RCRAInfo
Change Management Process
Version 2
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RCRAInfo Change Management Coordination Group

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BACKGROUND

In the mid 1990's, EPA and the States began an ongoing partnership, with a goal of making information management an integral part of the RCRA program. This joint EPA and State effort was called the WIN/INFORMED initiative. Formed by joining separate EPA and State initiatives, WIN/INFORMED stood for: WIN (Waste Information Needs) and INFORMED (Information Needs for Making Environmental Decisions). WIN/INFORMED sought to incorporate information management into RCRA Subtitle C program development, program implementation and evaluation to facilitate use and reporting of RCRA data.

As the WIN/INFORMED process came to an end, the Change Management Process (CMP) was developed to replace WIN/INFORMED and become the means for all future changes to the data system. The WIN/INFORMED Executive Steering Committee approved the RCRAInfo Change Management Process document on July 28, 2005. To learn more about the WIN/INFORMED initiative and history of the RCRAInfo CMP, please refer to the first RCRAInfo Change Management Process Final Document, November 14, 2005 in RCRAInfo at https://rcrainfo.epa.gov/rcrainfo/newsalerts/change_management/cmp_documentation/cmp_final.pdf.

INTRODUCTION

In 2008, the Management Board requested an evaluation of the Change Management Process (CMP) by the Coordination Group (CG) to identify process improvements. The CG has worked closely with EPA to improve the CMP to ensure it:

- Represents the interests of the user community,
- Tracks and implements changes in a timely manner,
- Evaluates changes prior to implementation, and
- Integrates with RCRA program and development activities.

Furthermore, changes are prioritized and coordinated, and actions/decisions are effectively communicated to the user community.

This document outlines the revisions needed to address these concerns in order for the CMP to continue to be effective into the future as well as identifies the purposes of change management, and the value it provides to the Information Technology (IT) system development process. The CMP as first defined in the July 2005 *RCRAInfo Change Management Process* document, along with lessons learned since the creation of that document, provide the basis for the revisions in this document.

This revised Change Management Process document was developed as a collaborative effort between State, EPA Regional, and EPA Headquarters (HQ) representatives to provide a framework for managing changes within RCRAInfo. Recognizing RCRAInfo as jointly owned by EPA and the States, these representatives developed the CMP to reflect this continuing collaboration.

The CG serves as the ***keystone*** for the CMP with the responsibility of representing varying viewpoints of the user community. Expert Groups provide valuable technical insight into major issues, and act as sounding boards to help the CG formulate its recommendations.

One significant change to the CMP involves the Design and Implementation Group. The original concept of a Design and Implementation Group was split into two separate groups, depending on whether there is a major system change: 1) The Design Team to focus on the design of the system. This group is made up of State, Regional, and HQ representatives. 2) The RCRAInfo Team to focus on system development. This group is made up of the EPA HQ Office of Resource Conservation and Recovery (ORCR) RCRAInfo Team. When there is no major system change, design and implementation issues are handled by the RCRAInfo Team.

CHANGE MANAGEMENT

Change is the only constant in any IT System Development process. Managing those changes and communicating the implementation of those changes to customers of the system is a core concern of any system owner. RCRAInfo is fortunate to have a history of collaboration between the States and EPA regarding management of the system. The RCRAInfo CMP must continue to represent the user community and balance the needs of the RCRA Program between EPA Headquarters, EPA Regions, and the States.

Changing a data system to reflect a dynamic hazardous waste program is one challenge that the CG and the Expert Groups continue to address. Particularly, the coordination between developing a rulemaking or guidance document, defining data needs for new program requirements, and implementing system changes to reflect new needs is very difficult. Because many steps in the regulatory process require soliciting and addressing public comments, the program requirements and associated data needs can change through the rulemaking process. In addition to changing the forms used to collect data, EPA must obtain approval from the Office of Management and Budget through the Information Collection Request process, which also requires notice and comment from the public. Consequently, the CMP must be continuous and flexible to address these coordination needs. The RCRAInfo CMP, however, is not designed to vet programmatic issues that have not reached consensus among EPA and State program staff. Programmatic issues should already have been discussed in their respective programmatic workgroups, and those workgroups should have a final decision prior to the change entering the CMP.

Purpose of Change Management

Change management is necessary to prioritize allocation of limited resources to maximize user needs and to help ensure changes remain consistent with the system's core mission. Change management also ensures changes are balanced against increased workload for users and additional system complexity. Added workload and complexity increases the costs for data entry and general maintenance of the system for EPA HQ. Change management should also provide a mechanism for prioritizing any change: ensuring critical changes are made first, followed by low priority changes, which are collected and implemented on a set schedule. Change management is a collaborative process, which requires representative involvement from as many stakeholder groups as is feasible. In order for change management to work, close coordination between all major groups is imperative, especially between the CG and the RCRAInfo Team or Design Team, if present.

Who Contributes to Change Management?

Anyone in the RCRA Subtitle C user community can contribute to change management. The CMP is designed to provide changes with one main entry point into the process. The User Support Issue Tracking System (USITS - a component of RCRAInfo) provides a mechanism for users to submit change requests. Any user can submit a USITS request. In addition, any user can comment on recommendations for addressing change requests that undergo national review through the CMP National Review process.

The CMP also consists of representative groups that evaluate changes and makes recommendations. The core groups within the CMP are:

- Coordination Group
- Expert Groups
- Translation Group
- RCRAInfo Team (or Design Team, when in place)
- Management Board

Each core group (except the RCRAInfo Team) consists of State, EPA Region, and EPA Headquarters representatives. The RCRAInfo team consists solely of EPA HQ ORCR staff. These groups and their roles are further defined later in this document.

Any Federal or State member of the user community may voluntarily participate in the other groups (except the Management Board which consists of senior State and Federal staff only). CMP groups are always looking for new individuals to participate. Each user has a unique perspective on how best to implement RCRAInfo. Typically, these perspectives are based on experiences. This wealth of knowledge and experience among RCRAInfo users means it is critical for the user community to be engaged with these groups as much as is practicable.

