



Planning and Developing an Enterprise-wide Content Management System

Constance Downs

Mike Sutton

Scott Stirneman

U.S. Environmental Protection Agency

Presentation for RACO

May 6, 2008



Overview

- Getting Started
- ECMS Strategic Approach
- EPA's Email Records
- Lessons Learned
- Technical Considerations
- Records Considerations
- Q&A
- For More Information

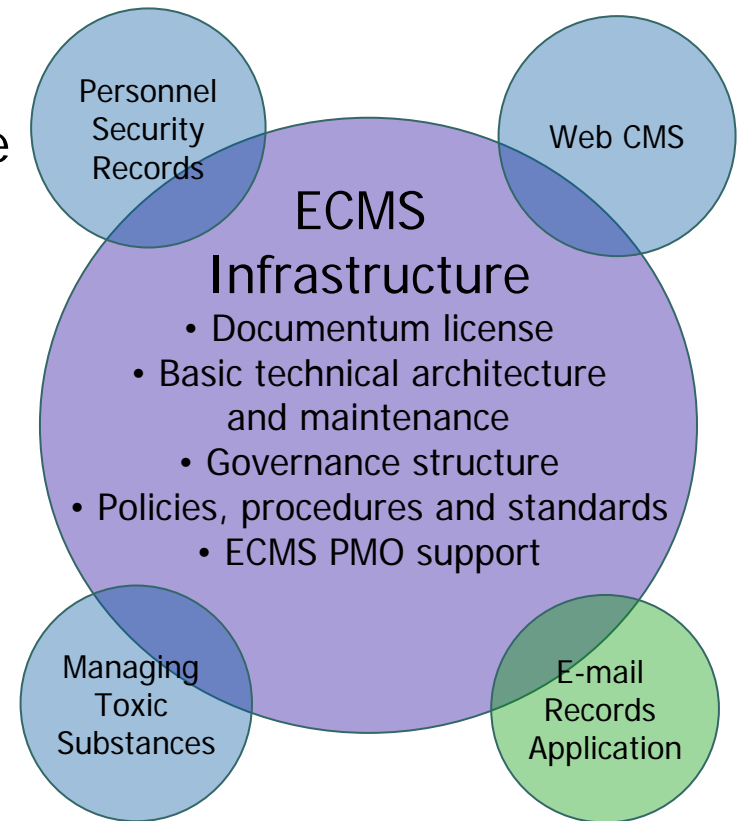


Getting Started

- **1990s**
 - EPA identifies need for an electronic records and document management system
- **2001**
 - Requirements identified for the Electronic Records and Document Management System (ERDMS) are finalized
- **2003**
 - Documentum chosen as the Agency solution for content management
- **2004**
 - Project renamed Enterprise Content Management System (ECMS) to include documents in addition to records
 - Development of multiple discrete projects is encouraged using the Documentum document capture and workflow capability
- **2005**
 - Hurricanes Rita and Katrina and litigation put attention on need to better manage e-mail records
- **2006**
 - Email records capture selected as first enterprise-wide ECMS solution
- **2007 - 2008**
 - Email records capture implemented
 - Discrete projects using workflow and document capture on-going

ECMS Strategic Approach

- Two concurrent approaches
 - **Enterprise Model (PMO driven)**
 - Capability available Agency-wide to respond to consistent processes, e.g.,
 - Email Records
 - Electronic records capture
 - Basic document management
 - **Partnership Model (Org driven)**
 - Allows EPA partners to leverage license, ECMS architecture and lesson learned
 - Programs can develop tailored applications



ECMS Email Records

- Email Records chosen as first Agency-wide application under the “Enterprise Model” in May 2006 because:
 - Email records identified as a vulnerability – hurricanes and litigation
 - Broad use base enabled Agency-wide funding as a Working Capital Fund Service
 - 18,000 EPA users + 5,000 contractors
 - Agency shares a single email system
- ECMS Email records provides a simple way to capture email records from an employee’s Lotus Notes email account
- System automatically captures bulk of metadata
- Captured record is stored and managed in the ECMS records repository
 - Easy search
 - Applies automated retention





