

## **Institutional Controls (IC) Data Exchange Training and Workshop**

May 12-14, 2003

Chicago, Illinois

Hyatt Regency Chicago

### **Executive Summary**

The purpose of the IC Data Exchange Training and Workshop (the Workshop) was to discuss the Model Data Element Dictionary for IC Data Exchange to develop a common language related to ICs to provide information needed to protect human health and the environment. With that mission in mind, participants discussed potential data elements, their definitions, and data registries. There was also an optional meeting at the end of the Workshop to discuss Geographic Information Systems and IC tracking. This document will describe, in brief, the sessions and resultant discussions of the three-day Workshop.

In summary, the following provides a compilation of key points raised by the Workshop participants.

#### *Voluntary Use of Data Elements*

Many participants expressed concern about whether having a list of “possible data elements to exchange” would be transformed over time (by regulation or citizen pressure) into a list of “required data elements.” This concern was first brought up by local representatives and was then seconded by many of the other participants. Concerns were also raised that the data element decisions made during the Workshop would eventually be imposed on other systems (e.g., local and state IC tracking systems already in place or being developed).

The Model DED is intended to be a registry of data elements with associated definitions, permissible values, data sources, data types, and data lengths in order to facilitate common use and understanding. In some cases, the DED notes that if one chooses to use a certain data element, then certain other data elements become mandatory per EPA’s Environmental Data Registry (EDR). This is because some data elements, if used, have links to other data elements that then must be used in tandem, and are therefore labeled “mandatory.” Additionally, some data elements have mandatory meta-data. Aside from these considerations, EPA has no statute, regulation, guidance, policy or intent that aims to make the data elements in the Model DED mandatory.

#### *Keep It Simple*

Most participants agreed that the Model DED should be kept as simple as possible to encourage its use. Participants objected to the length of the DED, reasoning that the DED should keep only the data elements that are oriented to what all stakeholders need to know. The Model DED was intended to represent the data elements of all participating IC tracking systems that may exchange data. The DED had a large number of data elements because they represent the many data elements that many tracking systems have in common. The fact that there are a large

number of voluntary data elements in a registry does not translate into forcing other partners to track every data element in their particular system. Rather, it gives all participating systems a place to look up the meaning of data elements that may be transferred between systems in a network.

To assist users in understanding the relationships of the IC data categories, the Model DED was reorganized and data elements grouped into associated data categories per revisions suggested during the Workshop.

#### *Data Entry*

Participants expressed concern about who would enter the data for sites addressed under various federal, state, or local environmental programs. General discussion (prompted by DED Information Category #17 IC Coverage as Site/Facility Description, and Information Category #2 Program Information) recognized that there might be different data from different programs that could be associated with the same data element. Participants were concerned that one program not be able to overwrite another program's information.

Information can continue to be entered into individual IC tracking systems. The Model DED does not constitute any particular system and will not require data entry.

#### *Data Sources*

To avoid misinterpretation of IC documentation and intent, participants generally recommended that the network should link interested parties to the specific IC information they are seeking by providing a physical address, Uniform Resource Locator (URL) address, or Portable Document Format (PDF) file of the actual IC document.

The DED provides for data elements associated with a data source which may be a link or the actual physical document. This encourages participating systems to link to available information.

#### *Use of GIS*

Participants pointed out that GIS data elements may be misleading to users if not kept up to date. If GIS data elements are to be included in the network, participants suggested that the data element standards used by other DEDs, specific to GIS data, be applied and that discussions regarding GIS data elements in IC tracking would not be needed.

It was agreed that further discussions on GIS were needed because of the importance of representing IC data within a geospatial context.

#### *Use of Meta-data*

In some cases, where meta-data was defined by data standards already in existence, such meta-data was used in the IC DER. However, participants suggested additional meta-data for

appropriate data elements such as the date, description, source, and physical location of data be included in the Model DED.

It was agreed that further discussions on meta-data were needed in order to ensure data quality within a network.

### *IC Information and FOIA*

Participants raised concerns regarding the level of sensitivity of IC information made available to the public. Participants were also concerned about the Freedom of Information Act (FOIA) implications of portions of IC information being unavailable to the public.

Data involving sensitive matters such as activities related to monitoring and enforcing ICs would only be available to authorized users and would involve agreement regarding inappropriate disclosure; however, the data elements to provide such a data transfer need to be available for exchange through a network. Also, as long as sensitive information exists, it is potentially subject to FOIA. Transferring or not transferring such information over an IC tracking network will not affect the application of FOIA to the information.

### ***Workshop Summary***

Participant list:

Susan Abston, U.S. Army Environmental Center  
Elizabeth Bartlett, EPA Region 4  
Mike Bellot, EPA/Office of Emergency and Remedial Response (OERR)  
Sheri Bianchin, EPA Region 5  
Nancy Blank, EPA Region 8  
Jane Bohn, Delta Environmental Consultants  
David Borak, International City/County Management Association (ICMA)  
Andrew Bracker, City of Kansas City, MO  
Donald Bruce, EPA Region 5  
Ned Burke, City of Denver, CO  
Brian Cantwell, Argonne National Laboratory (Argonne)  
Shah Choudhury, Department of Defense (DOD) Cleanup Office  
Tim Crawford, EPA/Office of Environmental Information (OEI)  
Dave Crownover, Pennsylvania Department of Environmental Protection (DEP)  
Ignacio Dayrit, City of Emeryville, CA  
Brendan Dooher, Lawrence Livermore National Laboratory  
Amy Edwards, Holland and Knight  
Richard Engel, Naval Facilities Engineering Command  
Sherry Estes, EPA Region 5  
Maureen Findorff, SRA International, Inc  
Bob Fitzgerald, EPA Region 9

Dan Forger, EPA Region 2  
Ann Gardner, EPA Region 1  
John Hamill, EPA Region 9  
Matthew Hayduk, DynCorp/CSC  
Michael Hendershot, EPA Region 3  
Craig Huber, Argonne  
Lisa Jenkins, EPA/Office of Solid Waste and Emergency Response (OSWER)/Information Management Data Quality Staff (IMDQS)  
Carlos M. Lago, EPA/Office of Solid Waste (OSW)  
James Maas, EPA/Office of Brownfields Cleanup and Redevelopment (OBCR)  
Jan Martin, EPA Region 4  
Sa'ad Masri, DynCorp/CSC  
Brian Nishitani, EPA Region 3  
Carolyn Offutt, EPA/OERR  
Thomas M. Potter, Massachusetts DEP  
Roger Register, Florida DEP  
Jude Roach, EPA Region 7  
Nicole Roberts, Delta Environmental Consultants  
Tony Selle, EPA Region 8  
Catherine Sharp, Oklahoma Department of Environmental Quality (DEQ)  
Colleen Sharpe, City of Raleigh, NC  
Stacy Silva, DynCorp/CSC  
Richard Sisk, EPA Region 8  
Susan Sladek, EPA/OERR  
Stephen Merrill Smith, DynCorp/CSC  
Michael Sowinski, DPRA  
Robert Stout, Missouri Department of Natural Resources (DNR)  
Roy Tan, Parsons/Air Force Real Property Agency (AFRPA)  
Rebecca Thomas, EPA Region 8  
Tim Underwood, Bearing Point/AFRPA  
Joe Vescio, EPA/Office of Underground Storage Tanks (OUST)  
Elaine Warren, City/County of San Francisco, CA  
Ron Whitfield, Argonne  
Dave Wilson, Region 5  
Larry Zaragoza, EPA/OERR

***May 12, 2003***

Representatives from EPA Region 5 and EPA/OERR welcomed participants to the Workshop. EPA/OERR stated that the objective of the Workshop was to develop a common language related to IC data collection to provide the information needed for IC data users to make decisions to ensure the integrity of the remedy and protection of human health and the environment. EPA/OERR then invited the various participants (who had participated in earlier

IC focus groups and workshops) to speak. Several participants spoke about changes to their IC tracking systems as a result of their involvement in EPA/OERR's Summer 2002 IC focus groups and October 28-30, 2002 IC Tracking Systems Workshop. An EPA/IMDQS representative explained how EPA's data standards result from collaboration between EPA and the states, among other things.

## **Introductions**

### *Don Bruce, EPA Region 5*

Don Bruce opened the Workshop by welcoming the attendees to Chicago. Mr. Bruce also reminded the group of the diverse and numerous stakeholders that have participated in this coordinated IC tracking concept, previous workshops, and its first product, IC Light. The week prior to this Workshop, Mr. Bruce and his staff of Remedial Project Managers (RPMs) and Information Management Coordinators (IMCs) in Region 5 were introduced and trained on using the initial phase IC tracking system (IC Light). They have begun data entry of IC information on sites for which they are responsible. Mr. Bruce concluded his remarks by congratulating the group for their participation in this initiative, and that in his career, Mr. Bruce has not witnessed a collaboration of as many stakeholders toward one vision as he has through these workshops and other IC-based initiatives.

