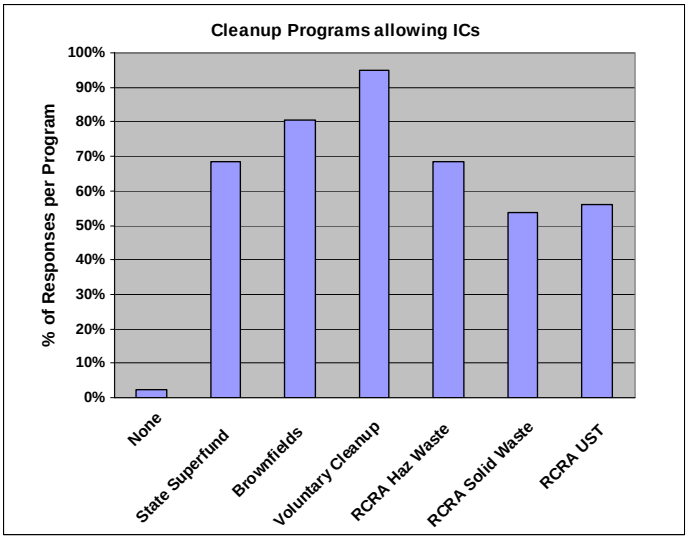

Figure 1: Cleanup Programs Allowing ICs

Eighty-six percent of the States either allow or require ICs on residential properties where contamination is left in place above residential cleanup levels. Some State cleanup programs do not allow contamination to be left in place above residential cleanup levels at residential properties. One State suggested that they do not allow contamination to be left in place at residential sites above residential cleanup levels, although under the federal Superfund program, EPA allowed the use of ICs at a residential site where levels of lead contamination in soil were left in place above residential cleanup levels. Differences in State and federal cleanup standards and the use of ICs could be viewed by some States as a barrier to cleanup, and the Focus Group may explore this in the future.

The majority of States, 78%, do not require ICs or notification of previous contamination at residential properties that are cleaned up to unrestricted use. However, 6 States require some form of notification with one additional State considering such actions.

In 56% of the cases, States allow a responsible party to cleanup to less stringent levels and voluntarily place an IC on the property, even if it is feasible to achieve lower cleanup levels. However, 10% of the States only allow use of an IC when there is no practical and feasible way to achieve unrestricted use levels. In 12 States, the option to use an IC is determined on a case-by-case basis with factors such as proposed land use, groundwater use, and technical/economic impracticability being taken into consideration.

In States where an abandoned property is cleaned up by the State or a third party to less than unrestricted use, 34, or 86% of the States allow or require ICs to be used.

The majority of States depend on either statutes or regulations for their authority to require or allow ICs. Twenty-seven States, or 66%, rely on statutes, while 6 States, or 15%, use regulations. Four States indicated that their authority is pursuant to the UECA law passed in their State. Nine States use either policy or some other form of agreements to allow or require the use of ICs (see Figure 2 below).

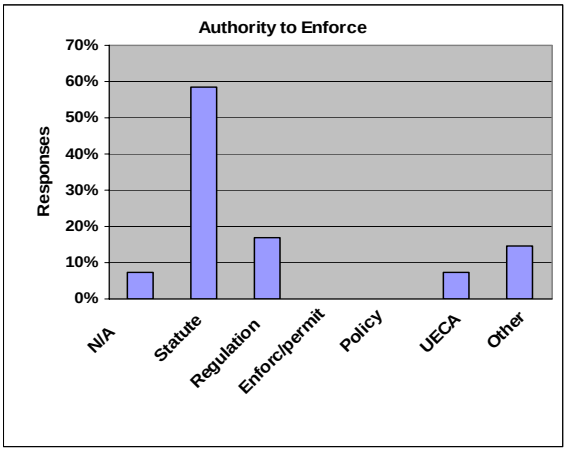

Figure 2: State Authority to Enforce ICs

The types of ICs allowed by States vary widely and in some cases a State may allow multiple types. The most commonly used types are deed restrictions and environmental covenants. Thirty-two States use some form of deed restriction placed on the property while thirty States use some form of environmental covenant. Twenty-two States have some form of order or consent decree in use. Other States use permits, property easements, and zoning restrictions. Several States commented that, as a general rule, zoning restrictions alone do not work well in their States. Most States allow any of the above options while some States offer a few other types as well, such as ground water use restriction ordinances, conveyance notices, prospective purchaser agreements, voluntary cleanup agreements, and State registries (see Figure 3).

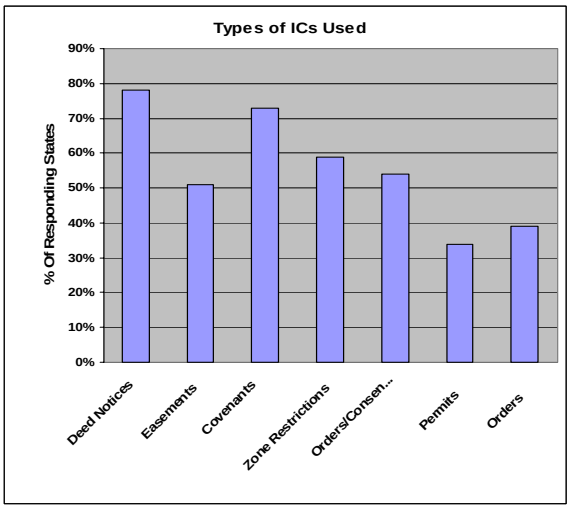

Figure 3: Types of ICs Used by States

Twenty-six, or 63%, of the States did not require any form of additional fee to allow the use of an IC. Thirteen States, or 32%, do require an additional fee that is used by the

State for inspections, tracking or other administrative functions. Some States indicated that No Further Action letters were written to include oversight costs of long-term management and implementation. One State was interested in finding out whether other States require a life-cycle cost analysis of ICs during the remedy selection process and who bears the cost of management and implementation. Some States expressed an interest in knowing how others pay for IC management and implementation, and the Focus Group may look into this in the future.

Management of Institutional Controls

States that responded to this effort have various methods for managing ICs in their cleanup programs. Seventy-three percent of the States have found it prudent to have defined procedures in place for the development and implementation of ICs, which should help achieve consistency across each State's different cleanup programs.

The great majority of States assign specific responsibility for the implementation of ICs (see Figure 4). Ninety-one percent of the States either require the responsible party, the landowner or the State to implement the ICs. Furthermore, roughly 70% of the States monitor the ICs to verify that they are performing as required. Eighty-three percent of the States also require periodic monitoring of institutional controls. Among other things, this will help to identify changes in land use and ownership. The role of the local government(s) in the implementation of ICs was not able to be determined by this effort and may be an area of additional research by the Focus Group in the future.

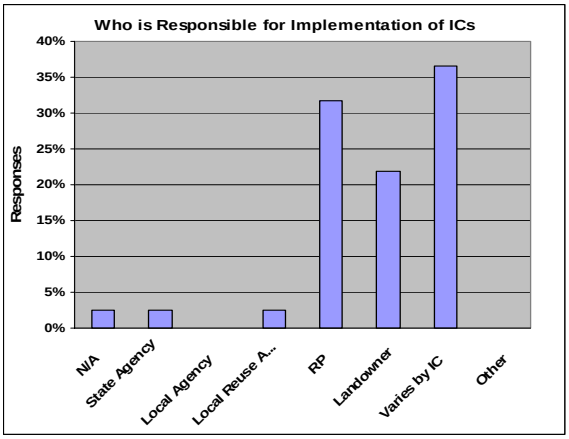

Figure 4: Parties Responsible for Implementation of ICs

The States consider the responsibility for conducting the monitoring of ICs to be an important function. In 83%, this responsibility has either been assigned to the landowner, the responsible party or the State (see Figure 5 below). Fifty-four percent of the respondents indicate that the State provides oversight of the ICs. Additionally, 68% of

the States reported that they perform field verification of ICs. Often, it is only when an inspector goes to a site that it is discovered that an activity has occurred that violates the IC.

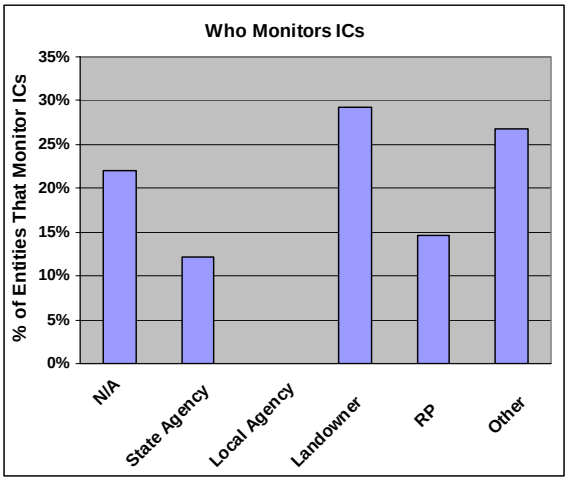

Figure 5: Parties Responsible for IC Monitoring

Most of the States (73%) do not require financial assurance for the monitoring and maintenance of ICs. This could mean that States have not found it necessary nor have they been given the authority to require financial assurance. More research would be necessary to make this determination.

Tracking of Institutional Controls

One of the shared areas of interest by EPA and the States relative to this evaluation has been the development of State IC tracking systems and data standards, to include the information being tracked, its availability to the public, and interaction with other data bases. In January 2007, EPA announced that it was proposing to utilize a standard database platform. (See http://www.epa.gov/enviro/geo_data.html for more information.)

Other areas of interest include the tracking of notification requirements, the approval processes to place ICs at sites, and the processes to request and obtain approval to conduct activities prohibited or limited by ICs. Two of the questions were designed to provide initial information in this regard.

Twenty-seven States currently have some type of IC tracking system with 11 States developing, or considering development of such systems (see Figure 6).

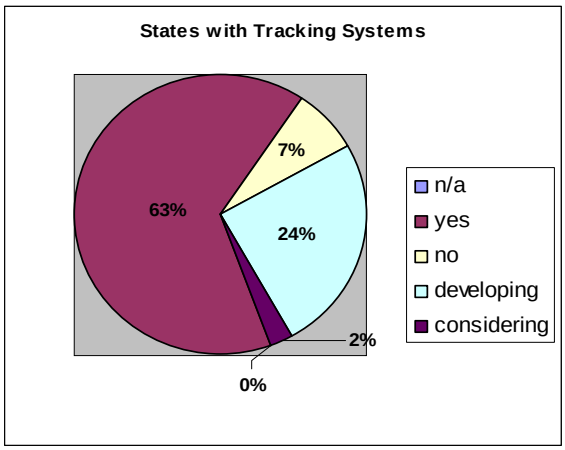

Figure 6: States with IC Tracking Systems

Seven percent of the responding States (3) do not have a system in place. A number of States (11) indicated they were waiting for the database compatibility issue to be resolved before developing an IC database. Some States suggested that because NPL sites in their State are just now reaching the point of implementation of ICs, they have not yet developed an electronic IC tracking database.

Thirty-five States with databases indicated they are State databases; of these, 7 States employ GIS, Google or other geospatial means of identifying sites/ICs. The data was inconclusive regarding the responsibility for maintaining the database.

Twenty-eight States indicated the IC database information is available to the public; only 1 State indicated this information is not publicly available. The balance of the States are in the development stage. As to whether one or more database(s) were used, 12 States indicated one database, while nearly half indicated reliance on more than one database system. This might be interpreted, at least initially, that responsibility for overseeing deed notices, for example, might be organizationally separate from ground water ICs.

The results regarding notification requirements for ICs are also of interest. Ten States indicated there was no notification requirement. Fourteen States indicated local government notice was required, and 15 indicated notification of State environmental agencies was required. A few States (3) indicated that abutting property owners were required to be notified, but it is not clear whether this is simply information as part of the public notification process, or if the notification is specific to directly impacted properties from off-site sources (e.g., ground water contamination emanating from a site). Six States indicated a formal legal notice is published in newspapers when ICs are established.

