

Emission Inventory Reporting through EPA's Central Data Exchange: 2001 and 2002 Reporting Periods

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ABSTRACT

U.S. Environmental Protection Agency's (EPA) Central Data Exchange (CDX) will serve as EPA's enterprise-wide portal to the agency's information network and as the EPA's node on the National Environmental Information Exchange Network (Network) with the States. Emission inventories reporting through CDX by State and local air programs began last year. This paper summarizes the results of the June 2001 submissions through CDX, discusses lessons learned during this submission period, and presents key considerations for the June 2002 update cycle for 1999 NEI data and future emissions inventory reporting through CDX.

INTRODUCTION

The States and EPA are implementing electronic reporting as part of the National Environmental Information Exchange Network (Network).^{1,2,3} The Network will improve collection, management, and sharing of environmental information among States, Tribes, localities, and EPA. An important component of this network is the central point through which data will flow into and out of EPA. This central point is the agency's Central Data Exchange (CDX).

State and local air programs are electronically reporting their emission inventories through the CDX. This data flow is consistent with the state-to-EPA flow under the National Environmental Information Exchange Network. The states and EPA are implementing the Network to improve collection, management, and sharing of environmental information among states, tribes, localities, and EPA. The CDX will serve as EPA's enterprise-wide portal to the agency's information network and as EPA's node on the Network with the state and local agencies.

Emission inventory reporting through CDX uses two electronic reporting file formats: National Emission Inventory (NEI) Input Format (NIF) version 2.0 files and XML files. The NIF is a standard data transfer transaction defined and implemented by EPA's Emission Factor and Inventory Group (EFIG). The data content of the NIF has also been constructed in XML using the Document Type Definition (DTD) and data dictionary for point sources. Compressed files in these formats that are small to moderate in size (less than 100 MB) are being securely transmitted as an upload with of the 1999 NEI Submittal Web Form. Large files can be retrieved using active data retrieval (ADR).

Once submissions are received, the CDX will perform the following functions:

- Scan the files for viruses
- Authenticate the source of the submission
- Archive the inbound data
- Acknowledge receipt of the submission
- Log the transaction
- Transform the data into a format required by the receiving EPA system
- Distribute the data to the appropriate EPA system, and to other stakeholders, as needed.

This paper summarizes the results and lessons learned from the first submission cycle in 2001 for state and local air programs electronically submitting through the CDX. The paper also discusses the upcoming 2002 submission period and the future emission inventory submissions through CDX.

SUMMARY OF THE 2001 SUBMISSION PERIOD

Summary of Submissions

For the 2001 submissions the number of registrants, submissions, and file types are as follows:

- A total of 73 state and local air program (including 3 tribes) representatives registered with the CDX/NEI reporting system.
- During this update cycle, 168 submissions were made. More than 20 state and local agencies made multiple submissions. The majority of the submissions were NIF files.
- Two states submitted XML files: Nebraska Department of Environmental Quality and Illinois EPA.
- The largest file processed was a 387 MB XML file submitted by the Illinois EPA

During the public comment period, October 2001 through January 2002, an additional 15 state and local representatives registered with the CDX/NEI reporting system. Approximately 95 submissions were made during the public comment period.

Lessons Learned

A number of lessons were learned during the first production year of the CDX/NEI system. The major ones concerned the following:

- *Access to the User Guide.* The User Guide was made available through the CDX FAQ and the NEI listserv.
- *CDX file-naming convention.* This was the most frequent call to CDX Technical Support. Callers indicated that the file-naming convention was not clear and that they were confusing the CDX file-naming convention and the NIF file-naming convention. The CDX file-naming instructions were posted on the NEI listserv and put directly on the NEI Submittal Web Form.

- *Notification of XML files processed.* A third e-mail was instituted to notify submitters that their XML file was successfully processed.
- *XML error follow-up.* CDX staff need to work with states submitting XML files to assist in error-free processing.
- *XML processing.* When this technology was first used last year, we encountered a variety of technical issues in processing large XML files. We resolved these issues and made appropriate changes for the 2002 submission period.

THE 2002 SUBMISSION PERIOD

The 2002 submission period will use the CDX/NEI reporting system with the following updates:

- *NEI Submittal Web Form revision.* The NEI Submittal Web Form will be slightly revised by removing the selection of NIF 1.2 under Section VII, Electronic Submittal Option.
- *XML revisions.* The point source DTD and application for processing XML files will be revised to accept separate files for different record types rather than the entire point source file (Transmittal, Site, Emission_Unit, Emission_Release_Point, Emission_Process, Control_Equipment, Emission_Period, Emission). This will aid in loading files for QA processing.
- *Password changes.* **All passwords must be changed after 90 days.** If you remember your old password and have not changed it, you may change it on-line. If you have forgotten your password, you will need to contact CDX Technical Support at epacdx@lmi.org or call (888) 890-1995.

FUTURE SUBMISSIONS

For future submission, EPA plans to build out the CDX node on the Network. For the NEI data flow, schema will be developed for source files that allow transmittal of separate record types for state-to-EPA exchanges. State and local agencies may also exchange data among themselves for their own shared purposes (e.g., regional planning organizations).

REFERENCES

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KEYWORDS

Electronic reporting

Central Data Exchange

Air emissions inventories

Extensible Markup Language

XML

NIF flat files

NIF 2.0

Secure socket layer

SSL

Document Type Definition

DTD

National Emission Inventory

NEI

NEI input format

National Environmental Information Exchange

Network

APPENDIX A

Changing Your Password

Your CDX password needs to be changed every 90 days to comply with EPA security requirements. If you log in after the 90-day period, CDX will automatically prompt you to change your password. To change your password, you will need to use your existing password and user ID to log in.

If you have already provided information to be preregistered and have activated your account, you can log in to CDX by:

- accessing the CDX Web site at <http://epacdx.lmi.org> as shown in Figure A-1.
- click on the following: “If you already have a CDX ID and password, click [here](#).”
- enter your User Name and Password. If you cannot remember your user name or password, call CDX Technical Support at (888) 890-1995.
 - The Technical Support Staff may reissue your user name, however if you have forgotten your password, you will need to answer the Secret Question that you entered during registration.
 - Example of a Secret Question - Secret Answer combination:

Secret Question: “What is my mother’s maiden name?”

Secret Answer: “Smith”

Once you are logged into your account you will be prompted to change your password (if you haven’t logged in 90 days) as shown in Figure A-2:

- Enter the necessary information.
- Re-enter your old password into the “Current Password” field. In the next field, create a new password and then confirm it in the final field. **Your new password should be a minimum of eight characters and contain at least one number. Passwords may contain only alphanumeric characters and may not begin with a number or contain spaces.**
- Press the “Submit” button.

You now have access to your Air Emissions Inventory account as shown in Figure A-3.