How Decisions are Made

The philosophy of the CMP for managing changes will be: no decision made about a change will be final until the change has been implemented. Changes are often not fully understood until they begin to move through the process. During the design phase, the RCRAInfo Team or Design Team may determine a change is infeasible or another consideration must be evaluated prior to further design and implementation. This means the term ‘Decision’ is replaced in the CMP with the term ‘Recommendation’. Recommendations are open for review throughout the process and meant to be communicated among CMP groups. This will also include an opportunity for the entire user community to comment on recommendations via National Review when appropriate.

The USITS System Administrator has the discretion to determine which changes or issues are forwarded to the CG; not all changes will require CG review. For example, minor changes (i.e. bug fixes, technological upgrades, or updating user documentation) do not require CG review.

Final recommendations are made by consensus after close coordination and discussion between the CG and RCRAInfo Team or Design Team. Recommendations generated by the RCRAInfo Team or Design Team will be sent to the CG for evaluation and concurrence. Certain changes may be of such significance (either in resources or impact) to require Management Board review. The CG is responsible for determining if a change requires Management Board review. Major changes to the CMP process, including this document, should always undergo Management Board review.

WORKGROUPS WITHIN CHANGE MANAGEMENT

The Change Management Process is made up of several workgroups that support each other during the review process and provides multiple opportunities for input on any CMP change. It is important for these workgroups to reflect the diversity of stakeholder viewpoints and for members to understand they speak for the entire country and not just their particular state or region. The goal in decision making for each Group is consensus. If consensus is not possible, majority vote will prevail. Membership in any workgroup is voluntary; however, members should actively participate, and it is recommended that members receive management support for participation.

CMP Groups will primarily meet through conference calls, which occur monthly or as needed. Occasional face-to-face meetings of a CMP Group may be scheduled. Face-to-face meetings will typically be scheduled at national RCRAInfo User Conferences, which CMP participants are encouraged to attend.

Coordination Group (CG)

The Coordination Group represents different perspectives about RCRAInfo and actively seeks input from the user community. The CG should strive to maintain a balanced representation from EPA HQ, EPA Regions, and States, consisting of no more than 12 members with a minimum of 4 State members. One State member may be the Chair of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Hazardous Waste Program Information Management Task Force. The CG has developed a member replacement strategy (see Appendix C) and will recruit new members as necessary to ensure ongoing participation by the user community and full State and EPA representation.

The CG evaluates user requests, distributes user requests to Expert Groups for evaluation, facilitates Expert Group discussions, makes recommendations on user requests, evaluates recommendations from the RCRAInfo Team or Design Team, facilitates National Review, formulates recommendations, and works with the RCRAInfo Team or Design Team to communicate changes to the user community. There are several key positions within the CG:

1. **CG Co-Chair (EPA)**: A Regional representative, the co-chair is responsible for setting the meeting agenda, tracking action items, facilitating CG meetings, providing process guidance to the CG, and actively recruiting new EPA members as vacancies open. This co-chair has oversight responsibility for internal review (i.e. Expert Group reviews, design reviews, and implementation reviews). The EPA co-chair works closely with the State co-chair and the USITS administrator to determine which items need to be on the CG agenda, and tracks CG recommendations and user requests.
2. **CG Co-Chair (State):** A State representative, the co-chair is responsible for coordinating user input and ensuring the CG agendas reflect the needs of the user community. The co-chair has oversight responsibility for National Review and works closely with the RCRAInfo Team to coordinate timing and communication of National Review items. This co-chair will actively seek new members to fill state vacancies.

3. **USITS System Administrator (SA)**: a member of the RCRAInfo Team and one of the HQ/ORCR CG representatives. The SA is responsible for reviewing and transferring all USITS issues requiring review by the Change Management Process to the Change Management Module (CMM). The SA may also need to forward any relevant background information to the CG. The SA is responsible for maintaining the CMM, which will be used to track any change request that is being monitored by the CG or as they transfer between the CG, Expert Groups, and the RCRAInfo Team or Design Team. The CMM tracks the original request, any recommendations made by Expert Groups, CG recommendations, the priority and estimated level of effort required to implement a recommendation, design and implementation reviews, National Review, and final disposition. The SA is also responsible for assisting EPA HQ users with USITS to facilitate submission of change requests.
4. **CG Member**: Members of the CG are responsible for attending monthly meetings, reviewing all change requests, participating in request categorization, researching relevant USITS items, seeking input from the user community, and assisting in finding new members to fill vacancies. To aid communication between the CG and Expert Groups, members of the CG may be assigned a liaison role to a particular Expert Group. As liaisons, CG members may facilitate and/or lead Expert Group meetings. CG members in an expert group liaison role are responsible for effectively communicating issues and recommendations between the Expert Group and the CG. Liaisons may also help facilitate discussion or document recommendations. CG members will monitor and evaluate the Change Management Process and propose process adjustments when necessary.

Expert Groups

The purpose of an Expert Group is to provide insight into USITS issues and provide guidance to the CG. Expert Groups act as subject matter experts for the CG by evaluating change requests directed to them for review and analysis. Representing program management and information management staff, each Expert Group should strive to maintain a balanced representation from EPA HQ, EPA Regions, and States, consisting of no more than 8 members with a minimum of 3 State members. Expert Groups participate in monthly conference calls or as needed. Each will choose a lead and co-lead to facilitate meetings and discussions. A change request that requires national review will be referred to an Expert Group.

Expert Groups provide in-depth analysis of change requests within their specific program areas (see Appendix B). Additional duties include: reviewing Lookup Table values when requested by the CG, RCRAInfo Team and/or Design Group; volunteering for Design Team membership when appropriate; assisting with National Review and conference sessions; testing and evaluating system changes; recommending data needs to implement a rulemaking or guidance document; and recommending how best to capture data needs on forms. Expert Groups have access to the Change Management Module and will receive a list of all issues referred to Change Management for group review, analysis, and recommendation. The seven Expert Groups by program area are:

- Corrective Action Group: reviews programmatic Corrective Action issues forwarded through the CMP.