Only a few States (3) indicated they were tied into a One Call notification system. From the information available, it appeared these were limited to individual sites and situations, for example, to protect piping conveying contaminated groundwater for treatment. Most States (78%) were not relying on the One Call system, and few (3) were considering it.

Enforceability of Institutional Controls

The States consider a wide variety of ICs enforceable, with the most common IC mechanisms being covenants (29). Twenty States listed deed notices as enforceable mechanisms, 17 indicated zoning restrictions, 17 indicated property easements and 16 indicated other forms of ICs were enforceable. Some of these 'other' types of ICs included local ordinances, contracts, permit conditions, orders and a registry.

Twenty-three States do not take easements, rights of way or property liens to ensure long-term obligations are met. Eleven States do, and others are considering it.

Thirty-eight States have developed model IC documents. Twenty States have model documents for deed notices. Nineteen States have model documents for covenants. Eighteen States use model land/groundwater use restrictions. Five States utilize model O&M plans, and 3 States have model IC implementation and assurance plans. Six States listed "other" as their selection.

The question was asked if the long-term effectiveness of ICs was affected by changes in local zoning. Five States indicated it was; 15 States indicated there was no effect, and 19 States indicated it depended on the type of IC mechanism.

All 39 States that allow the use of ICs indicated that there was a process for modifying and/or terminating ICs.

When an IC is required, 28 States require that it be in place in order to issue a No Further Action letter or equivalent. Two States do not. Six States will issue a No Further Action letter with the condition of the IC being recorded. Three States place a time limit on the issuance of a conditional NFA.

Thirty-eight States indicated they have the authority to enforce ICs. Twenty-four States receive their authority through statutes. Seven States base their enforcement power on regulations and 3 on the UECA. Six States indicated their authority came from 'other' sources. (Refer to Figure 2.)

Uniform Environmental Covenants Act

In 2003, the National Conference of Commissioners on Uniform State Laws (NCCUSL) approved a new model State law called the Uniform Environmental Covenants Act (UECA). The goal of UECA is to fully integrate environmental covenants into the traditional real property system and ensure long-term enforceability of these covenants. According to the NCCUSL web site, as of October 31, 2006, UECA has been enacted in 14 States, the District of Columbia, and one Territory. In addition, more than 20 States are planning on introducing UECA legislation in 2007. For more information, visit http://www.environmentalcovenants.org/ueca/DesktopDefault.aspx.

Questions in this research effort concerning UECA focused on whether States have adopted or are planning to adopt UECA legislation, in whole or in part, and if in part, where State environmental covenant legislation differs from UECA.

Eleven States, or 28% of the responses, indicated that UECA legislation has been adopted. Ten States, or 25% of the responses, indicated that UECA legislation is being considered in their State. Nineteen States, or 46% of the responses, indicated that UECA legislation has not been adopted. It is interesting to note that these responses differ slightly from the NCCUSL web site information mentioned above. However, this discrepancy may be explained by the fact that not all States responded to this research effort.

Of the 11 States that responded that UECA legislation has been adopted in their State, 4 States adopted UECA in whole, while the remaining 7 States adopted UECA in part. Of the seven States adopting UECA in part, one State requires that the State approve all covenants and one State prohibits the State from being a holder. The remaining five States indicated other differences in their UECA legislation. Examples of these other legislative differences include allowing third party covenants, eliminating the requirement for a central registry of all the environmental covenants, and eliminating the ability for an agency to waive the signing of the covenant by every owner of the fee simple of the real property subject to the covenant.

Barriers to Implementation of Institutional Controls

The Focus Group asked for feedback from States on some of the most common barriers to effective implementation of ICs. Seventy-six percent of the States indicated that they had encountered some form of barrier in the implementation of ICs. The two most common barriers identified were interrelated. Numerous States indicated the inability to adequately monitor and inspect ICs to ensure compliance with any activity and use limitations on the property. Some States indicated the inability is related to the lack of resources to perform monitoring and inspections. In order for States to plan for adequate staffing and funding, analysis of the full life-cycle costs of implementing ICs should be part of the remedy selection process. Additional research on whether States require full life-cycle cost analysis is needed. Once these costs are understood, appropriate funding mechanisms can be evaluated. Options for States to consider would include fees to pay for State implementation costs, or financial assurance requirements of the responsible party to ensure funds are available for adequate implementation of the ICs.