The 3 Cornerstones of Development

- User involvement
 - Making ECMS E-mail Records “our” solution
- Technical considerations
 - Taking COTS to custom
- Records considerations
 - Leaping into electronic records



User Involvement

Key Concepts

Developing the e-mail application

- Agency-wide funding group buys off on concept – **senior management buy-in**
- Records staff and a core group develop initial product requirements – **ensures it meets basic requirements**
- On-going communication throughout development and implementation – **user and outreach groups**
- Governance structure established to encourage on-going input and make this “our” solution – **on-going discussion of needs**



User Involvement

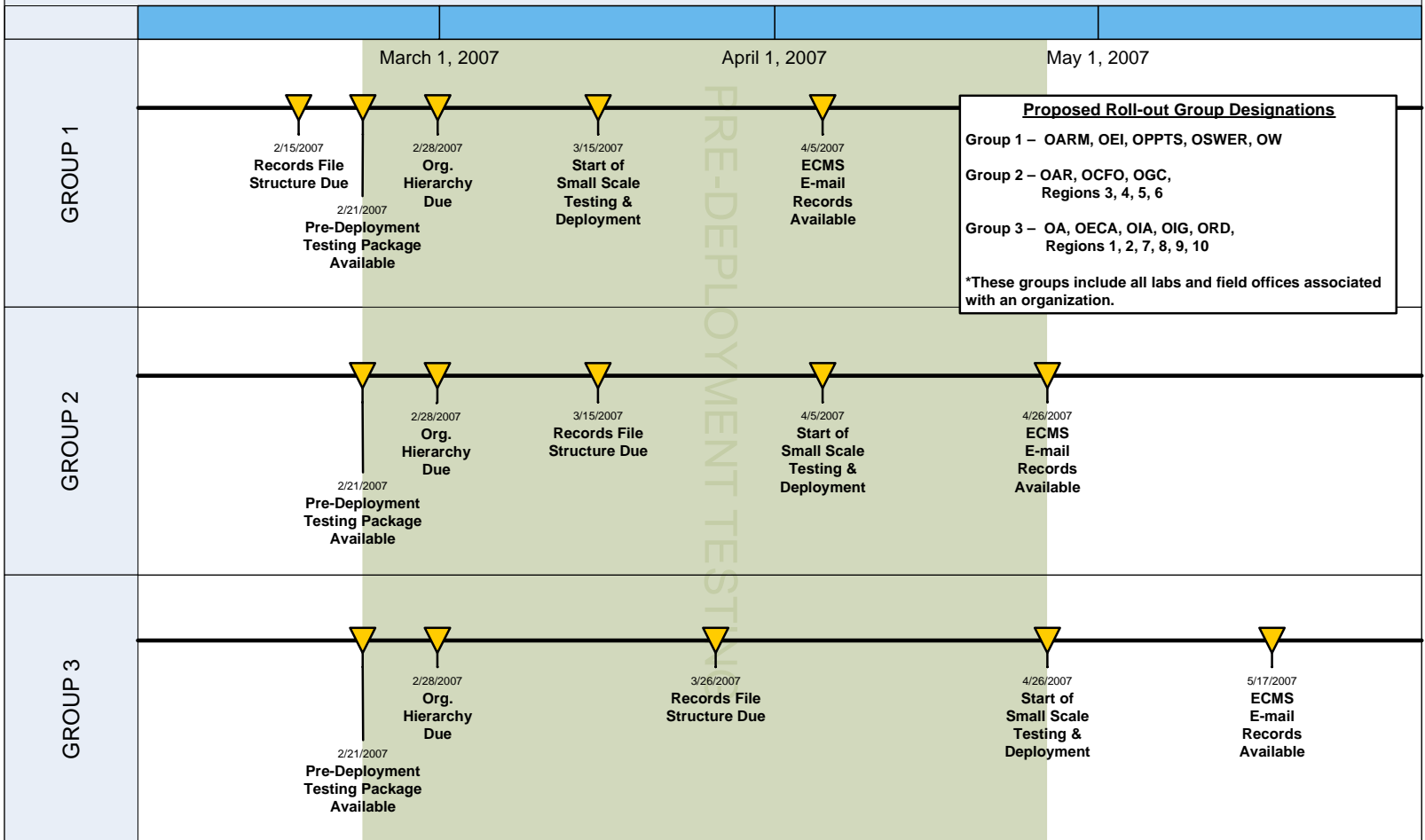
Dispersed Communication

- Established/identified 3 key groups for implementation
 - ECMS Program Contacts
 - Records Liaisons
 - Technical Leads
- Communicated with key groups regularly
- Developed outreach materials for Programs to use
 - memo templates, guides, monthly updates
- Developed monthly report cards
- Solicited input through moderated user sessions
- Encouraged on-going input through governance structure

Implementation Plan

ECMS E-mail Records Roll-Out Timeline

9/5/2007



ECMS Governance

Encouraging Involvement

Policy and Technology Governance

ECMS Coordination Committee

- Members – Managers and senior staffers Agency-wide
 - Meets - Monthly
- Purview – Oversight and decision on policy, technology and funding decisions with Agency-wide implications

ECMS Email WG

- Members – Appropriate staff from across Agency
 - Meets – Monthly
- Purview – Changes and new requirements for the ECMS Email Records application

ECMS Technical & Applications Architecture WG

- Members – Appropriate staff from across Agency
 - Meets – Monthly
- Purview – Decisions related to architecture, new functionality, Upgrades and the “Partnership Model” oversight

ECMS Taxonomy & Metadata WG

- Members – Appropriate staff from across Agency