- Compliance/Enforcement Group: reviews programmatic Compliance, Monitoring, or Enforcement issues forwarded through the CMP.

- Financial Assurance Group: reviews Financial Assurance and related issues forwarded through the CMP.

- GIS (Geographic Information Systems) Group: reviews GIS related issues and topics.

- Permit/Closure Group: reviews programmatic Permitting or Closure issues forwarded through the CMP.

- Site Identification Group: reviews specific site information issues such as Notification or Part A collection forwarded through the CMP.

- Waste Activity Group: reviews issues related to the collection of hazardous waste activity data, like information found on the RCRA Biennial Hazardous Waste Report.

Translation Group

Members of the Translation Group (TG) must be knowledgeable about current RCRAInfo translation operations, procedures, and requirements so they can evaluate translation issues in change requests. Acting as consultants to other CMP groups, the TG reviews all translation aspects of a specific change request. The TG's assessment of the recommendations will be provided to the CG and Expert Group(s). The group should strive to maintain a balanced representation from EPA HQ, EPA Regions, and States, consisting of no more than 8 members with a minimum of 3 State members from current or planned State translators and an EPA Region with translator states. This group could also include 1 HQ/OEI/CDX member.

Some states translate a portion of their data into RCRAInfo. The Translator Group reviews change requests/issues that will affect translator systems. The TG group will:

- Obtain input from current RCRAInfo Translator States, and
- Assist with advance notification of translator states of a major system release.
- Ensure **Translator States will not be required to modify their systems to accommodate RCRAInfo changes more than once each year.** All translation guidance changes developed by the TG will be available to Translator States approximately six months prior to implementation in RCRAInfo, to allow sufficient time to implement the changes to the State's translation routines. Critical bugs are the only exception to the yearly update and six-month notice.

RCRAInfo Team

The EPA HQ RCRAInfo Team's core responsibility is to implement CG and Design Team recommendations. The RCRAInfo Team responds to all USITS changes and implements bug fixes, technology upgrades, and changes to user documentation that does not go through the CG. All RCRAInfo changes that would normally require a CG review must undergo that review prior to implementation by the RCRAInfo Team.

The RCRAInfo Team will review CG recommendations. If a recommendation is not technologically feasible, is in conflict with Program Guidance, or would negatively impact RCRAInfo or the user community, the RCRAInfo Team will provide feedback to the CG for reevaluation of the recommendation. The System Administrator will act as a liaison between the CG and the RCRAInfo Team to ensure mutual communication of concerns or recommendations.

If a conflict arises between the CG and the RCRAInfo Team regarding any change or recommendation, the CG Co-Chairs will schedule a specific discussion to evaluate the issue. These discussions will include CG and RCRAInfo Team members to facilitate a full discussion. If a resolution is not reached, the RCRAInfo Team Manager, CG Co-Chairs, and SA will make a final determination. If the issue cannot be resolved, it may be elevated to the Management Board for a discussion.

Design Team

The Design Team will not be a standing body in the same way that the other CMP groups are, but more as an extension of the RCRAInfo Team. A Design Team will be formed during periods of major system releases (e.g. RCRAInfo Version 4.0 to Version 5.0). Structure changes, which would result in a new version of RCRAInfo, require formation of a Design Team. When to convene a Design Team will be determined through coordination between the CG and EPA HQ. The Design Team will consist of State, EPA Regional, and EPA HQ staff and may include several individuals who serve on the CG or Expert Groups, which will help to facilitate continuity in decision-making. Design Team participation will be voluntary. The CG or the RCRAInfo Team may recommend members.

The Design Team's core responsibility is to facilitate the 'Design' stage of the Systems Development Lifecycle. The Design Team determines: the proposed look-and-feel of user forms, the data elements and their placement on standard paper forms, database table design, system data flow, and scopes out reporting capabilities. The Design Team is intended to capture all change requests and resulting recommendations for a specific time period. Many of these changes will have recommendations from the CG. The Design Team will evaluate all of these recommendations and open USITS issues within the context of the major system change. As a Team, they will determine how to implement recommendations and may also determine that a specific recommendation should not be implemented. The Design Team will be responsible for communicating with the CG about any new changes that resulted from the design phase, as well as modifications of any CG recommendations. The System Administrator has a key role in ensuring this communication between the Design Team and the CG.

If a conflict arises between the CG and the Design Team regarding any change or recommendation, then the CG Co-Chairs will schedule a specific discussion to evaluate these changes. These discussions will include both the CG and Design Team to help ensure a full discussion takes place. If a resolution is not reached through this process, the RCRAInfo Team Manager, together with the CG Co-Chairs and the SA will make a final determination, after considering all relevant points. They may also consider elevating the issue to the Management Board for discussion.

During periods when a Design Team is in place, the Design Team will be responsible for creating the High Level Design document and initiating National Review. The Design Team will work closely with the CG Co-Chairs to determine when best to schedule a National Review and its duration.

The Design Team creates the Response to Comments Document as a result of National Review. Once the Response to Comments has been created, a Consolidated High Level document will be produced that includes all changes approved, changed, or added as a result of National Review.

Management Board

The purpose of the Management Board is to provide oversight of the entire Change Management Process. The CG Co-Chairs and RCRAInfo Team Manager will schedule briefings for the Management Board every 6 months or as needed.

This group will have six members (3 States, 1 Region, 1 HQ/ORCR and 1 HQ/OECA); all key Senior RCRA Subtitle C Managers within their organizations. HQ/ORCR and HQ/OECA members will be Division Directors or Associate Division Directors. The Regional EPA representative will be a Senior Manager responsible for leading all RCRA Subtitle C program activities in the RCRA Lead Region. State representatives will be the Chair and Vice-Chair of the ASTSWMO Hazardous Waste Subcommittee and a State Senior Manager designated by the Subcommittee Chair. Generally, this group will be called upon to evaluate and approve a change request when a conflict arises which cannot be resolved by consensus. The Management Board will support implementation of the CMP and communicate with the RCRAInfo user community regarding changes in information flows to state management through the Performance Partnership Agreement (PPA), Enforcement Response Policy (ERP) or other guidance, policies and agreements.