Figure A-1. CDX Home Page

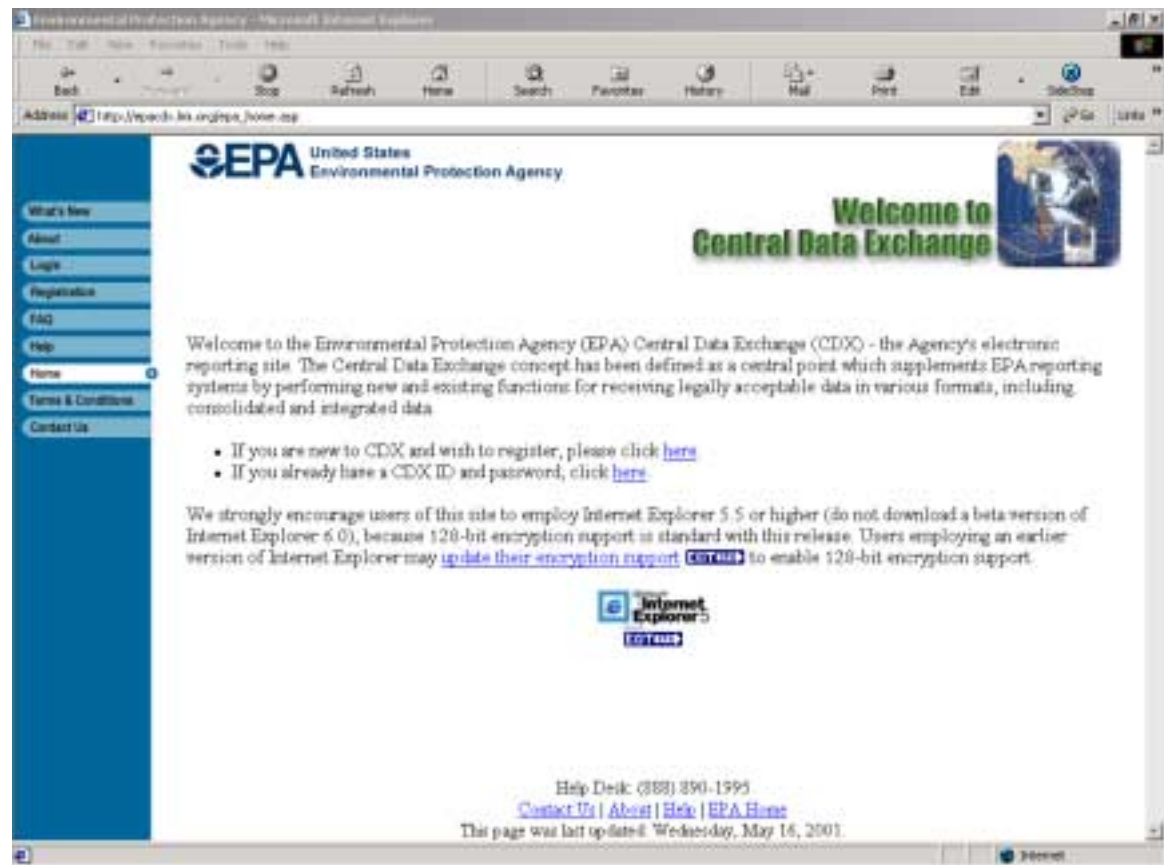


Figure A-2. Changing Password Page

The screenshot shows a web browser window displaying the EPA Central Data Exchange password change page. The browser's address bar shows the URL: <https://epaich.aic.org/CDX/ChangePassword.asp?Action=change>. The page header includes the EPA logo and the text "United States Environmental Protection Agency" and "Central Data Exchange". A blue sidebar on the left contains "Contact Us" and "Logout" links. The main content area features a red message: "Your CDX password has expired. Please select a new password." Below this is a "Change Password" section with instructions: "Passwords must be a minimum of 8 characters and contain at least 1 number. Passwords may only contain alpha-numeric characters and may not begin with a number or contain spaces. Use the TAB key to move from field to field. * = REQUIRED FIELD". The form contains three input fields: "Current Password", "New Password", and "Re-enter New Password", each with a red asterisk. Below the fields is a note: "More than 7 characters w/1 number. Don't use \$ # ' or @". A "SUBMIT" button is located at the bottom of the form. At the very bottom of the page, a red message states: "You are in an encrypted secure session."

United States Environmental Protection Agency

Central Data Exchange

Your CDX password has expired. Please select a new password.

Change Password

Passwords must be a minimum of 8 characters and contain at least 1 number. Passwords may only contain alpha-numeric characters and may not begin with a number or contain spaces. Use the TAB key to move from field to field. * = REQUIRED FIELD

Current Password *

New Password *

Re-enter New Password *

More than 7 characters w/1 number. Don't use \$ # ' or @

SUBMIT

You are in an encrypted secure session.

Figure A-3. MyCDX Page

The screenshot shows a web browser window displaying the EPA MyCDX page. The browser's address bar shows the URL: <https://www.epa.gov/333/edu/MyCDX.asp>. The page header includes the EPA logo and the text "United States Environmental Protection Agency". On the right side, there is a logo for "Central Data Exchange My CDX" with a globe icon. A left-hand navigation menu contains links for "What's New", "About", "MyCDX", "Index", "Change Password", "FAQ", "Help", "Home", "Terms & Conditions", "Contact Us", and "Logout".

The main content area is titled "Central Data Exchange - MyCDX" and contains the following information:

Welcome, Mr. Jeff Kalvapek			Last Login	March 26, 2002
			Registered Since	March 26, 2002
			Registration Date	March 26, 2002

CDX Registration Status: Active

You have 1 new message in your [Index](#)

Change System Password	Edit Personal Information	Edit Current Account Profiles	Add New Employee Profile
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Available Account Profiles:

- [AEL Air Emissions Inventory](#)

At the bottom of the page, there is a red message: "You are in an encrypted secure session." Below this, the text "Help Desk: (888) 890-1995" is displayed, along with links for "Contact Us", "About", "Help", and "EPA Home". The browser's status bar at the bottom shows "EPA Central Data Exchange" and "Internet".