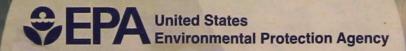
Annual Report 2000

Integrated Error Correction

Setting the Record Straight - An E-Government Service



Prepared by the

Office of Environmental Information

VISION

Office of Environmental Information (OEI)

OEI is an innovative center of excellence that advances the creation, management, and use of information as a strategic resource to enhance public health and environmental protection.

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Letter from the Office of Environmental Information

January 12, 2001

The Agency has taken exciting steps over this last year to ensure that data and information management is a strategic resource. The creation of the new Office of Environmental Information (OEI) provides the Agency with a fresh and focused approach toward better information management. A high priority project in our Year 2000 Action Plan was the Integrated Error Correction Process to promote data quality and set the record straight. This project was recommended in the Agency Data Quality Strategic Plan, December 1998, and accepted by the Deputy Administrator in April 1999. OEI made it operational in May 2000.

High quality data has always been our business and is in our best interest. Inspections, permits, and regulation decisions are often based on the data we have in our national systems. Ensuring high data quality in our national systems is part of all of our jobs. This new E-Gov service of Error Correction from the Internet is just one example of how OEI can improve data quality, customer service, and the public's access to accurate information.

Error Correction from the Internet makes EPA's commitment to provide an effective and timely process for correcting and resolving reported data errors clear to the Congress and to the public. The Agency expends a great deal of resources and attention on data quality to support enforcement, compliance, environmental justice, and geographical initiatives. Multi-media inspections and permits, geographical information systems analysis and maps, and community-based environmental efforts rely on quality facility information. Error Correction from the Internet ensures that this critical data will support these critical functions, analyses, and decisions.

Although our environmental data quality efforts will never be complete, I believe that we have made an outstanding advance with the implementation of Error Correction from the Internet and I hope that you will support this specific program and our commitment to quality information.

Edwin A. Levine,
Assistant Administrator
of Environmental Information
and Chief Information Officer

Edwin A. Levine

Data Quality





Serving the public's right-to-know about environmental conditions is a vital and growing part of the Environmental Protection Agency's (EPA) business because:

- The widespread availability of data to the public, and its use for purposes unforeseen at the time of collection, is now being recognized by EPA and its partners
- Performance-based management now requires reliable and accurate performance measures
- Stakeholders are identifying specific data inaccuracies and areas where data does not meet their needs

Need for EPA Data Quality Improvement

Evaluations and internal review of the Agency's data quality have produced recommendations to improve the accuracy, timeliness, and public presentation of data. EPA actions include:

- Establishing a new information office, the Office of Environmental Information, to consolidate and provide uniformity in EPA's approach to information management
- Exercising the new powers afforded by Internet disclosure of data in a fair and responsible manner
- Establishing procedures to engage the public in the development, maintenance, and modification of the information products it offers to the public, including, at minimum, the process EPA and the states will use to assure prompt correction of data errors in existing EPA Internet resources

A Call for Action

In an effort to address data quality concerns, in April 1998 the EPA Deputy Administrator called for the development of a strategic action plan to implement an Agency-wide approach to ensuring data quality. The announcement states that:

"The plan should include, as one critical component, a strategy to ensure that our error correction process is well-defined, efficient, and transparent to our partners, the public and the regulated community."

The Deputy Administrator also called for close cooperation with EPA's state and tribal partners and emphasized the primary responsibility of program offices for stewardship of the data systems they manage.

In developing a *Data Quality Action Plan (DQAP)*, which was submitted to the Administrator in December 1998, EPA sought and considered input from a wide variety of sources, including states, regulatory partners, EPA program staff, and other stakeholders. DQAP includes a recommendation for the establishment of a transparent Error Correction Process.

The Integrated Error Correction Process – A Giant Step Forward

The Integrated Error Correction Process initially became operational in the Spring of 2000 through the Facility Identification and Toxic Release Inventory (TRI) databases from the Envirofacts Warehouse Web Site. Since then, it has become part of the national systems covering data and records pertaining to more than 1,000,000 facilities and sites. From the start, the focus has been on customer service. To date, the Error Correction Process has reached stakeholders as far away as Alaska and as close as staff in our EPA Regional and Headquarters Offices.