In their role as CMP implementation supporters and communicators, Management Board members are encouraged to develop a basic familiarity with the RCRAInfo data system and how it works. For example, maintaining a RCRAInfo user ID and password will allow each Management Board member unlimited access to information and documents posted in RCRAInfo.

The Management Board may be asked to evaluate and approve a change request recommendation if implementation will require significant resources at all levels (EPA HQ, Regions, and States). Certain changes may be of such significance either in resources or impact that they require Management Board review.

If a conflict arises between the CG and the RCRAInfo Team or Design Team regarding any change or recommendation and resolution is not reached through full discussion by the two groups, the Management Board may be consulted for a recommendation.

USER COMMUNITY ROLES AND RESPONSIBILITIES

Each member of the RCRAInfo user community has a role in making the Change Management Process successful. The roles and responsibilities of the CMP Groups are specified in the description of those groups and the CM process. This section enumerates some of the roles and responsibilities of the remainder of the user community.

Entire User Community

- Follow the formal CMP to submit change requests or suggestions in USITS for RCRAInfo improvements and modifications.
- Actively participate in the change management process by responding to review requests or volunteering for a Change Management Group when there is a vacancy.

RCRA Program Managers

- Be active users of RCRAInfo data and RCRAInfo data quality tools and reports regardless of agency or location (EPA HQ, EPA Regions, and States).
- Use the CMP to request adjustments and enhancements to programmatic activity tracking and ongoing reporting of GPRA accomplishments, to help ensure RCRAInfo data presents a comprehensive picture of RCRA Subtitle C program activities and accomplishments.

State and Regional RCRAInfo Leads

- Regional RCRAInfo leads are responsible for coordinating and consulting with their state RCRAInfo leads.
- Work with their region or state about specific programmatic data needs and advise them of potential or approved RCRAInfo changes that will affect program data.
- Attend all RCRAInfo National Conferences.
- Provide ongoing orientation and training to regional or state program and information management staff to encourage continued use and understanding of the data system.
- Regional and State RCRAInfo leads are among the primary communications specialists for the CMP.
- Train and assist region or state RCRAInfo users with USITS to facilitate submission and tracking change requests.
- Routinely monitor USITS requests and provide appropriate feedback and/or inform their region or state of potential changes as appropriate.

- Regional and State RCRAInfo Leads should be proactive in responding to requests for comments from HQ or the CG and in testing RCRAInfo to uncover potential problems. If unable to perform these tasks, Leads should designate someone within their organization to accomplish them. It is critical to the success of RCRAInfo for users to take time to review potential changes to software and procedures and provide feedback. The momentum and partnership gained from the collaborative efforts of the WIN/INFORMED workgroups need to continue.

- Regional and State RCRAInfo Leads are responsible for notifying the CG when the program or data entry contacts change for their organization. To ensure accuracy, please send the entire list of contacts each time a change is made. The current lists of contacts are available in RCRAInfo under News Alerts and General Documentation. It is important to keep these lists up-to-date since they will form the basic list of contacts for the CG Expert Groups to contact program and/or data entry contacts via e-mail with messages targeted to their area of expertise. These messages may ask for comment on draft recommendations, transmit final recommendations, or alert users of an issue they need to be aware of.

CMP Group Member Selection Process

The CMP Group Member and Replacement Strategy (see Appendix C) will consider a staggered replacement approach to ensure that there is always a person knowledgeable of the group responsibilities.

The general strategy developed to populate CMP Groups consists of these provisions:

- Fill CMP groups with a mix of experienced programmatic, technical and management personnel from States, EPA Regions, and EPA HQ to ensure a diversity of viewpoints and experiences.

- Each State or Region may have no more than one representative on a specific CMP Group. EPA HQ will have more than one representative on some CMP Groups because of the need to represent different programmatic requirements and views of offices within EPA Headquarters (e.g., ORCR vs. OECA).

INITIATING THE CHANGE MANAGEMENT PROCESS

Accessible on the RCRAInfo Main Menu, USITS is the tool for the entire user community to initiate a request for change. As users enter change requests into USITS, they are reviewed by the USITS System Administrator (SA) and categorized into the appropriate change management types:

Type 1: Issue requires structure change and requires National Review.
Type 2: Issue does NOT require structure change and may require National Review.
Type 3: Issue does NOT require structure change and does NOT require National Review.

Table 1 indicates how these types of changes were determined by combining answers to two questions: 1) Would the change require national review? 2) Would the change require a structure change to RCRAInfo? All changes requiring a structure change would also require national review.

An example of a Type 1 change is: adding a new data element or a new column to a table. An example of a Type 2 change is: adding a new national event code to the Corrective Action module. Examples of Type 3 changes are: bug fixes, technology upgrades, and changes to user documentation.

<table>
<tr><td colspan="2" rowspan="2"></td><td colspan="2">Does Change Require National Review?</td></tr>
<tr><td>YES</td><td>NO</td></tr>
<tr><td rowspan="2">Does Change Require a RCRAInfo Structure Change?</td><td>YES</td><td>Type 1 changes</td><td>N/A</td></tr>
<tr><td>NO</td><td>Some Type 2 changes</td><td>Some Type 2 changes
Type 3 changes</td></tr>
</table>

Table 1: Change Types

Process for Changes/Recommendations

Groups established under change management will work together to facilitate input from the user community. The most important goals of change management are to ensure users are well represented and the system is meeting the needs of the RCRAInfo user community. The change management process has been established to ensure:

- Sound decisions are made,
- Recommendations are implemented in a timely manner, and
- Recommendations are effectively communicated among varying groups.

Below is a step-by-step description for the recommendation process. The core difference between this process and the one described in the July 2005 *RCRAInfo Change Management Process* document is the establishment of feedback loops between CMP groups during the decision making process and the occurrence of National Review. Figure 1 provides a graphical representation of the recommendation process.