 - Meets – 2x monthly
- Purview – Metadata, Taxonomy and XML requirements for ECMS

ECMS Management

ECMS PMO

- Members – OEI/OIC staff
 - Meets – On-Going
- Purview – Provide daily oversight for ECMS infrastructure, enterprise-wide projects (e.g., email and Partner projects)

Financial Governance

Working Capital Fund (WCF) Board

- Members – Senior staff
 - Meets - Quarterly
- Purview – Oversight and decision on WCF services and charges



Lessons Learned

- Determine, confirm and get support for your primary objectives
 - Get buy-in from key user groups
 - Ensure you have management support
 - Establish/leverage mandates!
- Staff need to be grounded in the process you are placing into the content management system
 - Have training, assessment and enforcement mechanisms in place
- Key concepts
 - Be flexible
 - Don't just "gild the cow path"
 - Users **must** perceive value in the short-term
 - Usability is key!
 - Get users to "own" the system – provide a mechanism for getting input on continual improvements



Technical Considerations

Buying a COTS Product

- The COTS vs. custom debate
- Major updates required for ECMS E-mail Records:
 - Authoritative real-time personnel source
 - Access control rights
 - Additions, deletions and relocations
 - Ability to identify a small number of frequently used records schedules from a larger list (My Commonly Used Folders)
 - Ability to see where folders fit in the Agency File Structure (Breadcrumbs box)
 - Capture sensitivity requirements
 - Ability to share records with individuals in other organizations



Technical Considerations Implementation Implications

- Considerations
 - ECMS E-mail records is a client-side application
 - No standard desktop configuration across EPA
 - No centralized management of IT infrastructure – 23+ different approaches
 - Regional implementation completely at discretion of local IT staff
 - Need to provide records and ECMS training
 - Need to support entire organization with a Help Desk



Identity Self Service

Collected organizational hierarchies down to the unit level

oic	oei_oic	Office of Information Collection	abatti02	Andrew Battin
cstd	oei_oic_cstd	Collection Strategies Division	smccoy	Sara Hisel-McCoy
dsb	oei_oic_cstd_dsb	Data Standards Branch	cdickins	Cindy Dickinson
erule	oei_oic_cstd_erule	E-Rulemaking Program Branch	jmoses	John Moses
isb	oei_oic_cstd_isb	Information Strategies Branch	jsierra	Joe Sierra
rfpb	oei_oic_cstd_rfpb	Records, FOIA & Privacy Branch	dwilli10	Deborah Williams
iesd	oei_oic_iesd	Information Exchange & Services Division	dsterlin	Doreen Sterling
iepb	oei_oic_iesd_iepb	Information Exchange Partnership Branch	jjacobso	Jonathan Jacobson
ietb	oei_oic_iesd_ietb	Information Exchange Technology Branch	cfreeman	Chuck Freeman
issb	oei_oic_iesd_issb	Information Services & Support Branch	mleopard	Matt Leopard

Identity Self Service

Self-registration screen

ECMS Identity Self Service LAN ID: msutton User Name: Sutton, Mike Primary Group:

Welcome to ECMS Self-registration

Step 1: Enter your EPA e-mail address below

Email Address

Detail Organization

Step 2: Select the organization in which YOU are currently assigned

Primary Organization

Program/Region

If not in "Immediate Office", select Office

Office

If not in "Immediate Office", select Division

Division

If not in "Immediate Office", select Branch/Section

Branch/Section

Supervisor

Step 3: Verify the information provided above is correct. THE SUPERVISOR LISTED WILL BE THE APPROVER OF YOUR REQUEST. MAKE SURE YOU HAVE REGISTERED FOR THE CORRECT ORGANIZATION. If you did not select the correct organization, please go back and change it. If you are unable to find an organization, please contact the EPA Call Center at 1-866-411-4372.

Step 4: Click Submit to finish. If your submission is successful, you will be taken to the ISS Inbox. You will receive an e-mail notification when the supervisor approves your access request. If your submission is not successful or you encounter any problems, please contact the EPA Call Center at 1-866-411-4372. Only click submit once.

ECMS E-mail Records Application

The ECMS E-mail Records button as seen from the Lotus Notes "In Box"

The screenshot shows the Lotus Notes Mail interface for Mike Sutton. The 'Mail' pane on the left shows 'Inbox (14)', 'Drafts', 'Sent', and 'Follow Up'. The main pane displays a list of emails with columns for 'Who', 'Date', and 'Time'. A 'Records' button is visible in the top toolbar, and its dropdown menu is open, showing 'Save as Record(s)' and 'Search Records'. A blue arrow points to the 'Save as Record(s)' option. Another blue arrow points to a checkmark in the left margin of the email list. A text box with blue text provides instructions: 'Place a checkmark by the e-mail(s) to be saved. Click the "Records Button," and "Save as Record(s).'

Who	Date	Time
	2008	12:14 PM
	2008	09:31 AM
	2008	08:24 AM

ECMS E-mail Records Application

The Records Classification Screen

Record Classification

Select Group: Collection Strategies Division (oei_oic_cstd)

Assign to Folder

My Commonly Used Folders

File Plan: oei_oic_cstd

- a Record copy (301-091_082a)
- a Record copy (305-109-02-04_459a)**
- a Record copy (401_127a)
- b Other than senior officials (301-093_006b)

Frequently Used Folders

Remove Folder Find Additional Folders

Selected Folder

Breadcrumbs Window

- ecmsrnr
 - EPA File Plan
 - 305-109-02-04 Provide Public Information, Education and Outreach
 - 459 Conferences, Seminars, Associations, and Societies Meetings
 - a Record copy (305-109-02-04_459a)**

Assign Attributes

Sensitivity: Sensitivities

Keywords: Privileged/Confidential Agency Information, Confidential Business Information, Personal/Privacy Information, Enforcement Sensitive Information

Records to be Saved (1 Record)

Subject	Form
RACO Presentation	Memo
RACO 5.6.2008.ppt	Memo

Record(s) being saved and associated attachments (mutually inclusive)

Message Details Remove Record

Identify non-EPA users (Recommended)

Email Address	Name	Organization
---------------	------	--------------

E-mail addresses, names and organizations of non-EPA e-mail addresses (optional).