The Error Correction Process builds upon existing procedures and the network of people in the Environmental Programs. This provides:

- More complete documentation on how error notifications flow through a large decentralized organization (EPA and state partners)
- A management framework to ensure that error notifications do not fall through the cracks
- A personal touch to improve the anonymity of contacting a federal agency or communicating through cyberspace

The Integrated Error Correction Process – An E-Government Service



By accessing EPA's Web Site (www.epa.gov), the public can report and resolve errors. The Error Correction Process provides a framework for the correction of errors after data postings on EPA Web Sites.

The Error Correction Process offers:

- Formalized Error Correction Network.
 Regions and States have always been active in improving data quality. A formalized network now provides a point of contact to ensure that concerns are heard and appropriate action is taken.
- Web-Based Management Tracking Tool. This system gives the Agency an accountability tool. It monitors and assists the formalized network in reporting and tracking the data identified, and it captures the actions taken to correct or resolve the data dispute. In addition, it tracks five categories of errors: Facility Characteristics, Enforcement, Inspection, Environmental Data, and Other.

It does NOT, however, correct data supplied inaccurately by the original reporting entity. Entities that need to correct or update the data they submitted must use existing regulatory processes. If data supplied by the original reporting entity is posted inaccurately, the Error Correction Process facilitates correction of these errors.

Principles and Values Built into the Process

The most basic principle of the Error Correction Process is to resolve data inaccuracies in the source collection systems. This is the basic premise of good government. The principles underlying the formalized process are:

- The Agency wants accurate data in the national regulatory program systems.
- The regulatory collection procedures are not altered by this data reporting error process.
- Applications and tools that use these databases benefit by having the source data corrected only once.
- Data providers and data stewards are engaged and empowered with the primary responsibility to resolve and correct data inaccuracies.
- The person who wants to report an error has a seamless and streamlined process. This is similar to the credit card discrepancy process – just one call or one Web page for the reporter to use.
- Timeliness and communication are critical for feedback to the reporter and on the resolution of the reported inaccuracy.

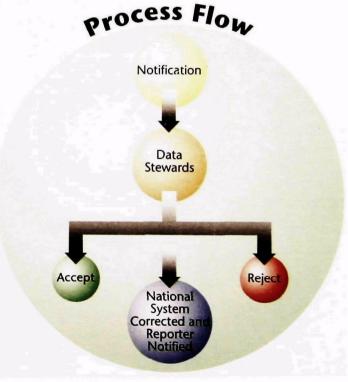
Data Ownership Is Key

Data owners are essential to the Error Correction Process because they:

- Verify the accuracy of reported data, which is critical to data quality
- Support the formalized network of contacts, which is now well documented
- Ensure that concerns are heard and appropriate actions are taken

The Error Correction Process tracks and resolves errors reported from the public access mechanisms. It does NOT record errors:

- Discovered by program systems
- Notified through regulatory submissions
- Identified by national system quality assurance programs





Who Are the Customers?

The Error Correction Process has four primary customers:

- Data Providers submit the source data.
 Generally speaking, the regulatory community and state/EPA staff are data providers
- Data Stewards manage a data collection, system, or process. In general, EPA or state program coordinators and system managers are in a stewardship position.
- Data Users create or use applications that access the data.
- Persons who report errors provide the Agency with a notification of a data inaccuracy, error, or mistake.

These customers may not be separate individuals; many may have multiple roles. The Error Correction Process is designed to ensure that these customers are sufficiently informed on the resolution of reported errors.

High Tech-High Touch – 100-Percent Customer Satisfaction



Data quality and customer satisfaction are our two most important products. The Error Correction measures of success are:

- 100% communication to our customers on reported errors received and resolved
- 100% tracking to capture all the activities from notification through resolution

Informing the data steward network, informing those who report errors, and having the national systems reflect accurate data changes close the loop toward 100% customer satisfaction. The Error Correction Process employs High Tech–High Touch. This means we use technology to make our process efficient AND we ensure timely personalized communication with our customers.