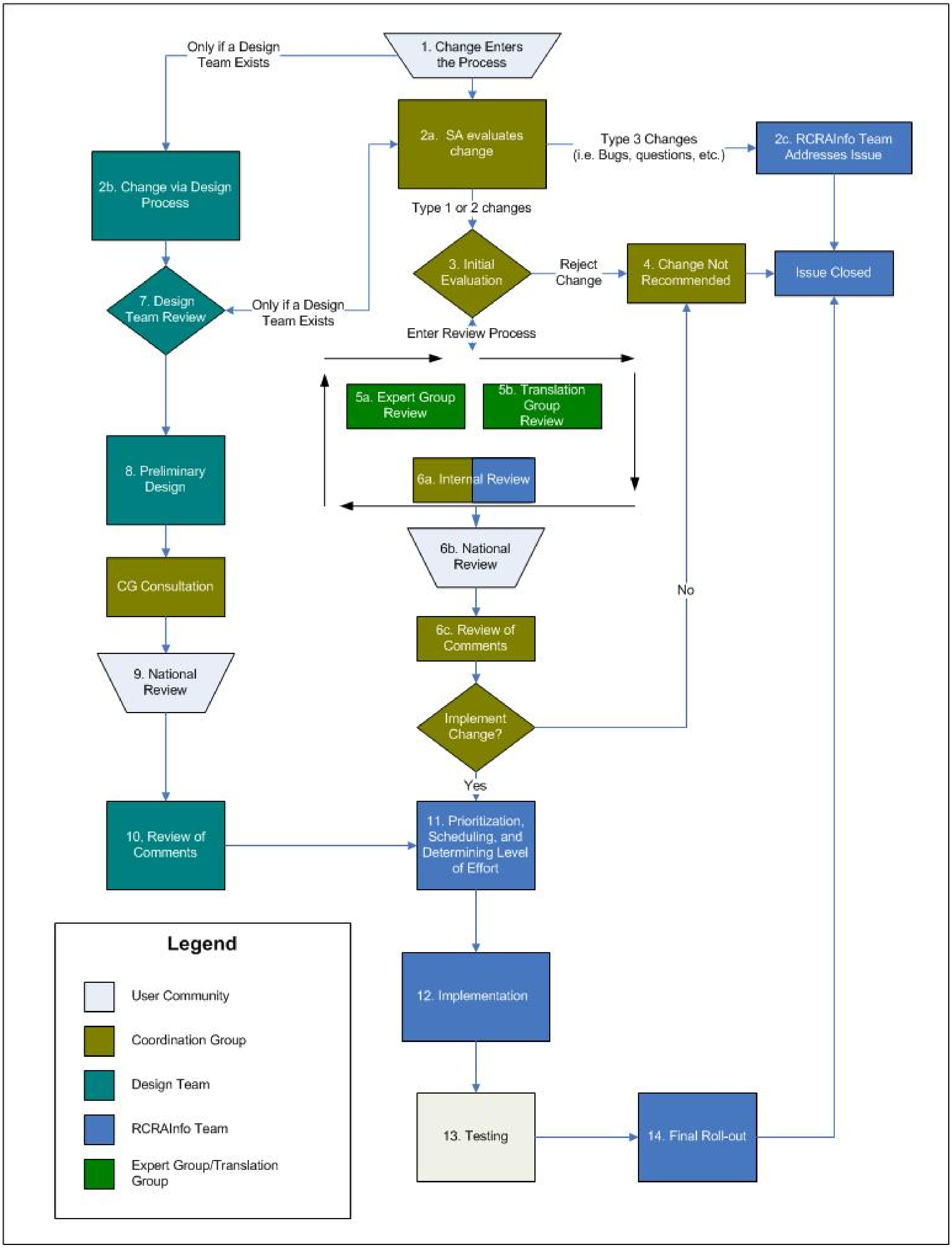

Figure 1: Change/Recommendation Process

STEP-BY-STEP PROCESS

The process must be adaptable, depending on whether or not the system is undergoing a major revision. With one exception, changes enter the process through USITS and are funneled to the CG by the System Administrator. The exception: during periods of major revision, changes may come directly from the Design Team and then be communicated to the CG. When there is not an active Design Team, ALL changes of types 1 and 2 must first be evaluated by the CG.

The types of changes are:

- Type 1: Issue requires structure change and requires National Review.
- Type 2: Issue does NOT require structure change and may require National Review.
- Type 3: Issue does NOT require structure change and does NOT require National Review. Typical Type 3 changes are bug fixes and technology upgrades.

When possible, change requests will be bundled, which means similar change requests will be evaluated, assigned a priority and scheduled for handling as a group. Implementation will then be scheduled to facilitate the handling of a group of change requests at one time. Several criteria will be used to help determine the priority of changes including primarily the nature or severity of the issues, the resources available, and the impact of the change (bug fixes will always be a priority), as well as other criteria that may present themselves. As priorities are set, those are communicated back to the requestor (and essentially the entire User Community) via USITS.

Step 1 - A Change Enters the Process

Most changes enter the process by the User Community through USITS, but some changes may also be generated by the Design Team.

Step 2a - System Administrator Evaluates the Change

The SA determines whether to send the change to the CG for review. Typically these will be Types 1 and 2 of the three change types. Type 3 changes may not require CG Review. If the SA determines a change will be sent to the CG, the SA will enter relevant information into USITS to provide sufficient tracking of the change. Prior to the monthly CG call, the SA will generate a report of the new issues forwarded for review since the last CG meeting.

Step 2b - Change as a Result of the Design Process

Changes introduced by the Design Team during the design process will be included in the High Level Design. Changes not reviewed by the CG will be flagged as such. The CG will have an opportunity to evaluate and discuss these changes for a minimum of one week before National Review of the High Level Design.

Step 2c – RCRAInfo Team Evaluates Type 3 Change Requests

USITS issues not requiring CG review (Type 3 changes) are reviewed by the RCRAInfo Team for analysis, resolution, and implementation.