Version 1.2.6 Save Cancel

ECMS E-mail Records Application

Searching for records from the Lotus Notes "In Box"

The screenshot displays the Lotus Notes Mail interface for Mike Sutton. The left sidebar shows the mail folders: Inbox (11), Drafts, Sent, Follow Up, Junk Mail, Trash, and Views. The main window shows a list of email records with columns for 'Who' and 'Date'. A context menu is open over the first record, showing options: 'Save as Record(s)' and 'Search Records'.

Who	Date
James Maas	04
Swistak, Robert	04
Gangadhara Boddepalli	04
Constance Downs	04
Constance Downs	04

ECMS E-mail Records Application

Using the "Search" window – metadata vs. full text

Search: Mike Suttor

Search Content Search (Full Text)

(Subject, Sender, Addressee, Keywords, Sensitivity)

Current Location:

- EPA File Plan
 - 104-010-01 Natural Disaster Res
 - 301-091 Corrective Action
 - 301-093 Program Monitoring
 - 305-109-01 Tech Transfer and T
 - 305-109-02-01 FOIA
 - 305-109-02-04 Provide Public Int
 - 306-114 Regulatory Creation
 - 401 Administrative Management
 - 401-122 Travel
 - 402 Financial Management
 - 402-126 Payments
 - 403-256 Employee Relations
 - 404-140 IT Security
 - 404-141-02-01 Controlled Corres
 - 404-141-02-02 Records Manage
 - 404-141-02-03 Dockets
 - 404-141-02-04 Forms Managem

Metadata and Full Text Search Available
Search parameters:
Space = "and"
Comma = "or"

Version 1.2.6 Double-Click on Selection to View Close

ECMS E-mail Records Application

Reviewing search results

The screenshot displays the 'Search ECMS for Records' application window. The search criteria is 'Mike Sutton'. The current location is '/ecmsmr/EPA File Plan/301-093 Program Monitoring/006 Program Management Files/b Other than senior officials (301-093 006b)/ECMS (301-093 006b)/Meet'. The search results are displayed in a table with columns for Subject, Sender, Date/Time, Keywords, and Sensitivity. The selected record is 'ECMS Technical Meeting Minutes, October 2, 2007' sent by 'Surapureddi, P...' on '10/8/2007 1:19 PM'. A tooltip indicates 'Double-Click on Selection to View'. The application version is 1.2.6.

Subject	Sender	Date/Time	Keywords	Sensitivity
RE: ECMS on-line training this afternoon from ...	CN=Ling Wan/...	10/24/2007 1:35 PM	Key 4445	
ECMS Technical Meeting Minutes, October 1...	"Surapureddi, P..."	10/22/2007 2:44 PM		
ECMS Business Meeting Minutes, October 11,...	"Surapureddi, P..."	10/17/2007 3:18 PM		
RE: EMC	Maloney_Yelena...	10/17/2007 11:21 AM		
RE: EMC	Maloney_Yelena...	10/17/2007 11:21 AM		
ECMS Technical Meeting Minutes, October 9,...	"Surapureddi, P..."	10/15/2007 4:12 PM		
ECMS Business Meeting Minutes, October 4, ...	"Surapureddi, P..."	10/10/2007 4:37 PM		
ECMS Technical Meeting Minutes, October 2,...	"Surapureddi, P..."	10/8/2007 1:19 PM		
ECMS Business Meeting Minutes, September ...	"Surapureddi, P..."	10/3/2007 3:51 PM		
RE: File Structure In Staging	"Surapureddi, P..."	10/3/2007 10:47 AM	Directions	
RE: Fw: First Impressions on the RLO/AA GUI...	"Surapureddi, P..."	10/3/2007 10:24 AM	Directions	
RE: Fw: First Impressions on the RLO/AA GUI...	"Surapureddi, P..."	10/3/2007 9:45 AM		
Send and save test	CN=Mike Sutton...	10/2/2007 10:18 AM		
ECMS Technical Meeting Minutes, September...	"Surapureddi, P..."	10/1/2007 11:10 AM		
ISS/ECMS Outage Analysis Report	CN=Mike Sutton...	9/28/2007 10:13 AM		
ECMS Business Meeting Minutes, September...	"Surapureddi, P..."	9/26/2007 3:02 PM		

ECMS E-mail Records Application

By double-clicking on it, the record can be opened as it appeared originally





Records Considerations

Preparing for ECMS

- Schedules

- Updated as media neutral, to allow records to be maintained electronically
- Migrated to XML, to enable portability

Properties: Info

dm_info_0

Phases

History



006b

Type: dmc_rps_retention_policy

Format:

Name : 006b

Description : Program Management - Other than Sen

Enabled :

Referenced : False

Supersede Enabled :

* Retention Strategy : Individual

* Disposition Strategy : Destroy all

Rollover Retention Policy : Select Retention Policy

* Immutability Rule : Do not change

* Rendition Rule : All Renditions

* Virtual Document Retention Rule : Retain Root and Children

* Snapshot Retention Rule : Retain Root Only

* Extended Immutability Rule : Set Immutable

* Extended Rendition Rule : All Renditions



OK

Cancel



Records Considerations

Preparing for ECMS

● Classification

- Mapped records schedules to the EPA Business Reference Model (BRM), producing a new records classification scheme
- Mandated development of file plans for all EPA organizations
- Encouraged adding “intuitive” folder titles below schedules
- Developed a tool to capture file plans for all EPA organizations

EPA Business Reference Model

108		Environmental Management
108-023		Environmental Monitoring and Forecasting
108-023-01		Air Monitoring and Forecasting
108-023-02		Water Monitoring and Forecasting
108-024		Environmental Remediation
108-024-01		Site and Area Evaluation and Cleanup
108-024-01-01		Perform Removals
108-024-01-02		Clean Up Contaminated Land
108-024-01-03		Federal Facilities Restoration
108-025		Pollution Prevention and Control
108-025-01		Manage Air Quality

Agency-wide File Structure

Agency File Code			Title
Function	No.	Item	
305			Public Affairs
305-109			Official Information Dissemination
305-109-02			Public Information and Outreach
305-109-02-04			Provide Public Information, Education and Outreach
	250		Publications and Promotional Items
		a	Record copy of publication or promotional items depicting Agency or program mission activities
		b	Record copy of routine publications or promotional items
		c	Record copy of working papers and background materials

function code
 schedule number
 disposition item



Agency File Code

Agency File Code

305-109-02-04 250b

Function

No.

Item

100% Reply with Changes... End Review...

	A	B	C	D
1	File Code	Tier One	Tier Two	Tier Three
2	301-093 006a			
3	301-093 006b	Central Data Exchange (CDX)	Annual Progress Reports	2004
4	301-093 006b	Central Data Exchange (CDX)	Annual Progress Reports	2005
5	301-093 006b	Central Data Exchange (CDX)	Annual Progress Reports	2006
6	301-093 006b	Central Data Exchange (CDX)	Meetings	2004
7	301-093 006b	Central Data Exchange (CDX)	Meetings	2005
8	301-093 006b	Central Data Exchange (CDX)	Meetings	2006
9	301-093 006b	Central Data Exchange (CDX)	System Updates	
10	301-093 006b	Federal Docket Management System (FDMS)	Annual Progress Reports	2004
11	301-093 006b	Federal Docket Management System (FDMS)	Annual Progress Reports	2005
12	301-093 006b	Federal Docket Management System (FDMS)	Annual Progress Reports	2006
13	301-093 006b	Federal Docket Management System (FDMS)	Meetings	2004
14	301-093 006b	Federal Docket Management System (FDMS)	Meetings	2005
15	301-093 006b	Federal Docket Management System (FDMS)	Meetings	2006
16	301-093 006b	Federal Docket Management System (FDMS)	System Updates	
17	301-093 203a			
18	405-146 653a			
19	405-146 654c			