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Error Correction on the Web



Web pages available to the public from www.epa.gov:

- Error Correction Throughout EPA
- Region 10 EC-Online
- AIRSData

Web pages associated with the Error Correction Process:

- Error Notification Form
- Customer Support Standards
- Notice of Use
- Error Tracking System (Intranet)

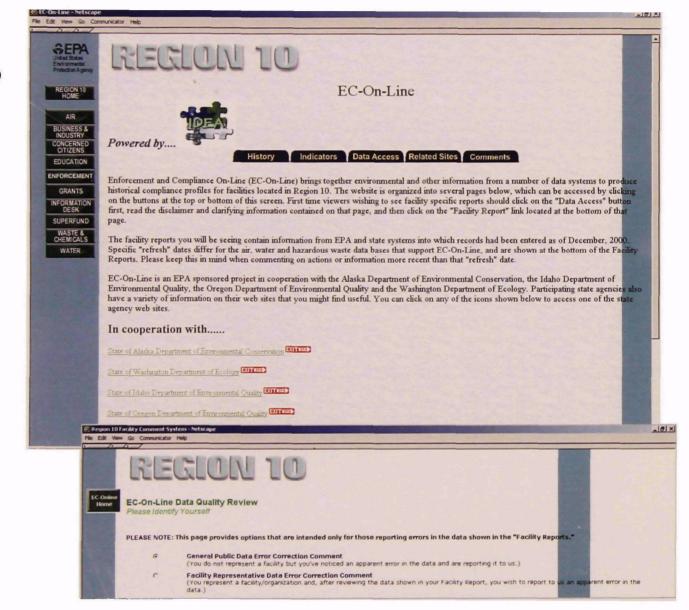


Error Correction Throughout EPA

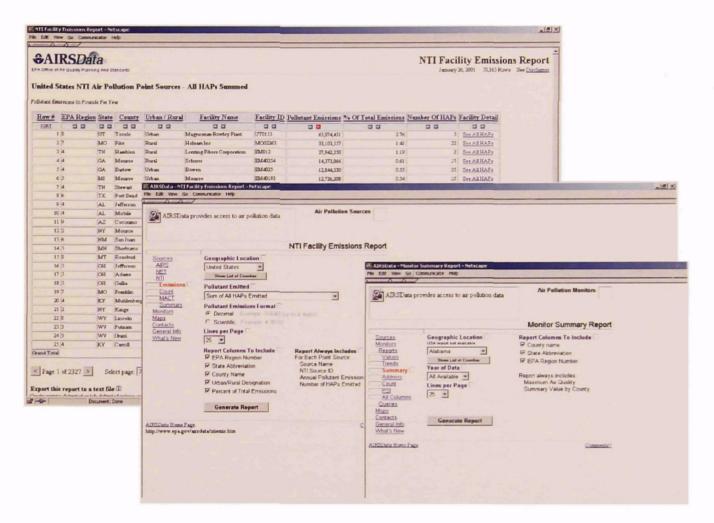


Envirofacts users (www.epa.gov/enviro/) may query numerous environmental databases to obtain land, water, and air information collected by EPA national programs. If errors are discovered in the search results, users can report them by clicking on the Report Error button (on the Query Results navigation bar), and completing the Error Notification form subsequently displayed.