Step 3 - CG Initial Evaluation

The CG reviews and evaluates change requests and may make one of three recommendations:

1. Recommend evaluation by an Expert Group (go to Step 5a)
2. Recommend implementation (go to Step 12)
3. Recommend against implementation (go to Step 4)

There are times when USITS issues are placed on hold due to a variety of reasons: resource constraints, waiting for legislation, lack of information, or another version taking precedence.

Step 4 - CG Change Not Recommended

The CG may recommend rejection of a change request. If a change request is rejected, the CG will document this decision. USITS will be updated to reflect the decision. The user who made the request will be notified of the decision by an automated e-mail from USITS. If further action is necessary, a new USITS issue may be created by the requester. Alternatively, before creating a new USITS issue, the requester may contact the closer of the issue to discuss further and/or contact their data lead or system administrator to discuss further.

Step 5a - Expert Group Review

One or more Expert Groups may be asked to review a specific change request. Each Expert Group will make a written recommendation about implementation (also updating the Change Management Module), stating whether to implement the change and how to implement the change, considering all the potential impacts to RCRAInfo. (See Appendix B for a list of criteria to be considered and documented in the recommendation.) This includes any changes to currently available reports. An Expert Group recommendation will be presented to the CG for review by the Expert Group's CG liaison. The CG may still recommend rejection of a change request based on an Expert Group review. If the CG determines to reject a request following an Expert Group review, the same documentation process described in Step 4 will be followed.

Step 5b – Translation Group Review

The Translation Group will act as a consultant to the CG and Expert Groups and can be called on at any time to provide advice on a recommendation. All structure change recommendations will be routed to the Translation Group once the Expert Groups have completed their recommendation and before the recommendation is sent to the CG for final review before National Review.

Step 6a – Internal Review of Recommendation

Once the Expert Groups have completed their review and written their recommendation, both the CG and the RCRAInfo Team will review the recommendation prior to National Review to ensure the completeness and feasibility of the recommendation. If needed, the recommendation may be sent back to the Expert Groups for further review and modifications. The recommendation continues in this feedback loop until it is ready for National Review.

Note: some Type 2 recommendations do not need National Review and will therefore be transferred directly to the RCRAInfo Team for scheduling and implementation (see Step 11).

Step 6b - National Review of Recommendation

For changes which have been determined to need national review, the Expert Group will prepare the recommendation for national review and submit it to the CG for review. Once the recommendation is approved by the CG, the CG will send the recommendation to the user community for review and comment. The Expert Group will review any comments received and will forward the analysis of the review to the CG.

Step 6c – Review of Comments

After the National Review period, the Expert Groups will address any comments and modify the recommendation if necessary. The Expert Groups will finalize the recommendation and coordinate with the CG for implementation. A Response to Comment document will be prepared by the Expert Groups and a revised Recommendation will be posted to let the user community know what will be in the final implementation.

Step 7 - Design Team Review (Design Team in place)

An active Design Team will be put into place when a structure change/major release is required. The CG will forward its recommendations to the Design Team. As part of its process, the Design Team will evaluate all recommendations received by a specific date set by the Design Team to focus on changes included in the next major system design. The Design Team must have the ability to set a specific date by which changes will be introduced for inclusion in the next major release. This must be done to keep the major release on schedule. The Design Team will provide feedback to the CG regarding any recommendation that will be changed or not implemented. The Design Team will work with the CG to develop a preliminary design (see Step 8). For any change request that will not be implemented, the documentation process outlined in Step 4 will be followed.

Step 8 - Preliminary Design (often referred to as the High Level Design)

The Design Team performs a preliminary design on how a recommendation would be implemented. This design is developed before the change is implemented. The design is communicated to the CG to inform them of proposed system changes. Following a preliminary review, as mentioned in Step 2b, the Design Team will begin National Review of the preliminary design. National Review of the preliminary design will usually apply to Type 1 changes that require a RCRAInfo structure change. National Review requirements for designs applying to Type 2 changes, which do not require a structure change, will be determined by consultation of the CG with the RCRAInfo Team.

Step 9 - CG/National Review High Level Design Document

The CG will conduct a preliminary review of the design documentation and will facilitate High Level Design review by all the Expert Groups including the Translation Group. The CG will verify if the design meets the intent of the recommendation. The CG will communicate any comments to the Design Team. Once the CG review time ends, the Design Team will coordinate National Review by the full user community and respond to comments made during National Review.

Step 10 – Review of the High Level Design Comments

After the National Review period, the Design Team will address any comments and modify the design if necessary. The Design Team will finalize the design and provide a copy to the CG one week prior to posting the pertinent documents in RCRAInfo under Documents. A Response to Comment document will be prepared by the Design Team and a revised Consolidated High Level Design with a redline strikeout version will be posted to let the user community know what will be in the final implementation.

Step 11 – Review, Prioritization, Scheduling, and Determining Level of Effort (final recommendation)

The RCRAInfo Team may choose to not review a recommendation during periods when a Design Team is active; however, a separate review may be warranted under certain conditions: to determine the technical feasibility of the recommendation, and to determine if there are any previously unidentified or unseen impacts.

When a Design Team is not Present:
Once the CG recommends implementation of a change, the CG and RCRAInfo Team will then prioritize that change request relative to other change requests currently in the queue waiting for the RCRAInfo Team's resources. The CG may ask the RCRAInfo Team to develop a gross Level of Effort (LOE) estimate for implementing a specific change to assist with prioritization.

Based on the prioritization and consideration of bundling change requests, the CG and the RCRAInfo Team will develop an implementation schedule for a recommended request. The proposed schedule may be modified based on available resources and recommendation bundling considerations. The recommendations will now proceed to the Implementation Step (see Step 12).

When a Design Team is Present:
The Design Team evaluates the proposed CG schedule, and balances it against available resources and upcoming release dates. All reviews are coordinated with the CG.

The schedule may include due dates, as appropriate, for testing the change and for full implementation.

Design Team will set a final priority and assign a schedule to the release. This schedule and the priority are tracked in the Change Management module until the change is implemented. USITS is updated to communicate the implementation schedule to the requestor and the user community.