Tier Three

- 2004
- 2005
- 2006
- *
- + System Updates
- *

Record: 1 of 5



Records Considerations Additional Development

- Designed simple, but powerful administrative tools
 - Organization Administration
 - File Plan Administration
 - Records Administration
 - Advanced Search / Global Update
 - Reporting



Logout

Organization Admin File Plan Admin

Current Office: Collection Strategies Division

Organization

Office File Plan

Agency File Plan

- EPA Organizations
 - ao
 - oar
 - oarm
 - ocfo
 - oeca
 - oei
 - oiaa
 - oic
 - cstd**
 - dsb
 - erule
 - isb
 - rfpb
 - iesd
 - opro
 - otop
 - qs

- cstd
 - 104-010-01 Natural Disaster Response
 - 301-091 Corrective Action
 - 301-093 Program Monitoring
 - 006 Program Management Files
 - b Other than senior officials (301-093 006b)
 - ECMS - Budget - FY 07 (301-093 006b)
 - ECMS - Budget - FY 08 (301-093 006b)
 - ECMS - Budget - FY 09 (301-093 006b)**
 - ECMS - Budget - FY 10 (301-093 006b)
 - ECMS - Communications - Assistance (301-093 006b)
 - ECMS - Communications - Contacts (301-093 006b)
 - ECMS - Communications - External orgs (301-093 006b)
 - ECMS - Communications - Managers (301-093 006b)
 - ECMS - Communications - Outreach materials (301-093 006b)
 - ECMS - Communications - Users (301-093 006b)
 - ECMS - Communications (301-093 006b)

- EPA File Plan
 - 104-008-01 EPA Emergency Prevention
 - 056 Accidental Release Information Progra
 - 092 Spill Prevention Control and Counterme
 - a Record copy (104-008-01 092a)
 - 104-008-02 EPA Emergency Preparedness
 - 104-010 Emergency Response
 - 104-010-01 Natural Disaster Response
 - 104-010-02 Anthropogenic Spills and Incidents
 - 108 Environmental Management
 - 108-023 Environmental Monitoring and Foreca
 - 108-023-01 Air Monitoring and Forecasting
 - 108-023-02 Water Monitoring and Forecasting
 - 108-024 Environmental Remediation
 - 108-024-01 Site and Area Evaluation and Clea
 - 108-024-01-01 Perform Removals
 - 108-024-01-02 Clean Up Contaminated Land



Print File Plan

Name: ECMS - Budget - FY 09 (301-093 006b)

Created On: 04/18/2008 11:25:13 Modified On: 04/18/2008 11:25:15

Created By: ecmsadmin Modified By: ecmsadmin

- Create
- Delete
- Save
- Cancel
- Hide
- Open
- Close

Office File Plan Folder Status: The current folder is Open.



Q&A





For More Information

Constance Downs, ECMS Team Leader
U.S. Environmental Protection Agency
downs.constance@epa.gov
(202) 566-1640

Mike Sutton, ECMS Project Manager
U.S. Environmental Protection Agency
sutton.mike@epa.gov
(202) 566-1287

Scott Stirneman, ECMS Strategy
U.S. Environmental Protection Agency
stirneman.scott@epa.gov
(202) 566-1647