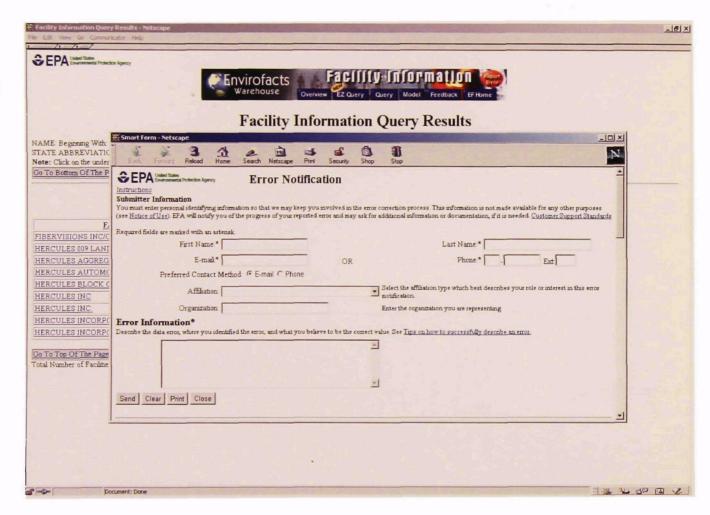
Region 10 EC-Online Data Quality Review



Region 10 Environmental Compliance (EC)-Online users (general public and facility representatives) may generate reports and review environmental and other information from a number of data systems concerned with air, water, and hazardous waste throughout the region. General public users report errors using the same Error Notification form as that available through Envirofacts.



AIRSData users may specify criteria to create custom reports on air pollution in areas throughout the country and display standard maps of the United States. To report errors, comment, or ask questions about the air pollution data displayed by AIRSData, users may call or e-mail the national, regional, and state and local EPA staff contacts provided by the system.



The Error Notification Form allows users to report errors to EPA by describing the error and providing contact information so that EPA staff may acknowledge their report and inform them of data error resolution.

Customer Support Standards



EPA's Error Correction Performance Standards for Customer Service

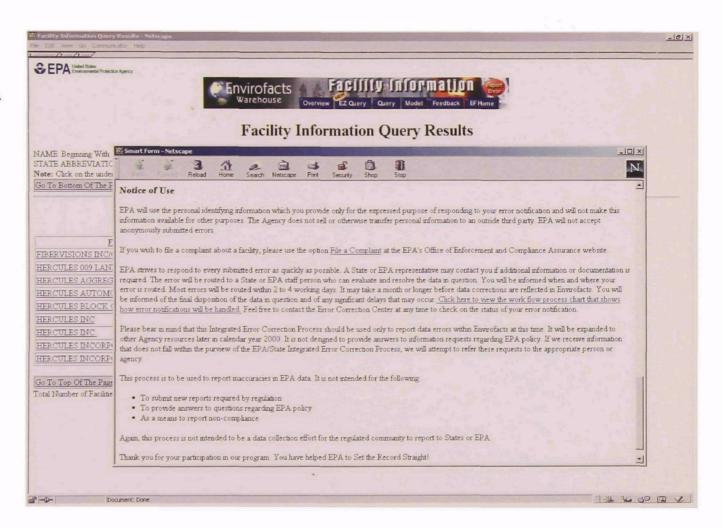
Error Correction Performance Standards:

- 1) Once you send in the error notification, you will receive immediate confirmation of its transmission upon receipt by EPA.
- 2) Within 2 to 4 business days, EPA will communicate to you on the status of your error notification, including the name and contact information of the data manager who is handling the error you brought to our attention.
- 3) Within 10 business days, EPA will communicate with you on the status of the actions that require research to resolve the error.
- 4) We commit to providing you with a detailed report when the error is resolved.

Our performance goal is to achieve 100% customer satisfaction. You have taken the time to notify EPA of discrepancies in the data and we want to make sure that we keep you informed on the status of your notification throughout this process. We value your input and your review of EPA's data. Your involvement allows us to maintain a high level of quality. Thank you!

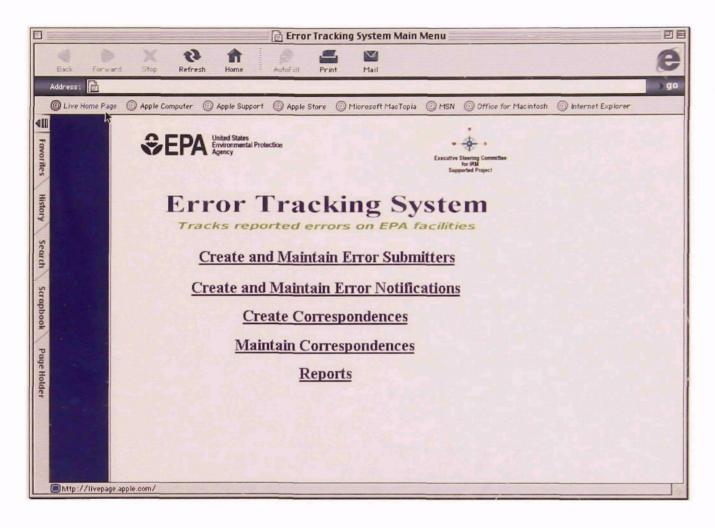
Click here to view the work flow process chart that shows how error notifications will be handled

A link to the Customer Support Standards is provided from the Error Notification Form to provide reporters with EPA's performance standards for customer service, which include a strong commitment to data quality and customer satisfaction.



A Notice of Use link is also provided from the Error Notification Form to inform reporters that their contact information will be used only to respond to the error notification and is not made available to any outside third party.

Error Tracking System (Intranet)



The Error Tracking System is a central resource for the formalized error reporting network (consisting of data providers, data stewards, data users, and persons who report errors). This accountability tool is used only by designated EPA staff who capture reported errors in the system, track actions taken to correct or resolve data disputes, and inform all concerned parties of error resolution.



In 2000, the Error Correction Process has become active in all major national systems in the Envirofacts Warehouse, Region 10 EC-Online, and AIRSData.

Team Activities

| • | Availability of the Error Correction Process Announced to the User Community | • | Summer 2000: Met with representatives of the industry and non-profit organizations to inform them that the Error Correction Process was available in all major Envirofacts areas. |
|---|---|---|--|
| | | • | Informed key outreach contacts in the Regions, at the Emergency Planning and Community Right-to-Know Act Hotline, at the Toxics Release Inventory (TRI) User Support Hotline, and at the Automated TRI Reporting System User Support Hotline about the availability of the Error Correction Process. |
| • | Solution Adopted for TRI Explorer | • | TRI Explorer adopted text to include a reference and "hot link" to "live" data on Envirofacts. |
| • | Filing an Environmental Complaint | ٠ | The Error Notification added the OECA "File a Complaint" hotlink http://es.epa.gov/oeca/main/enforce/file.html to the Error Notification "Notice of Use" page. |
| • | Tracking Using the Error Log | ٠ | The Data Quality Action Officer began communication activities with the data steward network using the error tracking management tool. |



| | Error Notification Summary: 290 Total Reported Errors (this number includes only 100 of the Region 10 notifications) |
|--|--|
|--|--|

| TYPES OF ERROR NOTIFICATIONS TO | otal No. | DESCRIPTION |
|--|----------|---|
| Invalid Notifications | 87 | The notifications were reviewed by EPA staff and notificated to data stewards for review. |
| Duplicates | 16 | These were notifications that addressed the same piece of data. |
| Dropped | 13 | These notifications were dropped due to lack of response by original notifiers for additional information. |
| Referred | 5 | These notifications addressed subjects related to EPA's Public Information Center. |
| Rejected - Not Related to Data Quality | 53 | These notifications included reports of Envirofacts query errors and questions about the Error Correction Process. |
| Notifications That Need More Information | 9 | EPA staff have requested more information from original submitters before a determination could be made about the validity of a notification. |
| Valid Notifications | 194 | These notifications were determined to be valid by EPA staff and forwarded to data stewards for review. Facility Characteristics - 147 Enforcement - 4 Inspection - 2 Environmental Data - 8 Other - 33 |
| Data Quality Errors Corrected as a Result of Notifications | 50 | Data owners have corrected the data in the program systems and notifiers have been provided with this resolution. RCRIS-12, PCS-14, AIRS-6, SDWIS- 4, TRIS-3, FLA-7, RMP-1, Other-3 |

| | Number of Data Quality Flags Placed in Envirofacts in 2000 (of the 50 data quality errors corrected) | (6) | An image labeled "Data Quality" is displayed on system records in which the data quality will be corrected on the next Envirofacts data refresh. TRIS-2, AIRS-1, PCS-1, SDWIS-2 |
|----|--|-----|---|
| | Number of Data Quality Flags currently up on December 31st, 2000 (of the 50 data quality errors corrected) | (3) | SDWIS-2, PCS-1 |
| 18 | Reviewed Notifications That Were Rejected by Data Stewards | 29 | The data quality of the program records identified in these notifications was determined to be correct by the data stewards. EPA staff communicated these resolutions to the original notifiers. RCRIS-6, PCS-5, AIRS-6, TRIS-4, FLA-1, RMP-1, BRS-1, Other-5 |
| | Notifications Currently Under Review by Data Stewards | 115 | These notifications have been sent to data stewards and submitters have been notified of the status. 5 less than 30 days old 9 more than 30 days old 53 more than 60 days old 25 more than 90 days old 23 more than 120 days old RCRIS-52, PCS-15, AIRS-18, SDWIS-5, TRIS-5, FLA-5, RMP-2, CERCLIS-2, BRS-1, NCDB-1, Other-9 |

Management Summary

Data ownership is key. Outstanding notifications require EPA Headquarters, State, and Regional Office collaboration. Many of the notifications provided updated information and were not "errors" in data management. There are many lessons still to be learned in the resolution process for error notification. Agency initiatives are addressing many of the data quality gaps that the Error Correction Process is identifying.

System-by-System Summaries

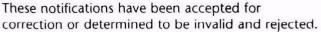
May-December 2000



Office of Solid Waste and Emergency Response Resource Conservation and Recovery Information System (RCRIS)

Number of Errors Reported to Date 70

Facility Characteristics - 65 Environmental Data - 2 Other - 3



- less than 30 days old
- 5 more than 30 days old
- 22 more than 60 days old
- more than 90 days old
- 11 more than 120 days old

Office of Enforcement and Compliance Assurance Permit Compliance System (PCS)



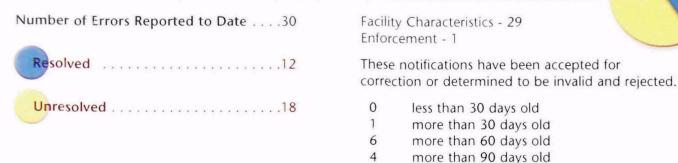
Number of Errors Reported to Date 34

Facility Characteristics - 30 Environmental Data - 1 Other - 3

These notifications have been accepted for correction or determined to be invalid and rejected.

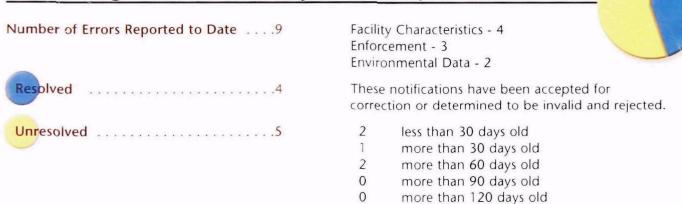
- 0 less than 30 days old
- 0 more than 30 days old
- 11 more than 60 days old
- 2 more than 90 days old
- 2 more than 120 days old

Office of Air and Radiation Aerometric Information Retrieval System (AIRS)



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Office of Water Safe Drinking Water Information System (SDWIS)

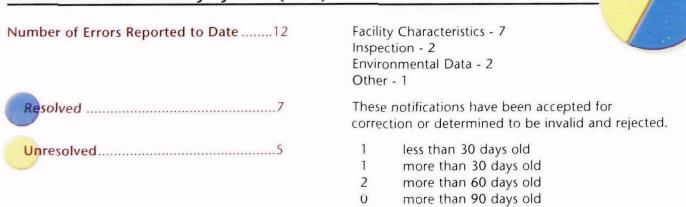


7

more than 120 days old

more than 120 days old

Office of Environmental Information Toxic Release Inventory System (TRIS)