Other common barriers identified by States include inadequate enforceability of the ICs, ensuring that the ICs “run with the land”, lack of coordination, communication and cooperation with local governments, weak or inadequate zoning laws and local ordinances, lack of periodic reporting on implementation of the ICs, inadequate notification and education of tenants and the general public on the ICs, and inadequate tracking systems. Additional understanding of these barriers and research on how States may be dealing with the barriers is needed.

SUMMARY/RECOMMENDATIONS

As mentioned earlier, this research was an attempt to gather some general information from States on the implementation of ICs, and also to help identify areas for more focused follow-up research. The Focus Group expects to conduct at least one additional round of information gathering, and possibly more.

In this report, States answered general questions on such things as the use, management, tracking, and enforcement of ICs, as well as on UECA, and barriers to success. Evaluation of these responses will guide us in developing next steps in our research, but in general we expect the next phase to focus on IC performance issues.

There are some findings worth noting at this stage. Clearly, as represented by the responses, risk-based cleanups that are guided by current and future land use, along with a reliance on land use controls, have become an integral component of many State cleanup programs. Thirty-nine of 41 respondents said they allow the use of ICs as part of a final cleanup plan. According to the research, this approach is most commonly allowed in the Voluntary and Brownfields cleanup programs within the States, suggesting that some States are allowing this approach as an incentive to encourage non-responsible parties to take on cleanups voluntarily. This may be an area to include in follow-up research to understand better why these particular programs are more likely to allow the use of ICs, and if it has been successful as an incentive.

While the research indicates there are a variety of State approaches to the implementation of ICs, it also indicates that the States have similar strategies in many areas. For example, most of the States that allow the use of ICs have or are developing tracking systems that will be available to the public, indicating that the States recognize the importance of making this information publicly available to the long-term success and sustainability of ICs. Other areas of similarity include responsibility for implementation (most commonly identified by the States as belonging to the responsible party or land owner), the ability to modify or terminate ICs with changing conditions, and the requirement that ICs be in place prior to or concurrent with an NFA determination. In addition, similarities exist regarding the mechanism that provides authority to the States to implement ICs (83% by statute or regulation) and with the ability for States to enforce ICs (100%).

Some areas where States have taken different approaches include: the taking of easements (2/3 may, 1/3 do not), required notifications regarding the placement of ICs (10 States include no notification requirements at all while other States include some combination of required notifications to the local government, the State, abutters, legal notices in newspapers, or other), monitoring requirements (e.g., if any, how often, who performs), and whether States will revisit remedies with ICs if cleanup standards change in the future (with 2/3 indicating that they might). Only about half of the respondents said there is some sort of State oversight of ICs. This is another area of possible follow-up research, including what oversight of ICs means to the different States and how it is implemented.

Among the questions asked of the States was whether they have encountered any significant barriers in the implementation of ICs, considering all aspects of the issue. Thirty-eight of the respondents replied positively, indicating there is still a significant amount of work to do. Among the most common barriers identified by the States was the lack of adequate monitoring and inspections of ICs, and the lack of resources to perform monitoring and inspections. Inadequate enforcement was another common barrier identified. Since the majority of respondents indicated earlier in the questionnaire that they considered the forms of ICs used in their States to be enforceable, and that many States also said that they required monitoring, additional research would be helpful in gaining a better understanding of the problems in these areas and why they are still being identified as significant barriers.

As mentioned earlier, the general direction for the next phase of research will focus on the performance aspect of ICs. We also expect to follow up with the remaining States and Territories who were unable to provide information for this effort. It is anticipated the next effort will include research into topics such as: how ICs have been performing over the short- and long-term; how successful they have been in maintaining remedies, in preventing exposures to contaminants left in place, and in preventing inappropriate redevelopment; how successful monitoring and enforcement has been; the role of local governments, and differences between State and EPA approaches to ICs. Other possible areas of future research were mentioned throughout the document. However, the actual areas of research will be decided upon over the next few months after careful review of these results along with discussions with EPA.