Step 12 – Implementation

If issues arise during implementation, the RCRAInfo Team or the Design Team will communicate those issues to the CG for further consultation if necessary.

Step 13 - Testing

The RCRAInfo Team or Design Team will work closely with the CG to set a testing period and schedule. Although the entire user community will be asked to test, the CG will identify specific testers from the user community. This will ensure that we have at least a minimum number of committed testers. The RCRAInfo Team or Design Team will provide test plans as appropriate to guide testers. The RCRAInfo Team will track issues that arise during testing, and provide feedback from testing to the CG.

Step 14 - Final Roll-Out

Following a successful test period, the RCRAInfo Team will plan for final rollout of the software. The RCRAInfo Team will work closely with the CG to communicate the rollout schedule to the user community.

PROCESS ARTIFACTS

To facilitate the tracking of changes and recommendations throughout the process, several artifacts must be maintained:

1. **USITS:** The USITS system captures all change requests coming from the user community. The user community is reminded to check all USITS issues before entering a new issue to avoid entering duplicates.
2. **Change Management Module (CMM):** The Change Management Module is used to track changes/recommendations throughout the entire change management process. Additional data elements not found in USITS are contained in the CMM to facilitate management of the process and communication of process milestones. The CMM tracks recommended changes, change priority, schedule, estimated LOE, and any relevant history. Any member of the user community can use the CMM as a resource to determine the current workload of recommendations and decisions.
3. **Action Items:** It is important to track actions assigned to CG members and to monitor the progress of Expert Groups. During the monthly CG calls, Expert Group liaisons provide updates, as appropriate. Action item status is reported at each meeting to ensure items are not lost or forgotten.
4. **Review Documents:** Recommendations are reviewed at several different steps throughout the process. Reviews must be documented and recorded to ensure all parties understand the impacts of a given recommendation.
5. **High Level Design Document:** The High Level Design document describes how a specific change will be implemented and the software that will be released. This document helps the Design Group verify the change request was correctly understood and corresponds with the planned implementation. It may contain screen mock-ups, form layouts, and table structure charts.
6. **Response to Comments:** Once the National Review comment period ends and the Design Team has reviewed each comment and made a decision as to what to do as a result of that comment, the Design Team produces the Response to Comments document. The Response to Comments contains all comments received and for each comment will specify: what will be changed in the High Level Design document or if no change will be made, the rationale as to why the comment will not be implemented.
7. **Consolidated High Level Design Document:** Once the Response to Comments document is created it will be used to create a Consolidated High Level Design document, which will incorporate any changes made as a result of National Review Comments. The Design Team will produce a version with a redline strikeout version and an “all changes accepted” version. Both versions will be posted in RCRAInfo to let the user community know what will be in the final implementation. Posting both these versions should make it easy for the user community to identify any changes made to the original High Level Design document as a result of National Review.

8. **Release Notes:** A part of any software release, the release notes list the changes made to the prior version. Release notes inform users how the system changed over time and verify the specific recommendations implemented.

COMMUNICATION

The CMP was designed to meet the needs of all users in the RCRAInfo community. Successful implementation of the Change Management Process requires full and open communication among all RCRAInfo users; in particular those who input/extract data, use and apply data, and translate data.

Whatever the means of entering information into RCRAInfo and however data is used, each State, EPA Region, or EPA Headquarters user brings unique knowledge and skills to the RCRAInfo user community. Communication is the way in which this knowledge and these skills can be shared to benefit the entire community. Participation in the CMP combined with communication are essential to ensure the data system continues to capture the information required to support and implement the RCRA Subtitle C program. Full and open communication is also required among all CMP Groups and between all agencies: EPA Headquarters, EPA Regions, and States.

The communication strategy for the RCRAInfo User Community became effective on Monday, August 25, 2008. The Communication Strategy purpose: to facilitate an ongoing flow of information about RCRAInfo change management topics, including how and to whom notifications of changes were sent. The official contact lists for each State, Region, and HQ are available in RCRAInfo under News Alerts and General Documentation.

Good feedback loops are important to communication and have been implemented between the CG and RCRAInfo Team or Design Team. The RCRAInfo listserv provides an accessible way for the RCRAInfo Team to communicate with the user community and a way for users to communicate with each other. Any RCRAInfo user who wants to receive messages from the RCRAInfo Team and participate in RCRAInfo community discussions can register for the listserv by sending a blank message to: RCRAInfoList-subscribe@lists.epa.gov. Once you have been registered, you will receive a Welcome Message. As of September 1, 2009, the RCRAInfo listserv became the primary e-mail means of communication used by the RCRAInfo Team to communicate with the user community.

APPENDIX A
ACRONYMS, ABBREVIATIONS AND DEFINITIONS

This is an alphabetical compilation of acronyms and abbreviations used in this document, followed by definitions.

ASTSWMO - Association of State and Territorial Solid Waste Management Officials

CDX - Central Data Exchange
CG - Coordination Group
CMM – Change Management Module
CMP - Change Management Process

EPA - Environmental Protection Agency
ERP – Enforcement Response Policy

GPRA - Government Performance and Results Act

HQ – Headquarters

INFORMED - Information Needs For Making Environmental Decisions
IT - Information Technology

LOE – Level of Effort

MB - Management Board

OECA - Office of Enforcement and Compliance Assurance
OEI - Office of Environmental Information
ORCR - Office of Resource Conservation and Recovery

PPA - Performance Partnership Agreement

RCRA - Resource Conservation and Recovery Act
RCRA C - Resource Conservation and Recovery Act Subtitle C
RCRAInfo - Resource Conservation and Recovery Act Information System

SA - System Administrator

TG - Translation Group

USITS - User Support Issue Tracking System

WIN - Waste Information Needs

APPENDIX B
CRITERIA TO CONSIDER AND DOCUMENT IN RECOMMENDATIONS[1]

It is important that the recommendation be specific and sufficiently detailed for anyone reading the recommendation to know exactly what is going to be changed and how. Background information explaining the current situation should also be included. This educates users who are not as familiar with the issue and provides context to the recommendation. The following should be considered and documented in the recommendation *as applicable*:

1. Does the change only impact one module or is it cross-module?

2. Will existing data need to be converted?

3. If this is a new data element, will the user community be required to enter history (all items that ever occurred for this), only new data, or all data that is currently outstanding or in-progress?