Office of Environmental Information Facility Linkage Application (FLA)

| racinty Linkage Application (FLA) | |
|--|--|
| Number of Errors Reported to Date 13 | Other - 13 |
| Res plved | These notifications have been accepted for correction or determined to be invalid and rejected. |
| Unresolved5 | less than 30 days old more than 30 days old more than 60 days old more than 90 days old more than 120 days old |
| Office of Solid Waste and Emergency Risk Management Plan (RMP) Sumber of Errors Reported to Date4 | Response Facility Characteristics - 4 |
| Resolved2 | These notifications have been accepted for correction or determined to be invalid and rejected. |
| Unresolved2 | less than 30 days old more than 30 days old more than 60 days old more than 90 days old more than 120 days old |
| Office of Solid Waste and Emergency Comprehensive Environmental Respo | / Response |
| nformation System (CERCLIS) | |
| Number of Errors Reported to Date2 | Facility Characteristics - 2 |
| Resolved0 | These notifications have been accepted for correction or determined to be invalid and rejected. |
| Unresolved2 | 0 less than 30 days old 0 more than 30 days old |

0

2

more than 60 days old more than 90 days old

more than 120 days old

Office of Solid Waste and Emergency Response Biennial Reporting System (BRS)

| Number of Errors Reported to Date2 | Facility Characteristics - 2 |
|------------------------------------|---|
| Res olved1 | These notifications have been accepted for correction or determined to be invalid and rejected. |
| Unresolved1 | 0 less than 30 days old |
| | 0 more than 30 days old |
| | 0 more than 60 days old |
| | 1 more than 90 days old |

0

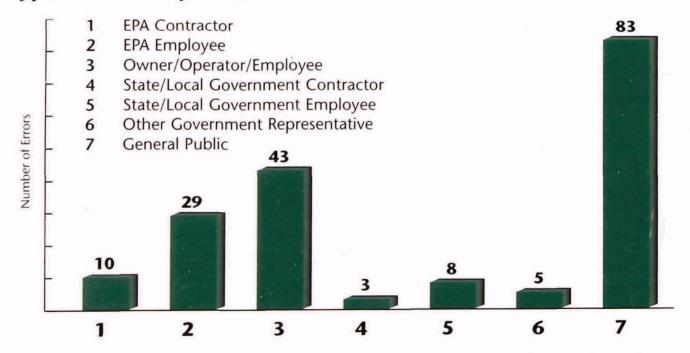
more than 120 days old

Office of Enforcement and Compliance Assurance National Compliance Database (NCDB)

| Number of Errors Reported to Date1 | Facility Characteristics - 1 |
|------------------------------------|--|
| Res olved0 | These notifications have been accepted for correction or determined to be invalid and rejected. |
| Unresolved1 | less than 30 days old more than 30 days old more than 60 days old more than 90 days old more than 120 days old |

Types of Error Reporters

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This chart does not include Error Notifications from Region 10, which were categorized as "No Affiliation Type." A total of 290 errors were reported.



In an effort to continue the success of the Error Correction Process, OEI and its partners will continue:

- Working with Internet partners and having the Error Notification Process available throughout EPA Web Sites
- Working with outside stakeholders who use EPA information to include it on their Web Sites
- Expanding outreach efforts to gain greater awareness and understanding of the Error Correction Process
- Striving for 100% customer satisfaction and improved data quality

Information Resources



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Contacts

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Other Information Resources are:

EPA Public Information Center at: www.epa.gov/epahome/pic.htm

Office of Environmental Information Toxics Release Inventory Explorer at: www.epa.gov/triexplorer

The Envirofacts Warehouse Web Site at: www.epa.gov/enviro

AIRSData at: www.epa.gov/airsdata

Region 10 ECOnline at: www.epa.gov/r10earth

Glossary



AIRS Aerometric Information Retrieval System

BRS Biennial Reporting System

CERCLIS Comprehensive Environmental Response,

Compensation and Liability Information System

DQAP Data Quality Action Plan

EPA Environmental Protection Agency

FLA Facility Linkage Application

GICS Grants Information and Control System

LRT Location Reference Table

OECA Office of Enforcement and Compliance Assurance

OEI Office of Environmental Information

PCS Permit Compliance System

RCRIS Resource Conservation and Recovery Information

System

RMP Risk Management Plan

SDWIS Safe Drinking Water Information System

TRIS Toxics Release Inventory System