### *Larry Zaragoza, EPA/OERR Regions 5/7 Accelerated Response Center*

Larry Zaragoza began by thanking the attendees for their diligent work and participation in previous workshops and today's Workshop. Mr. Zaragoza reiterated the importance of the involvement and participation of various types and levels of stakeholders to this process in ensuring its success. In closing, Mr. Zaragoza introduced the mission of today's Workshop in identifying and describing the components of a tracking network that all stakeholders can use.

### *Michael Bellot, EPA/OERR*

To provide background to all attendees, Michael Bellot began his remarks by stating EPA's determination to improve IC tracking at its sites. He presented a brief overview of work accomplished, which has led to this Workshop. In response to EPA's inability to answer fundamental questions regarding the status of ICs used at its sites, EPA began to work toward the development of a comprehensive IC tracking system. Because many ICs rely on other stakeholders, such as state and local government, for their implementation, monitoring, and enforcement, EPA believed that it was important to have various stakeholders' involvement and input in developing a coordinated IC tracking concept.

To begin assessing the need for a separate system to track ICs, EPA reviewed its existing databases and found that nine EPA Headquarters databases track some components of ICs; seven EPA Regions use CERCLIS to track some aspects of their ICs; and three EPA regions (including Regions 5 and 9) produced their own systems for partially tracking ICs in their regions. EPA then began analyzing other IC tracking systems, of which they were aware existed outside of EPA, to understand what IC information the various systems track. In addition, EPA conducted an Information Collection Request (ICR) survey of 300 IC stakeholders to gather information

about existing IC tracking systems and the possibility of working collaboratively with EPA. From this survey, EPA discovered that 21 states track ICs. The results of the survey were also useful in developing general categories of information necessary to begin developing EPA's collaborative IC tracking concept.

In addition, EPA conducted pilots in selected counties in Regions 3 and 5 to see if IC documentation, which should have been in place, could be easily located. Preliminary pilot results showed that less than fifty percent of the ICs were properly documented or recorded.

EPA also conducted several focus group workshops during 2002 where stakeholders from various backgrounds worked to answer preliminary questions in the development of an IC tracking network, such as:

- Who will be the primary users?
- What are the inputs and outputs?
- What IC information categories should be tracked?

From these focus group workshops, attendees identified a matrix of 33 information categories important to the tracking of ICs. The attendees also concluded that a common language should be developed. In response, EPA expanded upon the initial 33 IC information categories to create data elements for each, using existing data registries and IC tracking system DEDs. The May 2003 Workshop gathered various stakeholder opinions for a proposed DED that would provide descriptive information about the various data elements used by a network of tracking systems.

Concurrently with the efforts of the focus groups and Workshop, EPA has worked to develop IC Light, a preliminary IC tracking system. Region 5 pilots have begun to test data entry and management of IC information in the IC Light application. Additional pilots are planned with Regions 3 and 9. EPA hopes that through the associated pilots the following questions regarding IC Light and a larger network of IC tracking systems will be answered:

- How difficult is it to gather IC information to be entered?
- How difficult is data entry into the system?
- What is the associated cost?

In addition, EPA is planning for data sharing pilots with existing IC tracking systems.

Mr. Bellot concluded his comments by informing the attendees of the following upcoming activities:

- Early summer of 2003 – meeting with Association of State and Territorial Solid Waste Management Official's (ASTSWMO) Technology, Training, and Transfer Group
- Mid-summer of 2003 – meeting with ICMA
- October 2003 – meeting at Brownfields Conference, Portland, Oregon.

Robert Stout, Missouri Department of Natural Resources

Although it was not designed for the tracking of ICs, MO DNR's database system aids in responses to concerns regarding ICs in the state. Within the MO DNR system, IC information such as the type of IC, time frame of use, and key dates associated with the IC are gathered in addition to other non-related IC data elements. Robert Stout informed the attendees that he believed standardization of data elements and their definitions would aid in communication among the various systems of the IC network. Mr. Stout added that he believed that the MO DNR would be able to add the data elements listed within the working DED and gather the information associated with those data elements. In closing, Mr. Stout reminded the attendees that this Workshop represents government at its best - creating partnership and proactively addressing future IC issues.

Richard Engel, Naval Facilities Engineering Command

Richard Engel provided the attendees with an overview of the U.S. Navy's Land Use Control Information System (LUCIS), which can be found via the Internet at <http://www.navymcbrac.lucis.org/>. Mr. Engel explained that the development of LUCIS began with the impending closures of 74,000 acres of risk-based BRAC sites and the Navy's need to track land use controls used at those sites. LUCIS uses GIS to indicate to stakeholders (local and state) the layers of land use controls enforced on affected areas of the property. The system is Oracle-based and was developed by Booz Allen Hamilton.

Based on separate funding budgets, the U.S. Army and U.S. Air Force operate separate land use control tracking systems. However, the separate military systems do communicate with each other (i.e., the systems can transfer data between themselves), and all feed into the overall Department of Defense (DOD) system. Individually, each system is used for separate purposes. LUCIS is primarily used in the exchange of information with local governments. The Army and Air Force use their individual systems primarily for internal management of the land use controls they use.

In closing, Mr. Engel shared the following lessons learned regarding the development of LUCIS:

- Costing less than 0.05 percent of the Navy's cleanup budget, LUCIS was a cost effective endeavor because it helps protect the Navy's interests while sharing information with local and state stakeholders.
- It was not effective to track data elements for which data could not be found/did not exist or that were unneeded.

Ignacio Dayrit, Project Director City of Emeryville, CA

Ignacio Dayrit informed the attendees of the City of Emeryville's One Stop-Shop system, which is an IC tracking system that uses GIS to convey information to the public on contamination left in place. The goal of the One Stop-Shop system is to promote the redevelopment of contaminated properties following cleanup activities.

Mr. Dayrit also proposed that the national IC network be established as a Web-ring in which a user could register ICs and search for ICs based on site or address.

John Stewart, Department of Energy (DOE)

John Stewart briefed the attendees of the DOE's Geographic Environmental Management System (GEMS), which is a comprehensive system that is used to educate the public on contamination remaining in place, including information on monitoring wells, site layouts, and aerial photos. In the future, DOE hopes to expand the GEMS system to encompass more IC information and to share more comprehensive IC information with DOD systems. DOE is also working toward a collaborative pilot with EPA.

James Maas, EPA Office of Brownfields Cleanup and Redevelopment (OBCR)

As part of the Brownfields regional redevelopment initiative, the Web-based Brownfields Redevelopment Initiative Management System (WebBRIMS) was developed to convey information to Congress on progress of Brownfields redevelopment. The Brownfields Management System (BMS) was also developed to report to Congress on Brownfields redevelopment progress. James Maas informed the attendees that although the systems do not routinely gather IC information, they do have that capacity.

Brendan Dooher, Lawrence Livermore National Laboratory

Brendan Dooher briefed the attendees on the development and use of the GeoTracker system. Lawrence Livermore National Laboratory developed GeoTracker to track the contamination associated with fuel tanks and drinking water sources. GeoTracker uses GPS coordinates for site location information. Dr. Dooher was involved in the design of GeoTracker and indicated that GeoTracker contains many of the data elements listed in the proposed DED for this Workshop.

Lisa Jenkins, EPA/Office of Solid Waste and Emergency Response (OSWER)/Information Management Data Quality Staff (IMDQS)

Lisa Jenkins presented an overview of EPA's Environmental Data Registry (EDR) standards and Enterprise Architecture (EA). EPA's EDR and EA help ensure that information technology (IT) tools align with EPA business needs. EDR and EA help provide cohesion in the methods used to handle information needs across programs. Ms. Jenkins explained that EPA's application architecture, in collaboration with the National Environmental Information Exchange Network (NEIEN) and EPA's Environmental Council of States (ECOS), is designed to connect stakeholders with the data they enter, gather, store, and manage.



EPA's standard development process begins with notification by states, EPA offices, or federal programs to EPA of a need for standardization of a group of data. This request is handled by the Environmental Data Standards Council (EDSC), of which states, Tribes, and EPA are members. Regarding the purpose of this Workshop, Ms. Jenkins emphasized the importance of participant input to communicate what information will be tracked and how data exchange can be coordinated. Last, Ms. Jenkins added that EPA's EDR is at <http://www.epa.gov/edr/>.

### **Principal Users**

Following the Workshop introductions and initial speakers, one of the three Workshop facilitators reiterated that the touchstone of the Workshop was to develop a common language – a dictionary and a thesaurus of network data – that would provide the information needed for users to make decisions to ensure the integrity of the remedy and to protect human health and the environment. The facilitator broke the plenary session into three groups to identify the principal users of network data, and how they would use network data. The groups met until 4:00 PM, and then each facilitator reported on their group's work to the plenary. The results of each of these groups are summarized below.

#### Group 1 Report on Principal Users

- It should be noted that the principal user of the network data will most likely be those individuals who are external to federal and state government and their regulatory systems.
- Environmental regulators (including those who implement ICs and those with IC oversight responsibility) are principal internal users (as opposed to external users).
- A principal user may have an involuntary association with the land affected by ICs, including those with responsibility (such as owners or government agencies) and those without responsibility (such as community residents or neighbors).
- A principal user may have a voluntary association with the land affected by ICs (including developers/redevelopers, buyers/real estate brokers, government regulators).
- Principal users may also be identified by type. These types consist of the following:
  - local government users (land use planning and permitting agencies at municipal and county levels);
  - state government users (enforcement, implementation and permitting);
  - EPA users (monitoring and enforcement);
  - Potentially Responsible Party (PRP) and owner users.
  - real estate developer users (brokers and buyers); and
  - future users (including purchasers, neighbors, other who would come into contact).

Group 2 Report on Principal Users

- Local government is a principal user, including those responsible for the following:
  - land use oversight;
  - planning and zoning;
  - environmental regulation;
  - permit review; and
  - public health regulation.
- Community and public interest groups are principal users.
- Financial institutions are principal users, including the following:
  - real estate agents;
  - insurance companies;
  - potential/current property owners; and
  - developers
- State/Tribal governments, including those responsible for the following are principal users:
  - public health regulation;
  - enforcement;
  - environmental regulation;
  - oversight; and
  - program management
- Federal government, including such agencies as the following represent principal users:
  - EPA,
  - DOD,
  - DOE, and
  - Department of Interior, Bureau of Land Management (DOI/BLM)
- Responsible parties/site owners are principal users.
- How the principal government users (i.e., local, state/Tribal, and federal government users) would use network data would be determined by the following four specific activities:
  - property ownership;
  - regulation;
  - program management; and
  - enforcement.

### Group 3 Report on Principal Users

- Environmental regulators (both state and federal) would be principal users, and they would use network data to do the following:
  - better understand what was on the site before working with locals on reuse;
  - monitor the fate of ICs;
  - inform future policy;
  - decide whether to approve or disapprove a proposed IC;
  - determine effectiveness of the program;
  - enforce;
  - communicate;
  - query site status;
  - ensure remedy protectiveness;
  - determine IC options;
  - respond to stakeholders;
  - determine whether ICs work or fail;
  - evaluate Five-Year Reviews; and
  - track IC data.
  
- Local governments (planning, health, zoning and building departments) would be principal users who would use the data to do the following:
  - undertake site review;
  - conduct land development review;
  - determine if a site building permit should be issued;
  - determine excavation restrictions;
  - implement IC tracking;
  - determine if zoning is appropriate;
  - conduct enforcement tracking;
  - check land use controls;
  - undertake long-term planning;
  - conduct property management;
  - inform the community;
  - determine suitable land use; and
  - undertake mitigation measures.
  
- Developers and redevelopers would be principal users who would use network data to do the following:
  - determine how land can be used and what restrictions apply;
  - inform location/development/purchase decisions;
  - undertake planning and development;
  - identify opportunities for development;
  - site environmental reviews; and
  - identify access requirements (e.g., easements).

- Financial lenders would be principal users, and they would use network data to do the following:
  - determine whether or not to make a loan; and
  - identify IC-related risks.
  
- Citizens and residents would be principal users who would use network data to do the following:
  - make sure a planned development is safe;
  - identify whether or not a specific site is impacted;
  - perform a “watchdog” function on state and federal programs; and
  - monitor whether or not a remedy and the IC are being properly implemented.
  
- Owners and operators would be principal users who would use network data to do the following:
  - gauge liability exposure;
  - offer assurances to developers;
  - inform the community (duty to disclose);
  - determine the cost of ICs and identify the remedy chosen; and
  - identify use restrictions and access requirements.

The groups agreed that their facilitators had expressed their views correctly and completely, and the meeting was adjourned for the day.

***May 13, 2003***

At 8:30 AM, the facilitator and an EPA consultant explained to the plenary session that the Model DED handout (that had been e-mailed to participants before the Workshop) was a list of all possible data elements that different IC tracking systems might use. The EPA consultant explained that the Model DED was not designed to be a model IC tracking system or an ideal DED – rather, the Model DED was designed to initiate discussion toward forming a common language for tracking IC information. The facilitator explained that the plenary session would again break into three groups and that each group would review and comment on the various aspects of the potential data elements listed in the Model DED. EPA/OERR encouraged the groups to try to get through all of the data elements.

At 4:30 PM, there was a brief plenary session, and EPA/OERR addressed questions and issues that had arisen during the breakout sessions. EPA/OERR advised participants to report to a brief plenary session at the beginning of the third day, and from there they would go to their respective breakout rooms. The Workshop adjourned for the day.

*May 14, 2003*

There was a brief plenary at 8:30 AM on the third day. The plenary then broke out into the same three groups, which worked until 11:00 AM. The groups then reassembled, and for the next hour each group delivered its summary report.

## **Group 1 Breakout Summary Report**

### General Observations and Principles

- Always include a “data current as of date” or “last verified date” with every data element. This will aid in determining the quality of the information and foster appropriate use. Data elements associated with Category 4 (i.e., the address that describes the physical, geographic location of the front door or main entrance of a facility site, including an urban-style street address or rural address) provided an example of the importance of this observation. This has added importance because of the new “All Appropriate Inquiry” language of CERCLA Section 101(35).
- Concerns were raised of the need for establishing mandatory, minimum information to place an IC in the system to avoid not useful IC information (e.g., listing a street name with no town).
- Concerns were raised about how to balance ensuring that ICs are protective and ensuring that the IC tracking does not unnecessarily stifle real estate redevelopment.
- Concerns were raised about clarifying that this Model DED (and the network of IC tracking systems that it may represent) cannot be expected to be the sole source of information for “All Appropriate Inquiry” under Section 101(35) of CERCLA.
- There is a need to know if an IC is still in place; can this be connected to property transaction information?
- Users would expect to enter only current IC data, not data for historic sites.
- All sequence numbers that are unique to this system should be Sys Gen (generated by the system) rather than entered by a user. The group questioned whether all of the unique identification numbers were really required and did not examine each one for a disposition.
- Concerns were raised to know who would enter the data for which federal, state, or local environmental program. General discussion (prompted by DED Information Category #17 IC Coverage as Site/Facility Description and Information Category #2 Program Information) recognized that there might be different data from different programs and sometimes it may be for the same data element. There is concern that one program not be

### ***Group 1 Breakout Summary Continued***

able to overwrite another program's information so that bad data not be able to overwrite good data. There was less concern that users be able to see data from all sources.

- Concerns were raised about naming the responsible party on an IC tracking system network and related legal issues that may result.
- Suggestions were given to include many references to source documents (i.e., the document that is the source of the IC) and how to locate/obtain them (e.g., include title, citation, and repository of each source document).
- The Model DED is too long for local government and public users and needs to be shortened. The group listed the following ideas for shortening the DED for local government and public users:
  - Keep the data elements oriented to what all stakeholders need to know. Three "need to know" areas are:
    1. Users
    2. The site
      - Identification info: lat/long, program ID number, mailing address, geographical identification of site and IC need to be robust. This is essential to prevent stigma associated with ICs.
      - Local parcel identification would be useful (separate from sub-type of locality).
    3. The relationship between contamination and use restrictions.
      - Types of ICs need to be identified. Use restrictions should be by established categories and describe whether they are protecting a media with residual contamination or an engineered remedy.
  - Focusing on the above three areas allowed the group to shorten the DED to less than 60 data elements. The results of the group's efforts in reducing the DED to less than 60 data elements are listed in the following "Specific DED Comments" section with all recommended data elements and related changes noted under each DED Information Category. Also, Group 1 indicated additional, "missing" data elements that they recommended should be included in a revised DED. These missing data elements are listed at the end of the "Specific DED Comments" section.

#### ***Specific DED Comments***

Group 1 concluded to retain the following data elements as presented in the Model DED or with the following modifications:

### ***Group 1 Breakout Summary Continued***

- Category 1: System ID - definition is unclear; Group 1 believed that this should be used to indicate the “home system.”
  - Remove the examples (e.g....) from this data element because it is not a relational key.
  - Could this be a system generated unique number for the IC tracking system?
- Category 2: Program Information - need to include a data element as a data source “home system” identifier (i.e., CERCLIS, RCRIS, BMS).
  - Move the examples (e.g....) from “System ID” to “Program Site ID(s).”
  - Add BRAC and FUDs to “Cleanup Program Name(s)” and note that this list is not exhaustive.
  - Data elements need to reflect parts of property that were regulated at one time but are no longer under a regulatory program.
- Category 3: Site Name - “Facility Site Name” definition is good for property, but should be identified as the source contamination and not reflect the area of contamination such as ground water plume.
  - On-site area of contamination delineation will be important to buyers of property (Note: Precise and careful delineation of this area is also critical to preventing stigma at the property).
  - Reference off-site contamination (data flow should be both from property to plume and vice versa in the network).
  - DSERTS name has changed.
  - “Aliases”
- Category 4: Site Address(es) - keep only “Location Address(es); Mailing Address; Mailing Address City Name; Mailing Address State Name; and Mailing Address ZIP Code”
  - All should consider that very large sites are typically not at one street address; closed facilities are particularly tricky, especially if in an unincorporated area; cities track differently (i.e., by blocks, plats, etc.); address may not be available and may not be useful in a given geographic locale, but it may be good for contact information; and it is essential to have a link to legal area descriptions, however this should not be data added to the network in order to avoid data quality errors with data entry.
  - With site address information, data in the network will need to be able to answer questions from buyers and the public as property boundaries are changed. The group suggested all data elements should have a “data current as of...” date that is transparent.

### ***Group 1 Breakout Summary Continued***

- Category 5: Locality: “Locality Name” - always include the county name (use new data element if needed).
- Category 6: Site Reference Point - “Latitude of Site” (may be multiple coordinates); “Longitude of Site” (may be multiple coordinates)
  - Group 1 raised concerns regarding the use of these data elements in capturing location information for large sites; need to reflect acreage/site by unit of measure.
  - These data elements will be useful to professionals and important because they will feed GIS; however another method will need to be developed for relaying this information to the general public.
  - Due to funding concerns, users may need to have single point capacity instead of perimeters.
  - Universal Transverse Mercator (UTM) conversion capacity is needed.
- Category 10: Site Boundary - keep only “Legal Area Description,” add “Area Size.”
- Category 11: Site Contact(s) - keep only “Electronic Address Text; Electronic Address Type Name; Individual Title Text; Mailing Address; Mailing Address City Name; Mailing Address State Name; Mailing Address ZIP code; Organization Formal Name; and Telephone Number.”
- Category 13: IC Description - keep only “IC Instrument Name (planned); IC Instrument Name (implemented); IC Instrument Category; and IC Instrument Type.”
  - Date last verified is critical to this category.
  - “Name of Issuing Organization” should be deleted as the EDR standard and issued as a specific standard for IC. The EDR standard is too narrowly associated with RCRA.
  - New definition needs clarity on the distinction between the local Department of Public Works as the issuer of the IC document (such as an easement) and the organization requiring the IC for protectiveness (State DEP, EPA).
  - Need to account for the owner, or property recipient (third party monitor) and regulator; also that this may be put in place by a licensed site professional (LSP).
  - “Instrument Type” (A) Need to know reference to Book and Page for deed codicils (this may be meta-data). (B) Need reference to definitions of each type of IC.
  - Need to be able to use this to locate source data about the IC. It would be useful to refer to actual documents in Portable Document Format (PDF).
  - “IC Instrument Name (planned)” (A) Discussion made it clear that some organizations would never use the “IC Instrument Name (planned)” data element. General consensus that the planned category should continue for those who may



## ***Group 1 Breakout Summary Continued***

wish to use it. (B) There was much discussion about definition of “planned” and general consensus that this needs to reflect the use of the IC from the final decision document, rather than a proposal or a study recommending use. ©) Planned instrument has little use to user once it’s implemented (perhaps address this by identifying the instrument as one data element and reflect its status of planned or actual in another data element). (D) The “planned” data element may raise privacy issues with owners/PRPs.

- Category 14: IC Objective(s) - keep only “Contamination Remaining (as it relates to ICs needed); (the EDR data elements that were recommended to be deleted under Information Category 8: Hazardous Substances): Media; Engineered Controls/Remedies Protected; and Use Limitation.”
  - “Use Limitation” (A) Needs to include definitive description of the IC (e.g. restrict digging below 12 inches or essential to provide link to source document language). This may be achieved by describing inconsistent uses, or permitted uses (like commercial building). (B) 200 data length is inadequate. ©) This element could be critical for external users. (D) A checkbox indicating yes/no on uses would be useful. (E) Uniformity in answer will have a large payoff. This should not be a totally variable answer. It was noted by some in the group that paraphrasing of the source language not be allowed to avoid unintended consequences. A suggestion was made to have general categories such as Ground Water use restrictions with a “Y/N” box and link to the source document.
  - Endnote #9 (A) “Deed restriction - unspecified” should only be available as a choice for Planned Instrument. For an implemented IC it should read real estate interest, deed notice or specific type. (B) Add Grant of Environmental Restriction (GER) - This is the only tool available in Massachusetts to allow potable water to be taken off line.
  - “Contamination Remaining” (A) Limit list of chemicals to those that are precluding unrestricted use of the property. (Some participants indicated they would like this definition to require only driver chemicals to be listed). (B) Delete word “indication” (that is, do not allow a narrative description). This should be specific. It would be best would be to link to the source document. ©) Need to link contaminant with media. The network should display data like petroleum in soil, Trichloroethylene (TCE) in groundwater rather than petroleum and TCE impacting groundwater and soil at the site. A question was raised (without resolution) of whether potential receptors need to be identified. (D) Link only (data not in system) to chemical concentrations. (E) Keep “Contamination Remaining” data element under Category 14: IC Objectives as it refers to ICs, delete data elements of Category 8: Hazardous Substances since it is site-wide and can be found elsewhere. Use of EDR Chemical Identification Data Standard (CIDDS) is okay.

## ***Group 1 Breakout Summary Continued***

- Permissible values for media (A) These terms need clarification to avoid duplication. Delete leachate and debris (because they are not media). Some terms are potentially confusing such as soil, sub-surface soil, and surface soil. The group would prefer only having the latter two. (B) Also there is a need to deal with building that is contaminated (like with lead paint that can be used only for commercial purposes). This is a different medium.
  - “Goal” (A) Data length of 50 is inadequate. (B) Definition needs to include off-site contamination (contamination migration) in order to protect remedies (wells that might change the plume’s direction).
  - Endnote #10 Engineered remedies should reflect only ongoing processes that are related to the IC. There are other places to find out what else happened at the site.
- Category 15: IC Source Document - keep only “Data Source Sequence Number; Data Source Type; Data Source Name; and Data Source Uniform Resource Locator (URL) or file.”
    - Data Source Name definition should specify the Title (name) of the IC. There also needs to be a date for the IC (such as recorded/effective on \_\_\_\_\_).
  - Categories 16: IC Coverage by Geographic Area and Category 17: IC Coverage as Site/Facility Description - Combine and rename, “IC Location by Geographic Area.” This new information category would include the following data elements from both 16 and 17 and possibly the following new data elements: “Facility Identifier Type; Facility Identifier; Specific Facility Identifier Type; Facility Site Name; Operable Unit Number; Operable Unit Name; Area Within Operable Unit; IC Size Information; ability to see what is off-site (from the property); reference appropriate documents; link to GIS maps (Note: data elements need to specify location subject to the IC precisely and avoid stigmatizing an entire area/sub-area of a locality).”
    - “Locality Sub-type Name” (A) would be most useful at mega-sites, may narrow the are of the IC in an easily understood manner. Things like use of a parcel # could allow one to drill down. (B) In a later discussion, the group indicated the importance of having a data element that provides the legal description of the property so it can be located precisely.
    - Title/description name should be changed to “IC Location.”
    - Need to be able for the system/network to describe the geographic area covered by ICs precisely (whole town, specific ground water area, part of a facility, etc.). This does not seem to fit under the definition of any of the terms right now. One way to show this might be graphically with an image.
    - “Facility Identifier” (A) This appears to replicate Category 2: Program Information. The information needs to be available but not redundant. Having the user enter this information twice may lead to data errors.

### ***Group 1 Breakout Summary Continued***

- Category 20: Implementation - keep only “Party Responsible for Implementation.” (Note: This should refer to IC lead agency (not necessarily the local Department of Public Works).)
  - Implementation should make sure that appropriate local zoning ordinance are in place (perhaps local redevelopment authority, responsible parties (RPs), State, EPA, or conservation group should be listed as the potential recipient of an easement, etc.)
- Category 21: Monitoring - keep only “Party Responsible for Monitoring.”
  - Needs to reflect that the recipient of the data and the person who monitor the site may be someone other than the person who is monitoring the IC. Need to show who receives the report.
  - Reduce the number of data elements under this data category to a contact name, last monitoring report date, and title.
- Category 22: Enforcement - keep only “Party Responsible for Enforcement.”
  - As written, this data category does not appear to allow for LSP type of system. In this case, the LSP is the first line for enforcement; network needs to reflect this fact.

Group 1 determined that the following data elements of the Model DED were unnecessary to local governments and external users:

- Category 8: Hazardous Substances - The majority of data elements<sup>1</sup> can be found elsewhere, the network should focus on substances requiring ICs.
- Category 9: Media Impacted (at Site) - The majority of data elements<sup>2</sup> can be found elsewhere, the network should focus on media/engineered remedy covered by ICs
- Category 10: Site Boundary - remove “GeoData; Maps; and Images.”
- Category 11: Site Contact(s) - remove “Affiliation Type (because it is redundant with formal organization type); Telephone Extension Number; Telephone Number Type Name; and Supplemental Address Text.”

---

<sup>1</sup> Group 1 may have intended to recommend eliminating all data elements under this information category, but such a recommendation would be contrary to the Workshop mission, as information categories were established at the October 28 - 30, 2003 Institutional Controls Tracking Systems Workshop in Washington, D.C. In addition, this information may be available in existing systems and could be pre-populated from them.

<sup>2</sup> Ditto.

### ***Group 1 Breakout Summary Continued***

- Category 13: IC Description - remove “Name of Issuing Organization.”
- Category 14: IC Objective(s) - remove “Goal; and Objective Set Name.”
- Category 16: IC Coverage as Geographic Area and Category 17: IC Coverage as Site/Facility Description - Combine and rename, “IC Location by Geographic Area.” Delete data elements: “State Name, Locality Type (from both 16 and 17 as redundant); Locality Name, Locality Sub-type, Locality Sub-type Name/Description, and State Name.” (Note: Much of this is redundant. As such, if they are needed for this information category or as meta-data, the information should be pre-populated and perhaps system generated from elsewhere – not user originated.)
- Category 18: IC Coverage as a Coordinate Description - remove “Latitude Measure (degrees, minutes, seconds); Longitude Measure (degrees, minutes, seconds); Latitude Measure (decimal); Longitude Measure (decimal); Horizontal Collection Method Text; Horizontal Reference Datum Name; Reference Point Text; Source Map Scale Number; and Horizontal Accuracy Measure.”
- Category 19: Duration - remove “IC Protection Duration; and Conditions of Temporary IC Duration (this information would be available through one of many links to appropriate documents).”
- Category 20: Implementation - remove “Planned Implementation Date; Actual Implementation Date; and Contact for Implementation.”
- Category 21: Monitoring - remove “Document/Mechanism Type; Mechanism Requiring Monitoring/Inspection; Name of Issuing Organization; Document Name; Frequency of Monitoring/Inspection; Last Monitoring Event Date; Reporting Frequency of Monitoring/Inspection; Monitoring Findings; and Contact for Monitoring (This information should be “held” in a program database, not the network).”
- Category 22: Enforcement - remove “Document/Mechanism Type; Document/Mechanism Requiring Enforcement; Name of Issuing Organization; Document Name; and Contact for Enforcement.”
- Category 23: Termination - remove “Party Responsible for Initiating Termination; Party Responsible for Approving Termination; Termination Date; and Contact Related to Termination.”
- Category 24: Modification - remove “IC Modification.”

### ***Group 1 Breakout Summary Continued***

- Category 25: Municipal Boundaries - The majority of these data elements are available elsewhere. For local governments and external users, this entire category of data elements detracts from focusing on ICs.<sup>3</sup>

#### *Missing Data Elements*

1. There needs to be a data element that says what is clean (e.g., No Further Federal Actions (NFFA), Close Out report, reuse determination, etc.).
2. Data element(s) should describe the positive obligations of the owner. This will help remove the stigma that nothing can be done if there is an IC and also will help ensure that people cannot claim ignorance (e.g. financial assurance, monitoring, allow access for monitoring well sampling and protect wells, etc.).
3. Is there financial insurance/assurance, what is it, and is it still active? (There was discussion whether this was appropriate for the network or rather for a program system.)
4. There is a need to show who receives the monitoring reports (may be other than the recipient of data or who is doing the monitoring). This may/may not be picked up under enforcement data.

### **Group 2 Breakout Summary Report**

#### *General Observations and Main Points*

- Consideration must be given for the different needs of an IC tracking “system” versus an IC tracking “network.” In regards to a network, the general comments of the group indicated that fewer data elements and a simplified data element dictionary would be necessary. However, greater detail, and therefore, more data elements may be needed in a system.
- Concerns were raised about keeping the network simple – if it becomes too complicated and burdensome, it may not be successful because no one will take time to enter all data required.
- Concerns were raised that the data element decisions made during the Workshop would eventually be imposed on other systems (e.g., local and state IC tracking systems already in place or being developed).

---

<sup>3</sup> Other groups believed that this information exists in other systems, could be drawn from those systems, and may be necessary to give geographical context to ICs.

## ***Group 2 Breakout Summary Continued***

- Concerns were raised regarding the level of IC information detail made available through the network to the public and any FOIA implications if portions of the IC information are hidden from the public.
- To ensure better data quality and control, system generated or pre-populated data from other database systems should be used more than manual entry of data.
- To avoid misinterpretation of IC documentation and intent, the network should link interested parties to the specific IC information they are seeking by providing a physical address, URL, or PDF of the actual IC document.
- Participants generally agreed that it was important to avoid overburdening the contact person(s) listed in the network.
- In testing the network, use of the network should start with basic data elements (essential IC information) for initial testing and then progress to more complex IC information/data and relationships. Data flow of the network should also be tested (i.e. data flow upstream from local governments to federal agencies/programs, as well as downstream from federal agencies/programs to local governments).
- More detailed discussions are needed for data length, data type, data source, and permissible values of the data elements in addition to discussions during this Workshop (not enough time in the Workshop to address all data elements in detail). Multiple, focused conference calls involving those individuals interested and experienced with those categories was one suggestion.
- Meta-data associated with the data elements should be addressed in more detail-oriented meetings/workshops in the future. It may be necessary to include data/database experts in those future discussions. Suggested data elements for meta-data included:
  1. Which system was this data gathered from?
  2. How comprehensive is the IC information and its associated system (e.g., area or commercial zone)?
  3. QA/QC compliance with EPA Information Quality Guidelines will need to be met, although this may be difficult.
- GIS data elements may be misleading to the user if not kept up to date. Concerns regarding the need of GIS data for ICs – more for bells and whistles to the network. If GIS data elements are to be included in the network, Group 2 suggested that the data element standards used by other DEDs, specific to GIS data, be applied and that discussions regarding GIS data elements in IC tracking would not be needed. It was

## ***Group 2 Breakout Summary Continued***

suggested that GIS-related data elements be removed from Group 2's revised DED. Where commercially available, GIS data should be bought and provided to the network.

### ***Specific DED Comments***

Unless specifically modified or deleted by language below, Group 2 retained the IC information data elements, their definitions, permissible values, data type and length as presented in the Model DED.

- Category 4: Site Address(es) – does “Location Address(es)” include fields for a mailing address (i.e., street, city, state, zip code)?
  - If “Location Address(es)” does include mailing address fields, remove the mailing address fields following “Location Address(es).”
  - The above point should also include Assessor Parcel Numbers (APNs) in designating site address(es).
  - Need to capture military bases (both operating and closed bases).
- Remove all data elements associated with Category 8: Hazardous Substances, except “Chemical Substance Type Name” which should be moved to Category 14: IC Objective(s).
- Remove all data elements associated with Category 9: Media Impacted (at site).
- Category 10: Site Boundary – remove “Geodata,” “Maps,” and “Images” to be addressed with GIS data elements and move “Legal Area Description” to be included under Category 16: IC Coverage by Geographic Area.
- Group 2 commented that it is important to include source information of the IC instrument (i.e., physical location of the instrument/mechanism document, or URL) – see “Data Source URL/File and Data Source Location” data elements.
- Category 14: IC Objective(s) - remove “IC Objective Set Sequence Number” and “Objective Set Name.”
  - remove “Contamination Remaining” and replace with “Chemical Substance Type Name” from Category 8: Hazardous Substances.
  - Group 2 was undecided regarding the data element “Goal” and had two general comments: 1) The system/network should link the user to the original instrument document as a primary reference to avoid misinterpretation of the goal. 2) However, documentation/tracking of the instrument’s intended goal may be useful in the planning of ICs at sites.
  - Group 2 was undecided regarding the data element “Engineered Controls/Remedies Protected.” Instead of using a drop-down menu of individual engineered controls/remedies, it was suggested that the drop-down menu include

## ***Group 2 Breakout Summary Continued***

only types of engineering controls/remedies. Concerns regarding QA/QC of the engineering controls/remedies selected was raised.

- Category 15: IC Source Document - Group 2 believed that source documents should be available to the network, but it was not necessary to extract data to be tracked through individual data elements.
- Category 16 – 18: IC Coverage – Group 2 concluded that Category 17: IC Coverage as Site/Facility Description would be adequate in documenting the coverage of an IC in an IC tracking network since, it was the group’s belief that the other information gathered by Categories 16 and 18 could be found in the actual instrument document. Group 2 also suggested that all data elements associated with Category 17: IC Coverage as Site/Facility Description be moved to follow immediately after data elements associated with site information (Categories 1 –11). However, in considering an IC tracking system, it may be necessary to include all data elements of Categories 16 – 18 for IC Coverage if the area of coverage requires that level of detail (e.g., engineering survey).
- Category 17: IC Coverage as Site/Facility Description – more generic subdivisions for site are needed in place of “Operable Unit Number, Operable Unit Name, and Area Within Operable Unit” because other cleanup programs do not use operable units when subdividing sites.
- Category 19: Duration and its associated data elements should be moved and combined with Category 23: Termination.
- Category 20: Implementation – clarification is needed for the definition of “Parties Responsible for Implementation” (i.e., what implementation means and who may be responsible). Group 2 also suggested that “Contact for Implementation” be combined with “Parties Responsible for Implementation.” These comments are also applicable to “Parties Responsible for Monitoring, Enforcement, and Termination.”
- Category 20: Implementation – The data element “Planned and Actual Implementation Date” needs to take into account pre-existing IC instruments (i.e., how would a user indicate this in the data element fields provided?).
- Category 21: Monitoring – Group 2 suggested that “Document/Mechanism Requiring Monitoring/Inspection” permissible values should either be expanded to encompass more types of documents/mechanisms or be removed from the DED. If the data element remains, the title of the element should be changed to “Document/ Mechanism Type Requiring Monitoring/Inspection.” These comments are also applicable to



## ***Group 2 Breakout Summary Continued***

“Document/Mechanism Requiring Enforcement.” Group 2 also suggested that “Document/Mechanism Type” be replaced with “Name of Issuing Organization.”

- Category 21: Monitoring – As a general comment, Group 2 believed that conveying monitoring information is important in relaying the effectiveness and status of ICs to the public; however, the use and degree of inclusion of the data elements listed in the DED differed regarding the use of the DED for a system or a network. For a system, the group concluded that the use of all data elements would be important. For a network, the group believed that information relaying who is responsible for monitoring of the IC and when the IC had been monitored/inspected would be sufficient for inclusion.
- Category 23: Termination – Since many individuals/groups can initiate or propose the termination of an IC, Group 2 believed that the data element “Parties Responsible for Initiating Termination” should be removed from the DED.
- Category 24: Modification and its associated data elements should be moved and combined with Category 23: Termination.
- Category 29: Parcel Number(s) – Since the group envisioned that this information would be gathered under data elements associated with site information, they concluded to remove Category 29 data elements from the DED.

## **Group 3 Breakout Summary Report**

### *General Observations and Principles*

- All sequence numbers that are unique to this system should be system generated rather than entered by a user.
- There is a need to know who/which program entered the data. General discussion recognized that there might be different data from different programs and sometimes it may be for the same data element. There was concern that one program not be able to overwrite another program’s information (concern is that bad data might overwrite good data). There was less concern that users are able to see data from all sources.
- Including certain types of information (e.g., monitoring data) may provide a disincentive to some groups to participate in the network as it may result in enforcement actions if deadlines were not met in the self-reporting process.
- Concern was expressed about whether or not having a list of “possible data elements to exchange” would be transformed over time (by regulation or citizen pressure) into a list

### ***Group 3 Breakout Summary Continued***

of “required data elements.” This concern was first brought up by local representatives but was then seconded by many of the other participants.

- It was unclear to the group whether or not historical contamination information for the whole site should be maintained as part of the network. While participants agreed that this information is useful for other purposes, some participants felt that it was unnecessary to provide it. Participants did agree that contamination information relating specifically to the IC should be shared.
- The definition for “locality” under both site information as well as IC information was thought to be obtuse and poorly defined. This affects the use of multiple data elements such as “Locality Type,” “Locality Name,” “Locality Sub Type,” and “Locality Sub Type Name/Description.” After much discussion the group tabled the issue and requested that work be done after the conference to clarify this term. Because of this the group did not discuss, ratify, or delete any data elements that use the term “locality.”
- “Planned Implementation Date” - The definition for this term was somewhat obtuse, and the concept of a planned implementation date was very hard to define. Although participants understood the rationale for including the term, they felt that most times an accurate/useful date could not be provided since many times it takes years to get an IC into place. Including this data element could be a disincentive for people to participate because they might be worried about supplying a date that they knew at best was only a guess.
- Participants questioned whether or not there is a place to track people/organizations who are linked to the IC, but are not actual implementers - for example companies who are contractually bound to comply with an IC, but are not responsible parties or regulators.
- Participants wondered if the “Contact for Monitoring” wouldn’t be the same party as the “Contact for Implementation.”
- Participants in Group 3 did not discuss the GIS data elements on pages 40 - 55 of the Model DED.

#### ***Specific DED Comments***

Unless specifically modified or deleted by language below, Group 3 retained the IC information data elements, their definitions, permissible values, data type, and length as presented in the Model DED. Group 3 recommended dropping the data source “user drop-down menu” for all elements because it implied a certain type of system or screen design was being used.

- IC Sequence Number - data length needs to be longer than 7 characters.

### ***Group 3 Breakout Summary Continued***

- IC Instrument Sequence Number - delete this.
- IC Instrument Category - regarding permissible values, more information needs to be provided as to what these things are.
- Name of Issuing Organization - delete term and definition and replace with “Name of IC Issuing Organization - The government agency that authorized the use of the IC.” Definition source would also be modified because it no longer matches the term used in the EDR.
- Contamination Remaining - definition modified to read “The indication of contamination addressed by the IC remaining at the site/facility.”
- EPA Chemical Internal Tracking Number - delete in relation to contamination remaining.
- Chemical Abstracts Service Registry Number - retain for contamination remaining.
- Chemical Substance Systematic name - retain for contamination remaining.
- EPA Chemical Registry Name - delete for contamination remaining.
- EPA Chemical Identifier - retain for contamination remaining.
- Chemical Substance Type Name - retain for contamination remaining.
- Use Limitation - definition modified to read “Land or resource uses specifically prohibited by the IC.”
- Data Source Sequence Number - delete this.
- Data Source Type - delete term and definition and replace with “IC Document Type - The document that requires or describes the IC (e.g., AOC, Closeout Report, NFA, Statement of Basis, other).” The examples of document type should also include other types drawn from state or other federal programs to give a more complete flavor of what is being described.
- Data Source Name - delete term and definition and replace with “IC Source Document Title - The title of the document which requires or describes the IC.”

### ***Group 3 Breakout Summary Continued***

- Data Source URL/File - delete term and definition and replace with “IC Source Document URL - The URL address for the IC source document.” The data type should be alphanumeric with a 200 character length. In addition, the group discussed the need for this and the potential difficulties with keeping URLs current.
- New element - add “IC Source Document Date - The effective date of the IC source document.”
- Geographical Area Information Sequence Number - delete this.
- Site/Facility Description Sequence Number - delete this.
- Facility Identifier Type - modify term name and definition to read “Site/Facility Identifier Types - The type of site/facility identified.”
- Facility Identifier - modify term name and definition to read “Site/Facility Identifier - The identification number assigned by the EPA Facility Registry System or another system to identify a facility uniquely.”
- Specific Facility Identifier Type - delete this.
- Facility Site Name - modify term name and definition to read “Site/Facility Name - The official name for a facility covered by the IC.”
- Area Within Operable Unit - modify definition to read “The distinct area-type of contamination within operable unit, if applicable.” Add “Other” to list of permissible values.
- State Name - modify term name to read “State Name Where Site is Located.”
- Coordinate Description Sequence Number - delete this.
- Horizontal Accuracy Measure - definition requires measurement in meters and states may capture this data in feet.
- Conditions of Temporary IC Duration - modify definition to read “The text field used to specify conditions upon which the temporary IC duration is contingent.”
- Party Responsible for Implementation - modify term name and definition to read “Party Designated for Implementation - The party designated for implementation of the IC.” In

### ***Group 3 Breakout Summary Continued***

addition, the permissible values should be the same as the affiliation type from site contact. Data length should be more than seven characters.

- Planned Implementation date - the definition for this term is somewhat obtuse, and the concept of a planned implementation data is very hard to define. Including this term could be a disincentive for people to participate in the network.
- Contact for Implementation - modify definition to read “The contact related to implementation of the IC.”
- Party Responsible for Monitoring - modify term name and definition to read “Party or Parties Designated for Monitoring - The party or parties designated to monitor the IC.” In addition, the permissible values should be the same as the affiliation type from site contact. Data length should be more than seven characters.
- Add a new information category “Implementation Contact” and include the following data elements “Affiliation Types, Organization Name, E-Mail Address, Title, Mailing Address, Supplemental Address Text, Telephone Number, Telephone Exchange Number, and Telephone Number Type Name.”
- Delete the following Monitoring data elements and respective data - “Document/Mechanism Type, Document/Mechanism Requiring Monitoring/Inspection, Name of Issuing Organization, Document Name, Frequency of Monitoring/Inspection, Last Monitoring Event Date, Reporting Frequency of Monitoring/Inspection.”
- Monitoring Findings - modify data length to at least 200 characters.
- Party Responsible for Enforcement - modify term name and definition to read “Party Designated for Enforcement - The party designated to enforce the IC.”
- Delete the following Enforcement data elements - “Document/Mechanism Type, Document/Mechanism Requiring Enforcement, Name of Issuing Organization, and Document Name.”
- Contact for Enforcement - modify term name to read “Primary Regulatory Contact.”
- Delete the following Termination data elements - “Party Responsible for Initiating Termination and Party Responsible for Approving Termination.”

### ***Group 3 Breakout Summary Continued***

- Contact Related to Termination - modify definition to read “The contact related to termination of the IC.” In addition, include standard contact data elements such as Organization Name, Telephone Number, etc.
- Add a new data element under Information Category Modification - “Date of Modification.”

Unless specifically modified or deleted by language below, Group 3 retained the site information data elements, their definitions, permissible values, data type and length as presented in the Model DED.

- Location Address(es) - include the same level of detail as is being used for mailing addresses.
- Mailing Address - local governments may store addresses in a concatenated fashion.
- Hazardous Substance(s) for Entire Site - see discussion above for this information category.

### **Closing to Main Breakout Sessions of Workshop - Michael Bellot and Larry Zaragoza**

Michael Bellot closed the breakout sessions of the Workshop. To begin, Mr. Bellot reminded the attendees that the main purpose of the Workshop was not to reach a consensus but to gather ideas and move forward toward a common goal of coordinated IC tracking. Mr. Bellot also asked for suggestions for additional pilots involving data collection, data entry, or data sharing efforts that the attendees may have in mind. Finally, Mr. Bellot provided the attendees with a summary of the following main points identified through the Workshop:

- An IC network will need to be kept simple;
- There were concerns raised regarding external sharing of IC information that would be collected;
- There were concerns raised that the DED developed would be imposed on existing IC tracking systems;
- Consideration must be made for the different needs of an IC tracking “system” versus an IC tracking “network;” and
- Further, more focused discussion is needed to address data length, type, and meta-data associated with the data elements.

Mr. Bellot also asked the attendees for their thoughts and comments to be relayed back to management at EPA Headquarters. The following comments were presented:

- What will be the requirements for other systems?

- The May 8, 2003 DED included too many data elements, and a subset needs to be created.
- What level of resource implications will the national IC tracking network have at the local government level?

Larry Zaragoza also provided a brief overview of EPA's vision for the IC tracking network, which included two Internet interfaces. One interface would serve the public and provide IC information specific to their communities. This interface would serve as a window to ICs for the public. Community members would not have access to add or manipulate data. The other interface would serve regulators, including state, local, federal, and EPA stakeholders, and provide aid in the administration of ICs at sites and facilities. It would allow the various types of stakeholders with administrative IC responsibilities to populate and manipulate the IC data for which they are responsible.

At this point, EPA/OERR thanked all the participants, facilitators, and consultants and adjourned the official portion of the Workshop. EPA/OERR added that participants were also invited to attend the GIS-related presentations, to take place immediately after lunch.

### **Geographical Information System (GIS) Presentations**

#### *Tony Selle, EPA Region 8*

Tony Selle provided an overview of the EPA Region 8 Land Use Controls Information (LUCI) system. The LUCI system tracks the following categories of site information:

- remediation features;
- monitoring information;
- land use controls; and
- other site features (e.g., drainage, utilities, etc.) - these fields are mainly used by developers.

The fields within these categories include the following:

- site information;
- location;
- responsible parties;
- media;
- implementation status;
- monitoring;
- land use control description; and
- reference library, which provides a link to the actual document.

From the LUCI system, users can be directed to other databases and Web-servers as links to the original documentation and information gathered in the system.

The LUCI system also uses a spatial data engine (SDE) to store GIS information. This allows the user to view multiple layers of ICs that may be enforced at a site. Users have the option to zoom in from a map view to specific sites and IC layers, or use a drop-down list to navigate to a site of interest.

Mr. Selle concluded by sharing the following issues encountered by LUCI regarding public access:

- LUCI is currently only available through the EPA Region 8 Intranet.
- questions of budget and available management for operation of the LUCI system beyond the EPA firewall are currently being discussed.

Ron Whitfield and Brian Cantwell, Argonne National Laboratory

Ron Whitfield and Brian Cantwell demonstrated Argonne's preliminary GIS-based IC tracking system as developed for EPA ([http://gis.ead.anl.gov/Website/EPA\\_IC/viewer.htm](http://gis.ead.anl.gov/Website/EPA_IC/viewer.htm)). The system consists of multiple layers that allow the user to view IC information through several different methods. Users can zoom in from a map view to a particular area or site of interest and then use the buffer tool to show other related aspects of the associated IC information (e.g., overlay of the sites of concern with ICs, overlay of nearby impacts, etc.). For any particular site, users can view the following information:

- site data;
- IC information by instrument from IC Light;
- IC information by objective from IC Light;
- Record(s) of Decision;
- Fact Sheet(s); and
- Public Health Assessment(s).

Mr. Whitfield also explained that Argonne had encountered inconsistencies between the satellite aerial photographs and geospatial data used to generate the layers of the system. In many cases, the satellite and aerial photographs were found to be more accurate than the other geospatial data layers. This can present a major problem in the accuracy of the system. Correct and detailed delineations of the area of IC impact are important in avoiding stigmatization of non-impacted areas due to inaccuracy. If these inconsistencies are not corrected, misleading restrictions may result. Establishing good working collaborations with state and local stakeholders will be imperative to ensuring such mistakes are avoided by using the most accurate and current information.

Dave Wilson, EPA Region 5

Dave Wilson provided an overview of the EPA Region 5 Groundwater Evaluation and Optimization System (GEOS). GEOS is primarily used by RPMs and other types of managers in assessing the effectiveness of remedies employed at the sites for which they are responsible.



Through access with the GEODE database, GEOS can provide the following information:

- individual well information;
- concentration of contaminants in a well for a given time frame;
- ground water contours; and
- site location maps.

Presently, 3-D terrain models for all EPA Region 5 sites are available through GEOS, which can aid in illustrating the area of concern and the various levels of the aquifer. GEOS also has the capacity to overlay plume maps as an additional layer. Concluding, Mr. Wilson explained that GEOS serves multiple purposes such as: indicating incorrect statistical methods used by PRPs for Alternate Concentration Limits (ACLs), performing ground water surface modeling, and illustrating historical trends in data.

*Brendan Dooher, Lawrence Livermore National Laboratory*

Brendan Dooher provided a brief demonstration of Lawrence Livermore National Laboratory's GeoTracker, which he was involved in developing. GeoTracker tools are divided into two functions: public and regulatory. Through the GeoTracker system, public users can zoom in via a map to a site or area of interest and view the data associated with monitoring wells of leaking underground fuel tanks (LUFTs). Enforcement and regulatory stakeholders have the opportunity to enter data for new sites or manage existing sites in GeoTracker through a secure interface. Regulatory and enforcement stakeholders also have access to view the level of contamination and historical data in wells according to location.

GeoTracker uses HTML, rather than Java so that it can be used by any system. It also includes U.S. Geological Survey (USGS) quadrangle maps instead of aerial photographs and Tiger files. The system is still in development and new data are constantly being added.

GeoTracker can be found via the Internet at <http://geotracker.swrcb.ca.gov/>.

*Carolyn Offutt, EPA/OERR*

Carolyn Offutt demonstrated the Pennsylvania GIS Consortium's system, which EPA aided in funding. Through the various layers of the system, users can navigate from county-level to parcel-level and view the associated land records of that parcel.

*Lisa Jenkins, EPA/Information Management Data Quality Staff (IMDOS)*

Lisa Jenkins introduced the attendees to EPA's Window to My Environment Web page. On the Web page (found via the Internet at <http://www.epa.gov/enviro/wme>), users can find information regarding National Priorities List (NPL), air, Brownfields sites, and other types of cleanup sites in their community.

### **Workshop Closing - Michael Bellot**

In closing, Michael Bellot asked the attendees to continue to collaborate with EPA on the following items:

- use existing IC tracking systems as building blocks for a national system;
- develop greater structure to the interaction and collaboration of state and local stakeholders with EPA;
- pilot a small portion/preliminary model of the national IC tracking network to test and refine its standards;
- ensure ways to address the quality of data collected especially for avoiding misleading restrictions;
- develop answers to address historical data (e.g., how it will collected and by whom); and
- standardize the data elements for IC tracking.

## Appendix A: Workshop Participants

### IC Data Exchange Training and Workshop Participant Contact List May 12 – 14, 2003

Name	Title	Organization	Email
Susan Abston	Environmental Engineer	U.S. Army Environmental Center	<a href="mailto:susan.abston@aec.apgea.army.mil">susan.abston@aec.apgea.army.mil</a>
Elizabeth Bartlett	Environmental Engineer	EPA Region 4	<a href="mailto:bartlett.elizabeth@epa.gov">bartlett.elizabeth@epa.gov</a>
Michael Bellot	Regions 5-7 Accelerated Response Center	EPA/OERR	<a href="mailto:bellot.michael@epa.gov">bellot.michael@epa.gov</a>
Sheri Bianchin	RPM/IC Coordinator	EPA Region 5	<a href="mailto:bianchin.sheri@epa.gov">bianchin.sheri@epa.gov</a>
Nancy Blank	RPM/Tech Support	EPA Region 8	<a href="mailto:blank.nancy@epa.gov">blank.nancy@epa.gov</a>
Jane Bohn	Senior Specialist	Delta Environmental Consultants	<a href="mailto:jbohn@deltaenv.com">jbohn@deltaenv.com</a>
David Borak	Project Manager	ICMA	<a href="mailto:dborak@icma.org">dborak@icma.org</a>
Andrew Bracker	Brownfields Coord.	City of Kansas City, MO	<a href="mailto:andrew_bracker@kcmo.org">andrew_bracker@kcmo.org</a>
Donald Bruce	Chief, Post RA and Redevelopment Section	EPA Region 5	<a href="mailto:bruce.donald@epa.gov">bruce.donald@epa.gov</a>
Ned Burke	Economic Development Specialist, Brownfields	City of Denver, CO	<a href="mailto:ned.burke@ci.denver.co.us">ned.burke@ci.denver.co.us</a>
Brian Cantwell	GIS Programmer	Argonne	<a href="mailto:bcantwell@anl.gov">bcantwell@anl.gov</a>
Shah Choudhury	Program Analyst	DOD Cleanup Office	<a href="mailto:shah.choudhury@osd.mil">shah.choudhury@osd.mil</a>
Tim Crawford	Program Analyst	EPA/OEI	<a href="mailto:crawford.tim@epa.gov">crawford.tim@epa.gov</a>
Dave Crownover	Section Chief	PA DEP	<a href="mailto:dcrownover@state.pa.us">dcrownover@state.pa.us</a>
Ignacio Dayrit	Project Director	City of Emeryville, CA	<a href="mailto:idayrit@ci.emeryville.ca.us">idayrit@ci.emeryville.ca.us</a>
Brendan Dooher	Fellow, National Academy of Engineering	Lawrence Livermore National Laboratory	<a href="mailto:dooher1@llnl.gov">dooher1@llnl.gov</a>
Amy Edwards	Attorney	Holland and Knight	<a href="mailto:aedwards@hklaw.com">aedwards@hklaw.com</a>
Richard Engel	Head, Real Estate Base Closure and Land Use Support Section	Naval Facilities Engineering Command Engineering Command	<a href="mailto:engelra@navfac.navy.mil">engelra@navfac.navy.mil</a>

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Email</b>
Sherry Estes		EPA Region 5	<a href="mailto:estes.sherry@epa.gov">estes.sherry@epa.gov</a>
Maureen Findorff	Principal	SRA International, Inc.	<a href="mailto:maureen_findorff@sra.com">maureen_findorff@sra.com</a>
Bob Fitzgerald	RPM	EPA Region 9	<a href="mailto:fitzgerald.bob@epa.gov">fitzgerald.bob@epa.gov</a>
Dan Forger	Cost & Constructability Expert	EPA Region 2	<a href="mailto:forger.dan@epa.gov">forger.dan@epa.gov</a>
Ann Gardner	Paralegal	EPA Region 1	<a href="mailto:gardner.ann@epa.gov">gardner.ann@epa.gov</a>
John Hamill	BRAC COOR	EPA Region 9	<a href="mailto:hamill.john@epa.gov">hamill.john@epa.gov</a>
Matthew Hayduk	Project Manager	DynCorp/CSC	<a href="mailto:matthew.hayduk@dyncorp.com">matthew.hayduk@dyncorp.com</a>
Michael Hendershot	Counsel	EPA Region 3	<a href="mailto:hendershot.michael@epa.gov">hendershot.michael@epa.gov</a>
Craig Huber	Information Systems Engineer	Argonne	<a href="mailto:huber@anl.gov">huber@anl.gov</a>
Lisa Jenkins	Information Management Specialist	EPA/OSWER/IMDQS	<a href="mailto:jenkins.lisa@epa.gov">jenkins.lisa@epa.gov</a>
Carlos M. Lago	Regulatory Impact Analyst	EPA/OSW	<a href="mailto:lago.carlos@epa.gov">lago.carlos@epa.gov</a>
James Maas		EPA/OBCR	<a href="mailto:maas.james@epa.gov">maas.james@epa.gov</a>
Jan Martin	Environmental Scientist	EPA Region 4	<a href="mailto:martin.jan@epa.gov">martin.jan@epa.gov</a>
Sa'ad Masri	Senior Systems Integrator	DynCorp/CSC	<a href="mailto:sa'ad.masri@dyncorp.com">sa'ad.masri@dyncorp.com</a>
Brian Nishitani	Attorney	EPA Region 3	<a href="mailto:nishitani.brian@epa.gov">nishitani.brian@epa.gov</a>
Carolyn Offutt	GIS Manager	EPA/OERR	<a href="mailto:offutt.carolyn@epa.gov">offutt.carolyn@epa.gov</a>
Thomas M. Potter	Environmental Analyst V.	Massachusetts DEP	<a href="mailto:thomas.potter@state.ma.us">thomas.potter@state.ma.us</a>
Roger Register	Brownfields Liaison	Florida DEP	<a href="mailto:roger.register@dep.state.fl.us">roger.register@dep.state.fl.us</a>
Jude Roach	IT Specialist	EPA Region 7	<a href="mailto:roach.jude@epa.gov">roach.jude@epa.gov</a>
Nicole Roberts	Information Specialist	Delta Environmental Consultants	<a href="mailto:nroberts@deltaenv.com">nroberts@deltaenv.com</a>
Tony Selle	Data Team Leader	EPA Region 8	<a href="mailto:selle.tony@epa.gov">selle.tony@epa.gov</a>
Catherine Sharp		Oklahoma DEQ	<a href="mailto:catherine.sharp@deq.state.ok.us">catherine.sharp@deq.state.ok.us</a>
Colleen Sharpe	GIS Manager	City of Raleigh, NC	<a href="mailto:colleen.sharpe@ci.raleigh.nc.us">colleen.sharpe@ci.raleigh.nc.us</a>
Stacy Silva	Associate Environmental Analyst	DynCorp/CSC	<a href="mailto:stacy.silva@dyncorp.com">stacy.silva@dyncorp.com</a>

<b>Name</b>	<b>Title</b>	<b>Organization</b>	<b>Email</b>
Richard Sisk	Attorney	EPA Region 8	<a href="mailto:sisk.richard@epa.gov">sisk.richard@epa.gov</a>
Susan Sladek		EPA/OERR	<a href="mailto:sladek.susan@epa.gov">sladek.susan@epa.gov</a>
Stephen Merrill Smith	Principal Policy Analyst	DynCorp/CSC	<a href="mailto:stephen.smith@dyncorp.com">stephen.smith@dyncorp.com</a>
Michael Sowinski	Environmental Attorney/Engineer	DPRA	<a href="mailto:michael.sowinski@dpra.com">michael.sowinski@dpra.com</a>
Robert Stout	Superfund Program Planner	Missouri DNR	<a href="mailto:nrstour@mail.dnr.state.mo.us">nrstour@mail.dnr.state.mo.us</a>
Roy Tan	Project Manager	Parsons/AFRPA	<a href="mailto:roy.tan@parsons.com">roy.tan@parsons.com</a>
Rebecca Thomas	Project Manager	EPA Region 8	<a href="mailto:thomas.rebecca@epa.gov">thomas.rebecca@epa.gov</a>
Tim Underwood	Senior Manager	Bearing Point/AFRPA	<a href="mailto:tunderwood@bearingpoint.net">tunderwood@bearingpoint.net</a>
Joe Vescio	Environmental Protection Specialist	EPA/OUST	<a href="mailto:vescio.joseph@epa.gov">vescio.joseph@epa.gov</a>
Elaine Warren	City Attorney	City/County of San Francisco, CA	<a href="mailto:elaine.warren@sfgov.org">elaine.warren@sfgov.org</a>
Ron Whitfield	Decision Scientist	Argonne	<a href="mailto:rgwhitfield@anl.gov">rgwhitfield@anl.gov</a>
Dave Wilson	RPM/Superfund GIS Analyst	EPA Region 5	<a href="mailto:wilson.david@epa.gov">wilson.david@epa.gov</a>
Larry Zaragoza	Director Regions 5-7 Accelerated Response Center	EPA/OERR	<a href="mailto:zaragoza.larry@epa.gov">zaragoza.larry@epa.gov</a>