4. What screen does this appear on for data entry, or where will it be, if it is new?
    - What are the data entry/translation rules for this data field? (Example: If you enter this date, you must provide an amount and if you enter this amount, you must provide a date.)
    - What will be the allowed values for this data field?
    - Will implementer defined values be allowed or only HQ defined?

5. On what reports should this data element appear?
    - Should this be added to an existing report? If so, where? Does it get added to the selection criteria available for the report?
    - Should there be a new report for this date element?
        - Exactly what should be available on the selection screen to run the report?
        - Exactly what should the report look like and what fields will it show?
        - Should there be any special coding for the report? (Example: When counting and listing x only use event codes: abc, cde, wer, and zyt. When counting and listing y, only use event codes: pol, oiu, mug, and hyt.)

6. Will the change affect how we distribute data to other entities (e.g., could it be available to the public)?

SUGGESTED CONSIDERATIONS FOR NATIONAL REVIEW RECOMMENDATIONS

(1) State the problem and the background information clearly—present the unanswered need or the dilemma at hand.

(2) Identify the key consequences of the unresolved problem or need— be general.

[1] The WIN/INFORMED PAAs are a good guide and reference.

(3) Share examples of the negative consequences if the status quo continues.

(4) Provide more details, actual specifics, and evidence to support your view and to convince the reader of the seriousness of the problem. Use facts, specifics, and the testimony of others. Also, provide opinions of experts and use anecdotes.

(5) Restate the problem one more time, and offer your solution, an action, or an answer to the problem.

APPENDIX C
GROUP MEMBER SELECTION AND REPLACEMENT STRATEGY

As identified in the CMP Document[2], the last task to be accomplished by the Change Management Coordination Group (CG) is the development of the Group Member Selection and Replacement Strategy. Due to the varying natures and selection pools for the different entities, the process may differ slightly between EPA HQ, EPA Regions, and the States.

In general, the member replacement process will be coordinated by the USITS SA for EPA HQ positions, the Regional Co-chair for regional openings, and by the state Co-chair for state slots. What they will have in common is that requests for volunteers from the User Community or announcements of selections made that might take place during monthly National Data Calls will occur only by each respective coordinator (HQ rep for HQ openings, Regional rep for regional openings, and state rep for state openings). Should a group member choose to leave a group, it is requested that departing members notify both the respective coordinator and the group liaison in order to allow for a replacement to be found.

Due to the limited number of HQ staff with RCRAInfo knowledge or experience, HQ group members will likely remain fairly static. It was previously established that the CG would include 2 members from OECA HQ and 2 members from ORCR HQ. It was also previously established there would be 2 OECA HQ members on the Compliance/Enforcement Program Expert Group and 2 ORCR HQ members on the Waste Activity Program Expert Group. It is anticipated the Headquarters presence will remain at this level.

The regions should have a broader base of experience and personnel to draw volunteers from than at the HQ level. Regional CG members will schedule conference calls as needed with all regional RCRAInfo leads and CMP expert group members to discuss CMP activities and regional volunteers for replacements and rotations within the CMP groups. A list of potential regional volunteers for membership on CMP groups will be maintained by the CG Regional co-chair. Decisions about regional replacements and rotations will be made by consensus of the regional CG members.

The states have the broadest pool or base to draw from. As stated in the CMP document, state vacancies and the subsequent replacements within any of the CMP groups will be coordinated by the ASTSWMO Program Information Management Task Force (TF) Chair. Below is a brief outline of the process and/or options followed for soliciting and selecting new state members.

1. When a state vacancy occurs within any of the Program Expert groups or the CG, the TF Chair will initially confer with the other CG state members and send an e-mail request to the appropriate current state RCRAInfo data and/or program leads. The TF chair may additionally enlist the assistance of the TF members in searching for potential candidates.
2. To help maintain objective consideration, potential candidates shall provide their qualifications and expertise information via the new member volunteer form.
3. The TF chair will keep Program Expert group liaisons and the CG apprised of replacement progress and selection choices made.

[2] Version 1

The state CG members are considering basing the state CG and Program Expert Group membership on three-year tenures similar to the ASTSWMO Members in Action Plan. Essentially, a member would participate for three years with the option to repeat for another three years contingent on available and/or interested volunteers and the equivalency of their qualifications. Membership change decisions will be made by the TF chair in conjunction with the other CG state members. As a part of the Management Board, the ASTSWMO HW Subcommittee Chair may be asked to weigh in on CG membership changes, when necessary.

Appendix D
RCRAInfo CMP Volunteer Response Form

If you would like to volunteer to be part of a Change Management Process (CMP) Group, please complete and submit this form via email. State volunteers should send the form to René Anderson, Idaho, Rene.Anderson@deq.idaho.gov. U.S. EPA volunteers should send the form to Dan Bakk, Region 5, bakk.daniel@epa.gov. Please submit the form no later than ___________________________.

Name: ____

State/Region or HQ Office: ____

Phone: ____

E-mail: ____

I am volunteering to be a Member of the following RCRAInfo Change Management Process Group. I have read and understand the Change Management Process described in the 2010 Revised CMP Version 2 document:

___ **Coordination Group**

___ **Expert Groups (please specify the group below):**

- ___ **Compliance/Enforcement Group**
- ___ **Corrective Action Group**
- ___ **Financial Assurance Group**
- ___ **GIS Group**
- ___ **Permit/Closure Group**
- ___ **Site Identification Group**
- ___ **Waste Activity Group**

___ **Translation Group**

___ **Design Team**

The following outlines my experience relevant to the RCRA Subtitle C subject matter and issues addressed by the CMP group selected: