

**Impact of the Data Quality Act on Decisionmaking at  
the Environmental Protection Agency**

**By**

**Nina R. Hardman**

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**Ellen Paul, Chair  
David L. Trauger  
Gerald H. Cross**

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## **Abstract**

The Data Quality Act, enacted in 2001, allows anyone to challenge information disseminated by federal agencies. The main premise behind the Data Quality Act is to ensure that agencies are consistent with maximizing the quality, utility, objectivity, and integrity of disseminated information. Each federal agency established information quality guidelines and an administrative process to handle data quality challenges. Supporters of the Data Quality Act contend that it will substantially improve the quality of science; opponents of the Act believe it will have a chilling effect on the dissemination of scientific information and the regulatory process.

This paper examines the impact of the Data Quality Act at the Environmental Protection Agency from fiscal years 2003 through 2005. The objective of the study was to determine the burden on the agency in terms of the time and resources diverted to respond to these challenges. Currently, it is not possible to quantify the actual costs incurred by the agency because metrics are not collected on the time and resources used to respond to the challenges. Most of the data quality challenges have resulted in little or no changes made to any documents or data. However, the challenges are causing a cultural shift at the agency consisting of a heightened awareness and sensitivity among agency personnel. A serious risk that the Act poses to EPA is the potential weakening of its credibility over time as the challenges attack the scientific bases and information that the agency uses to make decisions.

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## **List of Acronyms**

CRE – Center for Regulatory Effectiveness

EPA – Environmental Protection Agency

OAR – Office of Air and Radiation

OECA – Office of Enforcement and Compliance Assurance

OEI – Office of Environmental Information

OIRA - Office of Information and Regulatory Affairs

OMB – Office of Management and Budget

OPPTS - Office of Prevention, Pesticides, and Toxic Substances

ORD – Office of Research and Development

OSW&ER - Office of Solid Waste & Emergency Response

OW – Office of Water

PRA – Paperwork Reduction Act

RFC – Request for Correction

RFR – Request for Reconsideration

RPC – Republican Policy Committee

## **Introduction**

The Data Quality Act (DQA) required federal agencies to establish guidelines for ensuring the quality, objectivity, utility, and integrity of information disseminated by the federal government to the public (P.L. 106-554). The DQA is also commonly referred to as the Information Quality Act; however, the Act will be referred to as the DQA for consistency in this paper. Disseminated information that falls under the terms of the DQA includes both agency-initiated and agency-sponsored information. Disseminated information may be challenged by anyone through the administrative correction process required by the Act. This places a demand on the agencies' time and resources, which may slow the dissemination of critical information or cause agencies to be more cautious about releasing information. Natural resource and environmental agencies rely on the dissemination of scientific information to the public, particularly in the contexts of the decisionmaking and regulatory processes. Delay or hesitancy to release information may undermine the work of these agencies to manage and protect natural resources and to protect human health and the environment.

This paper examines the effects of the data quality challenges on the Environmental Protection Agency (EPA) since the passage of the DQA. The purposes of this paper are as follows:

- To examine specific data quality challenges and their corresponding responses to determine the time and resources diverted to those responses, and the overall impacts on EPA decisionmakers;
- To determine what impacts are evident on the agency as a whole in responding to the data quality challenges from fiscal year 2003 through fiscal year 2005.

The DQA, which Congress enacted as a hidden provision in the Omnibus Appropriations bill for fiscal year 2001 (H.R. 5658), is sparking a heated debate about its potential ramifications (Copeland & Simpson, 2004). This debate revolves around the critical question of how the DQA will alter the courses of information dissemination and the regulatory process, which are paramount to the protection and management of natural resources, as well as ensuring the health and safety of millions of people. Supporters of the Act contend that it will substantially improve the quality of science and rulemaking and may reduce the number of lawsuits filed against agencies (Copeland & Simpson, 2004). Opponents, such as OMB Watch and Public Citizen, believe that the Act will have a chilling effect on regulation and on the dissemination of scientific information used to establish health, safety, and environmental standards (Copeland & Simpson, 2004).

The DQA is widely attributed to Jim Tozzi, who during the Reagan administration, served as the administrator of the Office of Information and Regulatory Affairs (OIRA) in the White House Office of Management and Budget (OMB) (McGarity, et al., 2005). Tozzi left the government in 1983 to form a consulting company that represented a broad spectrum of industry interests such chemical, plastics, and paper companies (McGarity, et al., 2005). His support of the tobacco industry, in particular, led him to develop the provisions that eventually became the language of the DQA (McGarity, et al., 2005). In 1990, the tobacco industry hired Tozzi to fight the release of a draft EPA risk assessment that stated that environmental tobacco smoke was a known human carcinogen. The tobacco industry feared that the report would prompt state government and/or private entities to limit smoking in public places (McGarity, et al., 2005). To protect the tobacco industry's interests, Tozzi developed a strategy to attack the assessment of



environmental tobacco smoke as a carcinogen by challenging the underlying scientific bases for concluding that it is detrimental to human health (McGarity, et al., 2005).

Advances in information technology – primarily the Internet – that made information easily accessible to the public also worried Tozzi and his industry supporters. They were acutely aware that the sheer volume of information in the form of proposed rules, scientific reports, agency decisions, and the like were readily available via the Internet. Knowing that easily accessible information could have a greater impact because the public can act on it, Tozzi was motivated to create a strategy to counteract the dissemination of information by agencies that could cause economic harm to his clients (McGarity, et al., 2005).

Tozzi then created the Center for Regulatory Effectiveness (CRE), an anti-regulatory watchdog that is funded by private firms and trade associations, after Congress passed the Paperwork Reduction Act Amendments of 1995 (PRA; 44 USC 3501) in order to monitor and track proposed rules before they become finalized (McGarity, et al., 2005). The PRA required OMB to oversee implementation of policies, standards, and guidelines for federal agency disseminations of information. Federal agencies were also required to “manage their information resources to improve the integrity, quality, and utility of information to all users within and outside the agency” [44 USC 3506(b)(1)(C)].

Despite this Congressional mandate, OMB did not move to create guidelines for the federal agencies, or to require federal agencies to develop their own guidelines. During the Clinton Administration, OMB did not draft additional guidelines to enforce the provisions of the PRA (RPC, 2005). Letters of criticism came from members of Congress, such as Representatives Thomas Bliley (R-VA) and Jo Ann Emerson (R-MO) (RPC, 2005). Jo Ann Emerson’s letter to then-OIRA director John Spotila referenced a paper written by the CRE

entitled, "How OMB Data Quality Regulations Will Help Resolve Disputes Over Global Warming," and emphasized the importance of government oversight of disseminated information to make sure scientific information is presented in an accurate, unbiased manner to the public (Emerson, 1999). Spotila responded to Emerson's criticisms in April 2000 with the statement, "At the present time, OMB is not convinced that new 'one-size-fits-all' rules will add much to the existing OMB guidance and oversight activity and the procedures followed by individual agencies" (Spotila, 2000). Tozzi then wrote the language for the DQA and persuaded Emerson to slip the legislation into an amendment to the appropriations bill (McGarity, et al., 2005). Though Congress did not debate the DQA – which remains a primary criticism of this law – Congress did debate extensively the PRA, which passed unanimously in both houses (RPC, 2005). As OMB did not meet its responsibilities to oversee the implementation of policies, standards, and guidelines for federal agency disseminations of information under the PRA, the new DQA legislation directed OMB to enforce these requirements for data across federal agencies.

Although the DQA essentially restates the PRA data quality requirements, it came under heavy criticism from numerous sources, especially scientific organizations such as the American Association for the Advancement of Science and the American Institute of Biological Sciences. Of particular concern to these opponents was the creation of the DQA challenge provision, which allows anyone to challenge any information disseminated by federal agencies.

The research for this paper comprises a thorough review of the primary and secondary sources relating to the history and impact of the DQA, including the OMB guidance on developing information quality guidelines across federal agencies, the EPA quality guidelines and processes, and scholarly papers that analyze the implementation of the Act and the effects on

federal agencies. This information was expanded and validated through personal interviews with EPA staff. I first met with staff members of the EPA Office of Environmental Information to gain an understanding of the process and procedures used by EPA to handle data quality challenges, which are coordinated in the this office. I conducted subsequent interviews with staff members of the Office of Air and Radiation, the Office of Research and Development, and the Office of Water to gain an understanding of the process for responding to data quality challenges within these offices and to assess the impact of the challenges to information disseminated by these offices.

## **Analysis of the Data Quality Act and the Information Quality Guidelines**

### **The Data Quality Act**

Congress passed the DQA as Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (P.L. 106-554). The DQA required OMB to establish guidelines for ensuring the quality, objectivity, utility, and integrity of information disseminated by the federal government to the public. Prior to issuing the final guidelines, OMB provided a 45-day comment period on 28 June 2001 with the publication of the proposed guidelines (66 FR 34489, 2001). OMB received 100 comments primarily from academic institutions, federal agencies, and scientific and medical associations (66 FR 34489, 2001). A primary concern about the proposed guidelines was that the definitions of terms such as utility, objectivity, integrity, underlying data, reproducibility, and reliability were inadequate [66 FR 49718 (2001); American Association for the Advancement of Science (AAAS, 2001); Ornithological Council (2001)]. Many commenters suggested that restrictions should be established regarding the administrative correction process [(66 FR 49718, (2001)]. For instance, the AAAS stated that a broad interpretation of “correction” would potentially burden agencies and slow the dissemination of

scientific information. The AAAS recommended limiting the corrections to errors in data entry and computation (AAAS, 2001).

Federal agencies were directed to use the OMB guidelines, published in final form on 3 January 2002 (67 FR 369) as a template for their own guidelines (reprinted 22 February 2002, 67 FR 8452 correcting minor errors). Agencies were required to publish their own guidelines by 1 October 2002. Each agency had three responsibilities under the DQA:

- To issue their own information quality guidelines by 1 October 2002, one year from the date of issue of OMB's original guidelines;
- To establish an administrative mechanism to allow affected individuals or entities to request a correction of information that is not in compliance with the OMB guidelines;
- To report to the director of OMB the number and nature of requests for correction.

After the first year of DQA implementation, OMB reported to Congress an evaluation of that first year of the DQA as well as general conclusions drawn from all the agency reports submitted to OMB for fiscal year 2003. In the report, OMB attempted to address several negative perceptions of and concerns about the Act. The main perceptions of opponents of the Act addressed by OMB were (OMB Information Quality Report, 2004):

- The Act would be used primarily by industry to slow the dissemination of information or to slow the regulatory process;
- Agencies may be inundated with requests for corrections, which could overwhelm agency resources;
- The Act is a mechanism to attack the rulemaking process; and
- The challenge provision will not improve the quality of data disseminated by agencies.

OMB reported that for fiscal year 2003, the DQA had not produced any of these predicted effects. OMB stated that the number of data quality challenges had not been overwhelming for any agency, a variety of persons and entities use the DQA, and the regulatory process has not been adversely affected or slowed by the data quality challenges (OMB Information Quality Report, 2004).

OMB Watch, a nonprofit research and advocacy organization that monitors government accountability, rebutted OMB's report to Congress by contending that OMB's facts were biased and inaccurate and that important repercussions of the Act, such as the potential for judicial review of denied challenges, were omitted in its report (Moulton & Gregory, 2004). OMB's report to Congress also failed to mention the substantial role of OMB oversight in approving responses to data quality challenges (Moulton & Gregory, 2004; K. Orr & V. Holloman, personal communication, 30 January 2006). Metrics that accurately document the number of resources and the time to prepare the response, as well as the time needed to approve the response by both the agency and OMB, have not been collected as of yet (Moulton & Gregory, 2004). Although the fiscal year reports contain the basic information on the individual requests, such as a brief description of the request, the response from the agency, and whether an appeal was filed, critical information is missing on the effects on agency resources and the time used to respond to the requests (Moulton & Gregory, 2004).

## **OMB Information Quality Guidelines**

The OMB Guidelines define several terms – such as quality, utility, objectivity, integrity – that are integral to the DQA’s implementation. The term quality is defined by OMB to encompass utility, objectivity, and integrity together. The term utility refers to “the usefulness of the information for the intended audience’s anticipated purposes” (OMB Guidelines, 2002). Agencies need to consider the usefulness of the information from both an agency perspective and a public perspective. The answers to questions such as who will benefit from this information, who will use this information, and why this information is important to the public are considered by agencies prior to the release of the information.

Objectivity is “a measure of whether disseminated information is accurate, reliable, and unbiased and whether that information is presented in an accurate, clear, complete, and unbiased manner” (OMB Guidelines, 2002). Information must be presented with the sources used to support the information, as well as all other supporting data used in compiling the information for dissemination. For scientific information, the original and supporting data should be available for review by the public. Integrity refers “to the security of information – protection of the information from unauthorized, unanticipated, or unintentional modification – to prevent information from being compromised through corruption or falsification” (OMB Guidelines, 2002). Information must be safeguarded so that no part of the information disseminated has been corrupted or falsified.

Influential information – whether scientific, financial, or statistical – is defined as information that the agency “can reasonably determine...does have or will have a clear and substantial impact on important public policies or private sector decisions” (OMB Guidelines, 2002). If the information is deemed to be influential, additional measures should be taken to

ensure that the data and methods used to produce the data have a high degree of transparency and reproducibility (OMB Guidelines, 2002). Others should be able to reproduce the methods and data underlying influential information disseminated by federal agencies. The guidelines state that agencies, in developing their own guidelines, should decide which types of original and supporting data should be subject to the reproducibility standard.

## **EPA Information Quality Guidelines**

*The Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (EPA Information Quality Guidelines) were developed with input from the public. Comments from various stakeholders and other federal, state, local, and tribal governments were received and considered by the EPA while developing the agency guidelines.

The comments reflected a diversity of viewpoints and perspectives (EPA Information Quality Guidelines, 2002). Some comments stated that EPA was relying too heavily on existing policy and procedures and that the guidelines did not sufficiently address the agency's information quality issues (EPA Information Quality Guidelines, 2002). Other comments noted that the DQA and OMB's guidelines should not override EPA's core mission of protecting human health and the environment (EPA Information Quality Guidelines, 2002).

With respect to the administrative correction mechanism, EPA received several comments regarding EPA's statement of authority that it can "elect not to correct" information (EPA Information Quality Guidelines, 2002). EPA responded that due to the uncertainty of the number of complaints, EPA reserved the right to determine, on a case-by-case basis, the corrective actions for each request (EPA Information Quality Guidelines, 2002). Other

comments requested that EPA establish two time frames for requests for correction that are more general (factual) versus more complex requests. EPA decided to establish one time period for all responses (90 days) and, if additional time was needed, EPA would send a response letter to the requester that additional time is needed (EPA Information Quality Guidelines, 2002). Other comments requested that EPA remove from its websites information that is the subject of a pending decision from a request for correction. EPA stated that it would not remove information that is the subject of a request for correction (EPA Information Quality Guidelines, 2002).

### **Preexisting Data Quality Standards**

The EPA Information Quality Guidelines incorporate all the required elements detailed in the OMB guidelines, and they also outline the existing policies and procedures that ensure data quality across the agency. EPA used existing quality policy and procedures defined in their Quality System, Peer Review Policy, Risk Assessment Policy, Integrated Error Correction Process, as well as other processes and procedures to evaluate the quality of environmental data and the use of third-party data prior to the mandate to establish the guidelines required under the DQA.

EPA's current quality system serves as a framework for evaluating whether information meets the quality guidelines laid out under EPA's guidelines. The EPA agency-wide quality system ensures that EPA's programs and decisions are supported by information that is of sound quality and integrity. A graded approach is used to create quality criteria that are appropriate for the information being used or disseminated. The EPA quality system is decentralized, so that each EPA organization owns and manages its respective quality system. The EPA quality system may apply to non-EPA organizations if those entities are under contract to provide



services or products to EPA or entities such as other government agencies that receive assistance from EPA through agreements (EPA Information Quality Guidelines, 2002).

### **Types of Information Used by EPA**

EPA relies on information from several sources to make policy and regulatory decisions. Some of the ways in which EPA obtains information are as follows (EPA Information Quality Guidelines, 2002):

- EPA collects information via original scientific research at its facilities, sampling data in the field, or onsite inspections.
- EPA receives information from external sources through contracts, grants and cooperative agreements, via a requirement under a statute, regulation, permit, order, or other mandate.
- EPA receives information volunteered by outside sources that may be used by EPA to influence a decision or develop a policy.

EPA maintains a robust quality system that covers information received from external sources to ensure the highest quality of information used by the agency. To ensure the consistent quality of information received from external sources, EPA has regulatory requirements for quality assurance for data that falls under EPA contracts, grants, and cooperative agreements (EPA Information Quality Guidelines, 2002).

Any type of information falls under the purview of these guidelines when it is disseminated to the public, which means the information was either initiated or sponsored by EPA. If the information is endorsed by EPA – wherever the originating source is – then the information is subject to the EPA Information Quality Guidelines. Information not covered by

the guidelines include information such as information distributed internally for government employees; information released by EPA under the Freedom of Information Act, the Privacy Act, or the Federal Advisory Committee Act; information in the form of correspondence between individuals in the agency; and other types of information that are not clearly endorsed by the agency such as documents in draft form.

### **Ensuring the Quality of “Influential” Information**

“Influential” information includes the following (EPA Information Quality Guidelines, 2002):

- In support of top agency actions such as rules, substantive notices, policy documents, and studies that may be highly controversial or extend across the agency;
- In support of economically significant actions as defined in Executive Order 12866, Regulatory Planning and Review, that may have an annual effect of \$100 million or more on the economy or adversely affect the economy or a segment of the economy;
- In support of major work products undergoing peer review as described in the agency’s Peer Review Policy;
- That the agency considers influential on a case-by-case basis.

The quality of influential information must have a higher degree of transparency of data and methods so that qualified third-parties can reproduce such information to an acceptable level of imprecision (EPA Information Quality Guidelines, 2002).

## **EPA Administrative Process for Data Quality Challenges**

The EPA Quality Staff within the Office of Environmental Information (OEI) manages the process for handling data quality challenges, termed “Requests for Correction” (RFCs) by EPA. RFCs are submitted by persons seeking a correction of information that they assert does not comply with the EPA or OMB Information Quality Guidelines. The OEI coordinates the process from the initial submission to the agency to the final approved response from EPA to the submitter. The OEI first screens the challenge to determine that it falls within the information quality guidelines. For instance, the OEI will ascertain if the information was actually disseminated by the EPA. If the OEI finds that the challenge falls within the guidelines, the EPA identifies the “information owner,” which is the EPA office(s) or program(s) that generated the information. OEI works closely with all the information owners, who are responsible for preparing the substantive response to the challenge. EPA strives to respond within 90 days by providing either a completed response to the submitter or informing the submitter that the request requires additional time to make a determination (EPA Information Quality Guidelines, 2002).

### **Request for Correction Process**

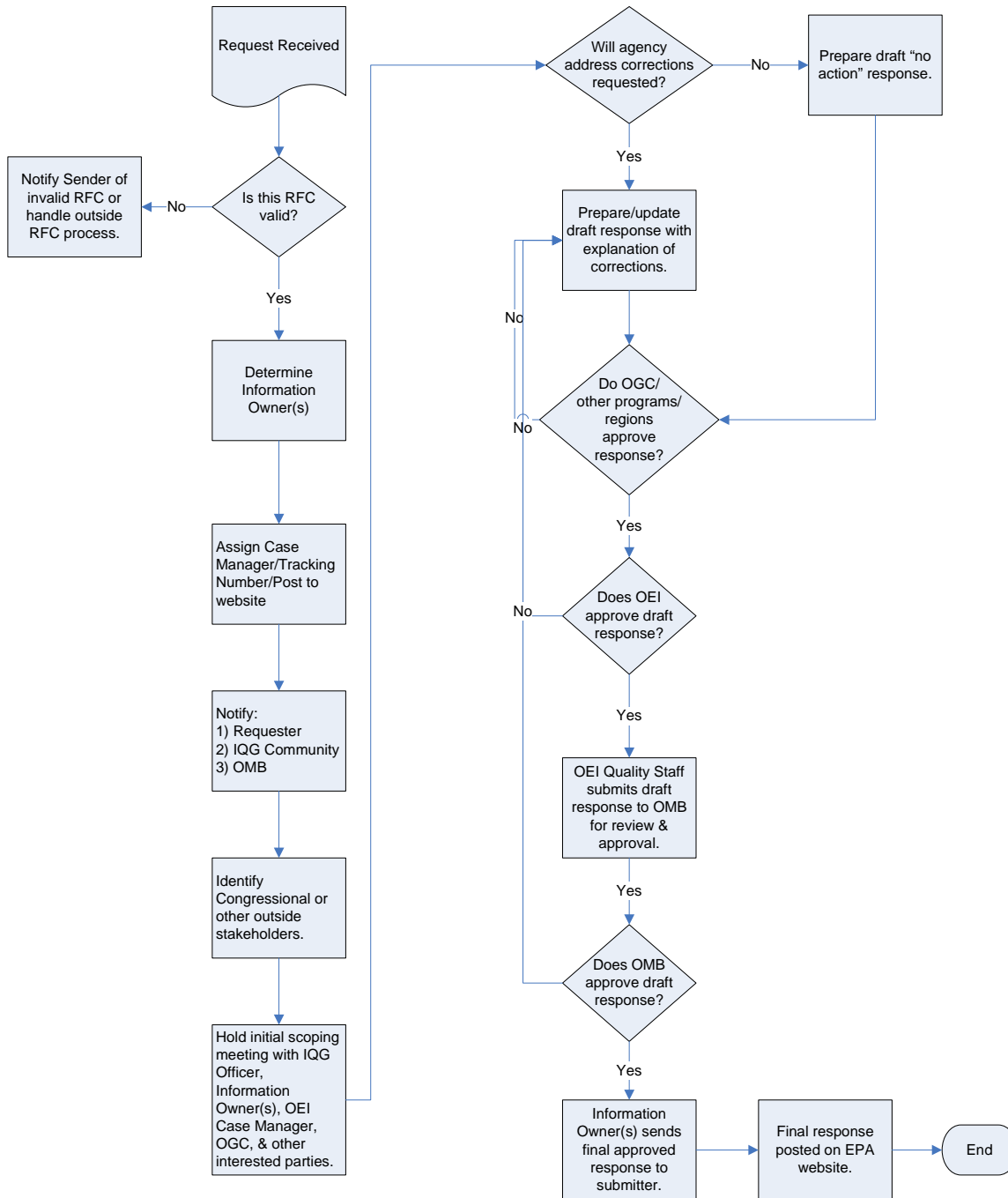
The process for handling a RFC is as follows (See Figure 1, *EPA Request for Correction Process*) (K. Orr & V. Holloman, personal communication, 30 January 2006):

- The Quality Staff receives the data quality challenge.
- The Quality Staff determines whether the request meets the criteria for a challenge.
- If the request is accepted, it is assigned a tracking number and an acknowledgement of receipt is sent to the requester. If not, the Quality Staff closes the request and notifies the requester that the challenge does not fall under the DQA.

- The request and all applicable documentation submitted are posted to the EPA Information Quality Guidelines Request website:  
<http://www.epa.gov/quality/informationguidelines/iqg-list.html>.
- The Quality Staff identifies the information owner(s) of the challenged information. Each EPA organization or office has one Information Quality Advisor (IQG Officer). The Quality Staff sends the request to the entire agency IQG community to determine the lead organization or office for the request.
- The Quality Staff notifies OMB of the request.
- The Quality Staff schedules an initial scoping meeting to include the IQG Officer, Information Owner(s), OEI Case Manager, Office of General Counsel (OGC), and other interested programs/regions.
- The EPA office prepares a draft response with explanation of corrections to be made, if any, or an explanation as to why no corrections will be made. (In some instances, more than one office is involved in preparing the response.)
- The EPA OGC and other interested programs/regions review the draft response.
- The draft response is approved by the Assistant Administrator or director at the office level and is sent back to the Quality Staff.
- The Quality Staff reviews and the OEI Assistant Administrator approves the draft response.
- The Quality Staff submits the approved draft response to OMB for review.
- OMB reviews and provides comments or suggested revisions to the response prior to the final approval.

- (This step is iterative. OMB suggests changes to the response, or responds with questions needing clarification, and in turn, the responsible office(s) (information owner(s)) must re-review those suggested changes and make adjustments to the language in the response before OMB approves.)
- After OMB approves the response, the information owner(s) sends the final approved response to the requester.
- The Quality Staff posts the final response on the EPA Information Quality Guidelines Request website.

## EPA Request for Correction Process



**Figure 1. EPA Request for Correction Process**

### **Request for Reconsideration (Appeal) Process**

If an appeal is filed from a partially or fully-denied RFC, the new challenge is termed a Request for Reconsideration (RFR). The process for handling an RFR is similar to handling an RFC. However, all RFRs are considered by an executive panel comprising three Assistant Administrators to review the appeal and make a final decision. Typically, the three panel members are the Science Advisor/Assistant Administrator for the Office of Research and Development (ORD), the Chief Information Officer/Assistant Administrator for OEI, and the Economics Advisor/Assistant Administrator for the Office of Policy, Economics, and Innovation (EPA Information Quality Guidelines, 2002). The Assistant Administrator or director who signed the original RFC cannot be on the executive panel that reviews the appeal of that decision.

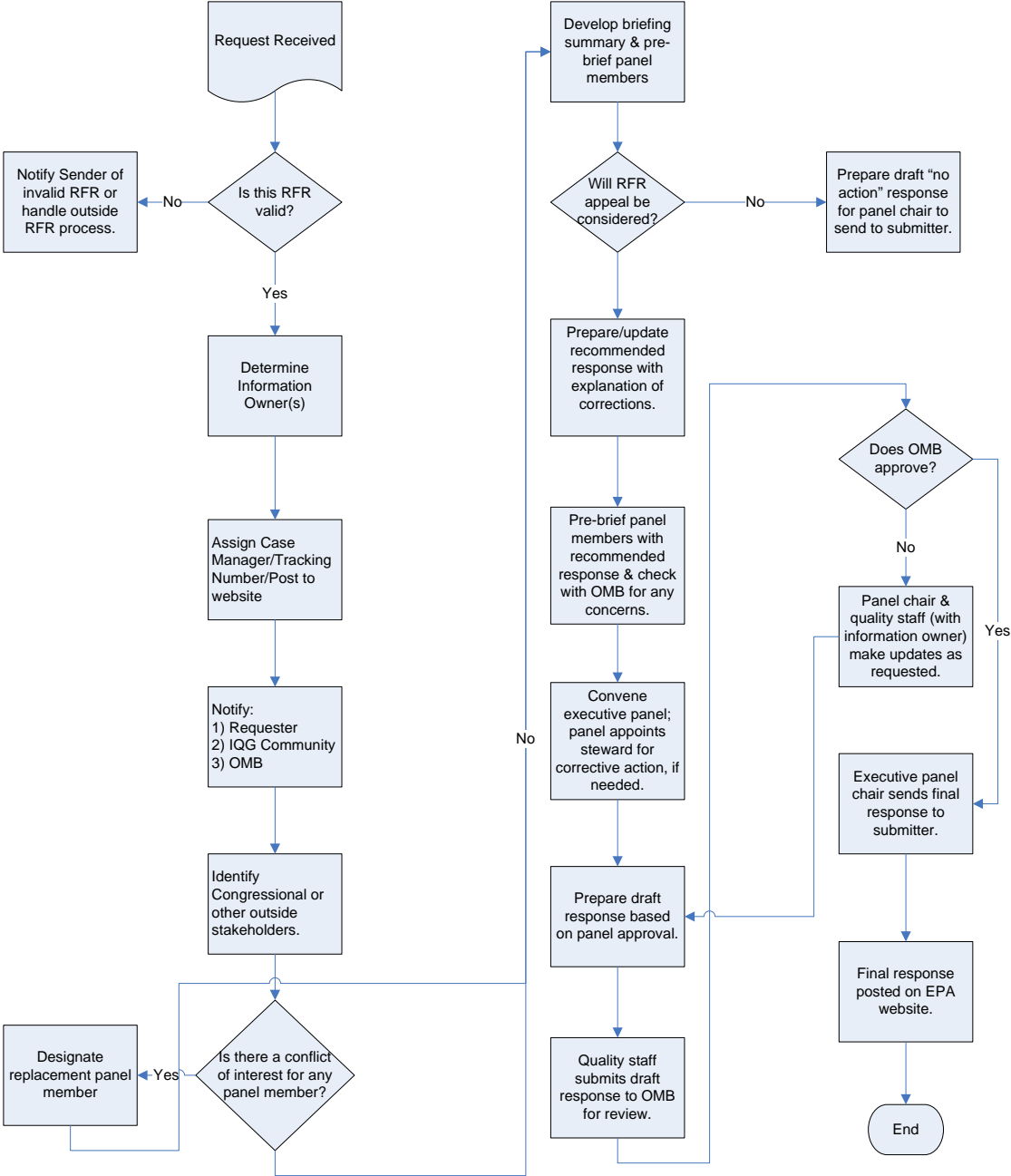
The process for handling RFRs is as follows (See Figure 2, *EPA Request for Reconsideration (Appeal) Process*) (K. Orr & V. Holloman, personal communication, 30 January 2006):

- The Quality Staff receives the appeal.
- The Quality Staff determines whether the appeal meets the criteria.
- If the Quality Staff accepts the appeal, the appeal is assigned a tracking number and an acknowledgement of receipt is sent to the requester.
- The request and all applicable documentation are posted to the EPA Information Quality Guidelines Request website: <http://www.epa.gov/quality/informationguidelines/iqg-list.html>.
- The Quality Staff identifies the information owner(s) for the information that is the subject of the request.
- The Quality Staff notifies OMB of the appeal.

- The IQG Officer/information owner(s) develops a recommendation for the response with any corrective actions, if applicable.
- The Quality Staff convenes the executive panel to review the response.
- The IQG Officer/information owner(s) briefs each member of the executive panel on the recommended actions for this appeal.
- The executive panel convenes to reach a decision on the response.
- The IQG Officer/information owner(s) prepare the draft response based on the recommendations of the executive panel.
- The Quality Staff submits the draft response to OMB.
- OMB responds to the draft with requested changes or approval. If changes are requested, the executive panel chair and the Quality Staff make the changes along with input from the information owner(s), if needed.
- After the response is approved by OMB, the executive panel chair member sends the response to the submitter.
- The Quality Staff posts the final response on the EPA Information Quality Guidelines Request website.



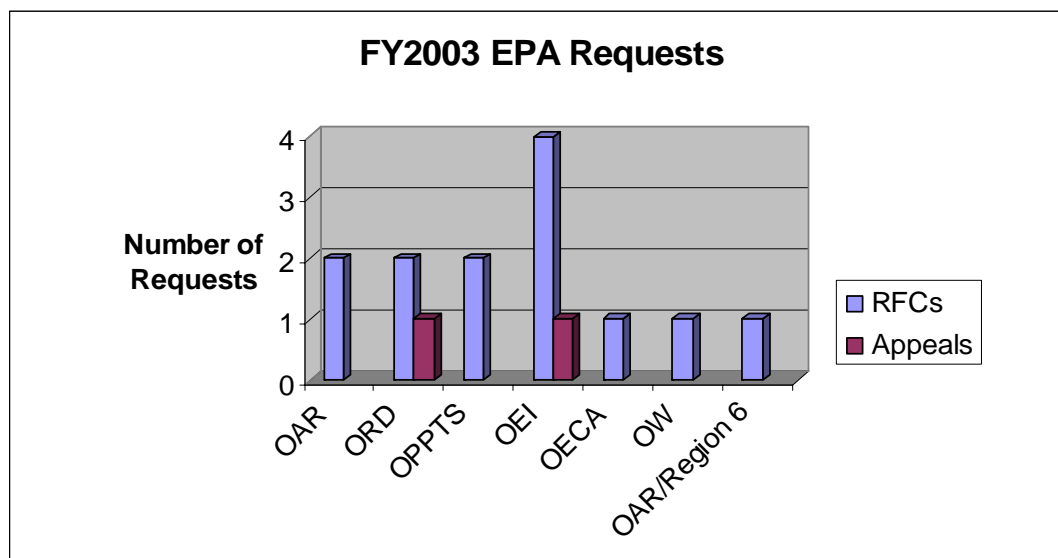
**EPA Request for Reconsideration (Appeal) Process**



**Figure 2. EPA Request for Reconsideration (Appeal) Process**

## Summary of EPA Data Quality Challenges from FY2003 through FY2005

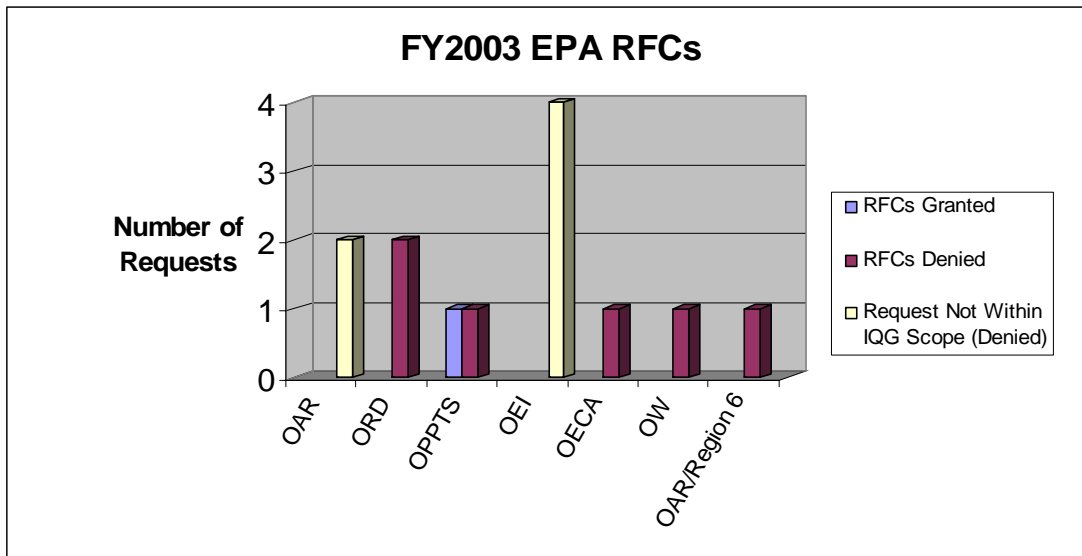
Since the implementation of the DQA, EPA has published three fiscal year reports of data quality challenges (<http://www.epa.gov/oei/qualityguidelines>). In its first annual report of data quality challenges, *US EPA Information Quality FY03 Annual Report*, EPA reported a total of 13 RFCs and two RFRs, which are appeals of agency denials of challenges, during the period from 1 October 2002 to 30 September 2003. Of these data quality requests received in fiscal year 2003, a total of seven EPA offices, including the OEI that coordinates all EPA data quality responses, were involved in reviewing and responding to these data quality requests. (See Figure 3, *FY2003 EPA Requests*.)



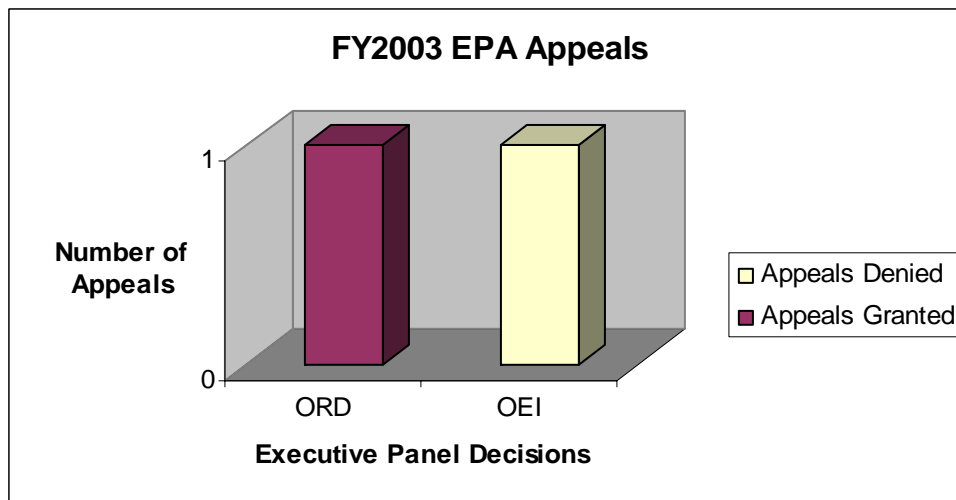
**Figure 3. *FY2003 EPA Requests***

Of those 13 RFCs, EPA determined that six were not within the scope of EPA's Information Quality Guidelines and thus were not subject to the formal review and response process. For those RFCs that EPA determined were within the scope of the guidelines, six were denied because EPA determined that no substantive change or correction was warranted and one

was granted. (See Figure 4, *FY2003 EPA RFCs*.) EPA also reviewed two appeals from denials of RFCs; one that EPA’s executive panel re-determined that the request should be handled by another agency (which later denied the request) and one that was granted. (See Figure 5, *FY2003 EPA Appeals*.)



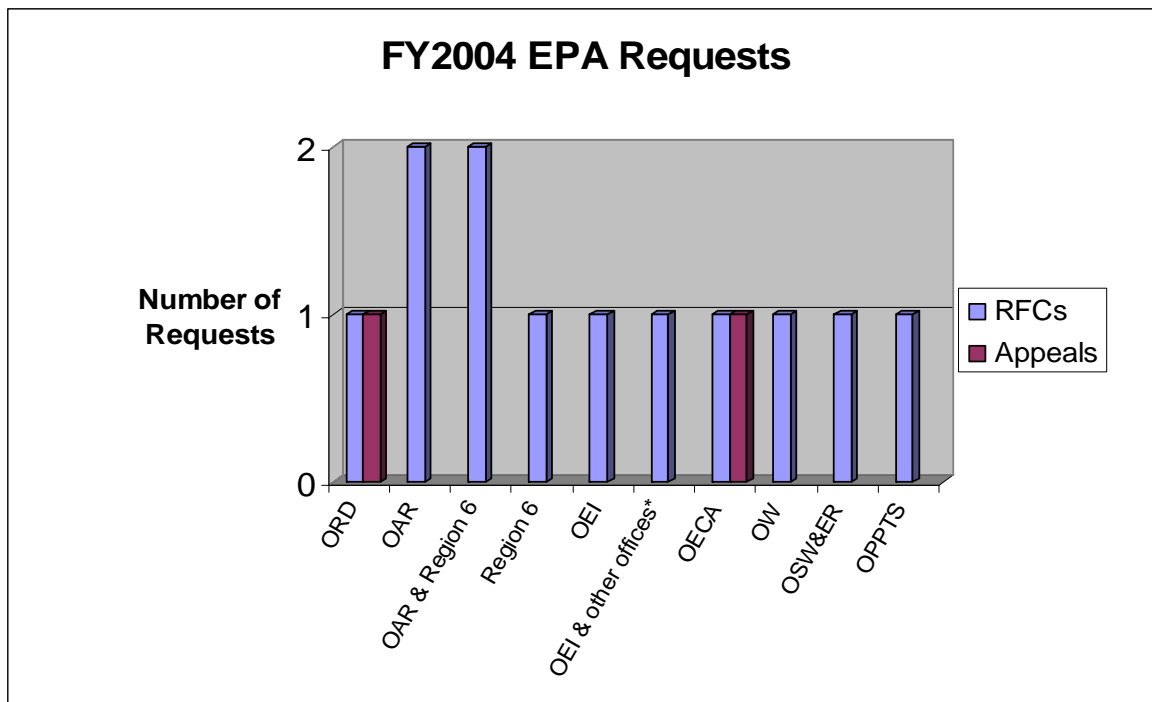
**Figure 4.** *FY2003 EPA RFCs*



**Figure 5.** *FY2003 EPA Appeals*

EPA's approximate response time from the initial receipt of the data quality challenge to the final response varied greatly, from as little as two months to as long as eleven months. The average number of months to respond to an RFC for FY 2003 was 4.7 months.

In EPA's second annual report of data quality challenges, *US EPA Information Quality FY04 Annual Report*, EPA reported a total of 12 RFCs and two appeals (RFRs) during the period from 1 October 2003 to 30 September 2004. A total of nine EPA offices were involved in reviewing and responding to these data quality requests. (See Figure 6, *FY2004 EPA Requests*.)

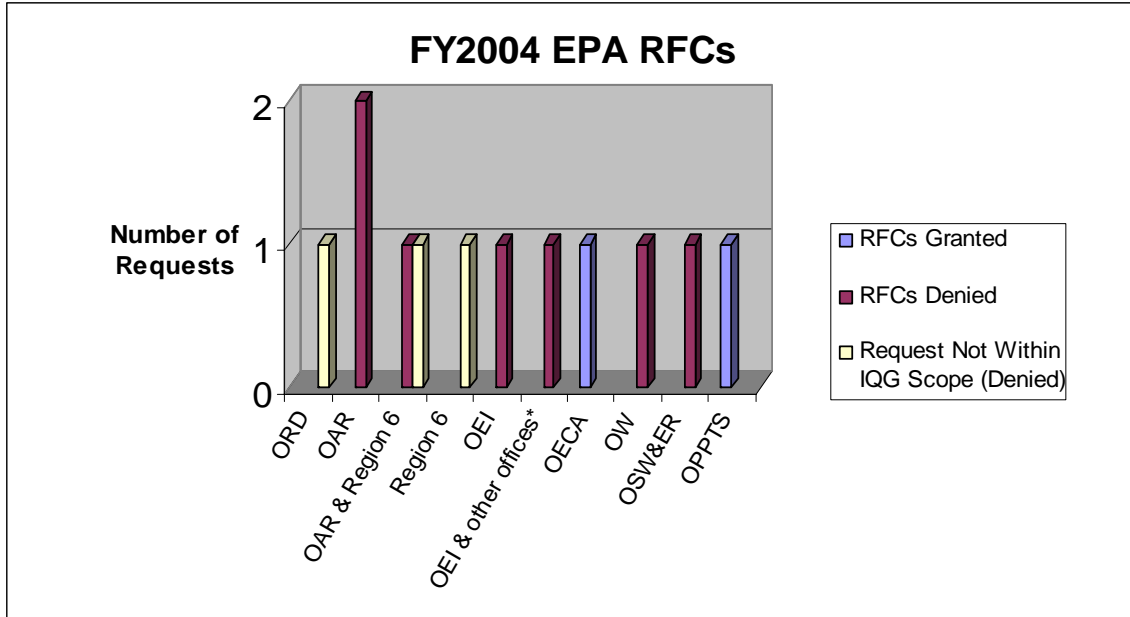


\*OEI, ORD, OSW&ER, OPPTS, and OAR

**Figure 6. *FY2004 EPA Requests***

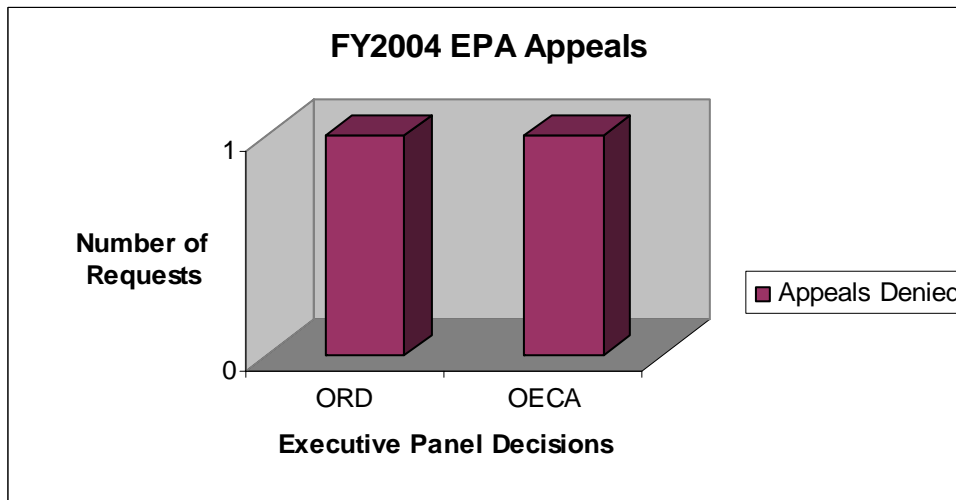
Of these 12 RFCs, EPA determined that three were not within the scope of EPA's guidelines and thus were not subject to the formal review and response process. For those RFCs that were within the scope of the guidelines, seven were denied because EPA determined that no

substantive change or correction was warranted. (See Figure 7, *FY2004 EPA RFCs*.) EPA also reviewed two appeals; both were denied. (See Figure 8, *FY2004 EPA Appeals*.)



\*OEI, ORD, OSW&ER, OPPTS, and OAR

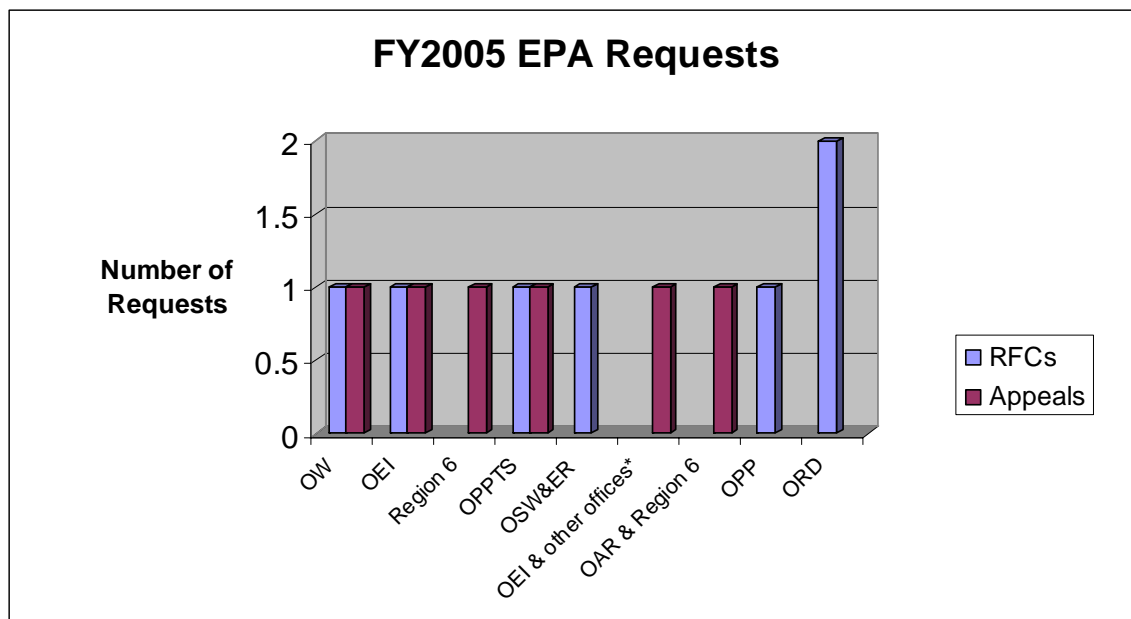
**Figure 7. *FY2004 EPA RFCs***



**Figure 8. *FY2004 EPA Appeals***

The approximate response time during this period ranged from three months to ten months to complete a RFC. The average time during this period to complete a RFC was 5.8 months, which is an increase of about a month from the first reporting year.

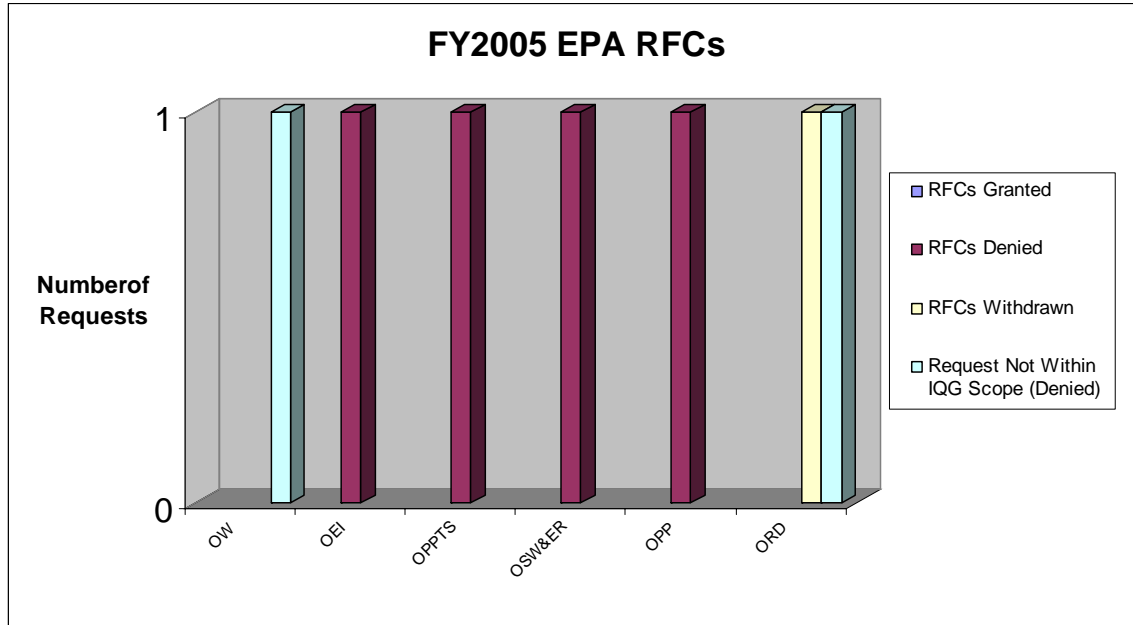
In EPA’s third annual report of data quality challenges, *US EPA Information Quality FY05 Annual Report*, EPA reported a total of seven RFCs and six RFRs during the period 1 October 2004 to 30 September 2005. The number of new requests dropped substantially, to about half the number filed in each of the two previous reporting periods (FY 2003 and FY2004), but the number of appeals (RFRs) tripled from two in FY2004 to six in FY2005. For these seven new data quality challenges, a total of eight EPA offices were involved in reviewing and responding to these data quality requests. (See Figure 9, *FY2005 EPA Requests*.)



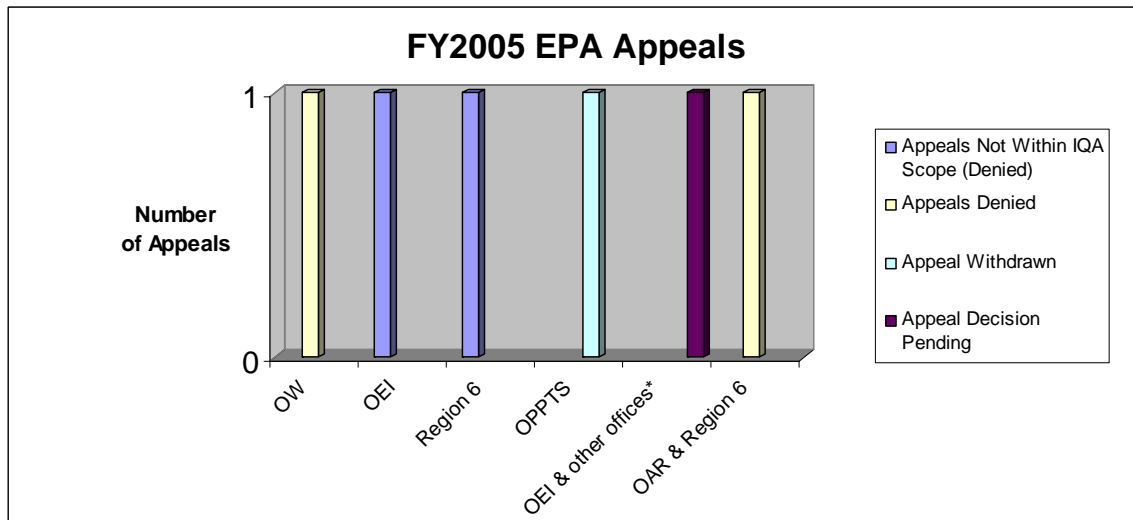
**Figure 9. *FY2005 EPA Requests***

Of those seven new requests, four were denied, one was withdrawn by the requester, and two were determined not to be within the scope of the EPA guidelines. Of the six appeals (RFRs) received, two were not within the scope of the EPA guidelines, two were denied, one

was withdrawn by the requester, and one is still pending a final decision by EPA. (See Figures 10 and 11, *FY2005 EPA RFCs* and *FY2005 EPA Appeals*, respectively.)



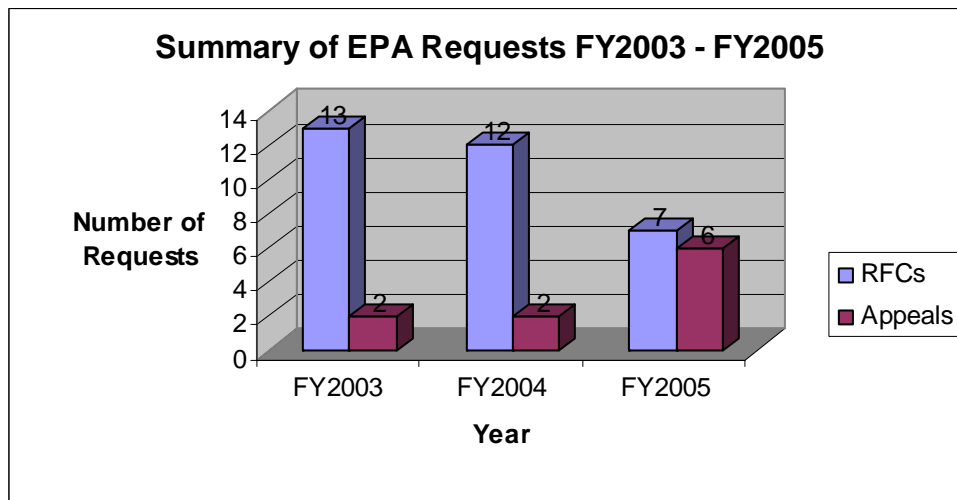
**Figure 10. *FY2005 EPA RFCs***



**Figure 11. *FY2005 EPA Appeals***

The approximate time to complete a new request (RFC) was 4 months and for an appeal it was 6.2 months. The time to complete an RFC dropped by almost 2 months from the previous

reporting period; however, the number of appeals handled by EPA this year took a substantial amount of time to complete. Figure 12, *Summary of EPA Requests from FY2003 – FY2005*, shows the number of RFCs and Appeals for each fiscal year.



**Figure 12. *Summary of EPA Requests FY2003 – FY2005***

### **Case Study – The Geronimo Creek Observatory Challenges**

During fiscal years 2003 and 2004, four data quality challenges were filed by an individual, Forest M. Mims, from the Geronimo Creek Observatory in Sequin, Texas. The Geronimo Creek Observatory is an area of land in south-central Texas where data is collected on the conditions of the ozone layer, ultra-violet (UV)-B, haze, and water vapor layers (Mims website). Forest M. Mims is a self-proclaimed scientist who, according to the biography he wrote for his website, has written extensively for electronics and scientific journals.

All four challenges were handled by the Office of Air and Radiation (OAR) and Region 6. In FY2003, the first data quality challenge contended that the quality of ozone data collected from an air monitoring site in San Antonio, Texas, in 2002 was erroneous and misleading (EPA RFC #12856, 2003). The requester asked that EPA assign a peer review panel to review the



current calibration tolerance and remove the data from various EPA websites, including the EPA Air Now website, that were allegedly incorrect.

EPA OAR and Region 6 staff determined that this request was not warranted. EPA responded that this challenge was not in violation of the EPA guidelines because data from air monitoring sites are “estimates which contain some degree of uncertainty” (EPA Response #12856, 2004). EPA stated in its response that the air monitoring site met the “uncertainty acceptance levels” for data quality under both the Texas Commission on Environmental Quality and Region 6. To address the concerns of the requester, EPA added a disclaimer on the AIRNow “Where You Live” webpage to inform the public about the quality of the data collected.

The Geronimo Creek Observatory’s next data quality challenge filed in October 2003 (RFC #12989, *EPA report "2002 Latest Findings on National Air Quality"*) contended that the EPA document, *Latest Findings on National Air Quality-2002 Status and Trends*, had “errors, omissions, and misleading content” (EPA RFC #12989, 2003). EPA determined that this report met the EPA guidelines; in response, EPA stated that it made “clarifying changes to the EPA Air Trends website” and that EPA would consider the comments received from the requester in future issues of the annual Air Trends booklet. The changes that were made to the EPA Air Trends website were not mentioned in EPA’s response.

The third data quality challenge filed by the Geronimo Creek Observatory in May 2004, (RFC #04018, *Designation and Classification of Areas for the 8-Hour Ozone National Ambient Air Quality Standard*), requested that information be corrected pertaining to data on Guadalupe County, Texas, under the EPA Designation and Classification of Areas for the 8-Hour Ozone National Ambient Air Quality Standard. The requester stated that EPA made two incorrect statements in the document *Response to Comments Document on EPA’s Designation and*

*Classification of Areas for the 8-hour Ozone National Ambient Air Quality Standard.* The requester stated that the following two statements made by EPA were incorrect (RFC #04018, 2004):

- “Guadalupe County is located east-southeast of Bexar County”; and
- “This county is upwind of the core metroplex during the ozone season and, therefore, emissions in this county tend to carry into the San Antonio area more frequently.”

This request for correction of data was associated with a final rulemaking in April 2004 (69 FR 23858). In July 1997, EPA promulgated a revised 8-hour ozone National Ambient Air Quality Standard. The Clean Air Act requires EPA to designate whether a geographic area is “in attainment, unclassifiable, or nonattainment following the promulgation of a National Ambient Air Quality Standard” (EPA RFC #04018, 2004). Throughout the designation process, EPA provided the public an opportunity to submit comments. In regards to the first statement that the requester asserted was incorrect, EPA enclosed a map of the San Antonio Consolidated Metropolitan Statistical Area showing that Guadalupe County is located east-southeast of Bexar County. In the second statement that the requester asserted was incorrect, the requester contended that “the prevailing wind during the May-October ozone season is from the southeast. Thus, Guadalupe County is not upwind of the core metroplex during the ozone season” (EPA RFC #04018, 2004).

In regards to this second statement, EPA responded that the wind data provided by Forest M. Mims was “not of sufficient quality....to be considered” (EPA Response to RFC #04018, 2004). Also, EPA used data for the ozone designation submitted by the Texas Commission on Environmental Quality from February 2005, which stated that “Guadalupe County is upwind of

the urban core 60% of the time during the ozone season...” (EPA Response to RFC #04018, 2004). Thus EPA determined that it would not change the data regarding the upwind position of Guadalupe County and that this data quality challenge did not contain significant new information to reopen the final rulemaking.

The Geronimo Creek Observatory filed the fourth data quality challenge regarding information pertaining to ozone and oxides of nitrogen (NO<sub>x</sub>) on EPA’s Urban Air websites in September 2004 (EPA RFC #04024, 2004). The requester asked that EPA replace erroneous information with scientifically correct information and find scientific peer reviewers to review and correct all EPA webpages. The OAR’s response to this challenge was to state that many of EPA’s websites are designed for the public’s general understanding of the material presented and thus do not contain the depth of scientific analysis and detail that would be appropriate for a scientific audience. EPA also responded to this challenge by making minor updates to two of its Urban Air websites regarding ground-level ozone and nitrogen oxides.

The four Geronimo Creek Observatory data quality challenges show that EPA appears to be spending several months, on average, responding to each of these challenges and that the result of each challenge is either no change or very minor changes, such as modifying EPA websites. While EPA does not actually record the time spent on data quality challenges, the EPA OAR has revealed that much of the time involved in preparing, approving, and finalizing a response to a challenge is spent in the many levels of review and oversight at EPA and OMB to come to a final decision (D. LaRoche, personal communication, February 2006). For each response to these cases, EPA must defend and annotate extensively the reasons the request will not be granted, referencing supporting documentation such as records, final rulemakings, and policy decisions to uphold its decision.

## **Impact of the Data Quality Challenges**

The greatest impediment in determining the true effects of the DQA on federal agencies is the failure of these agencies to record the actual time spent by each individual and the number of resources that review and respond to data quality challenges. The process that EPA uses to handle data quality challenges is consistent across the organizations within EPA; however, for each data quality challenge and potential appeal, it is not currently possible to quantify the costs incurred by each reviewing organization. Without these metrics, it is difficult to determine whether agencies are at all hampered by the additional workload of handling data quality challenges. Also, additional research is needed to determine the time that OMB spends reviewing the responses to each request. As the data quality challenges have spread across several offices within EPA, each office may be experiencing a different level of burden associated with responding to the challenges. Thus, the answer to the question of whether agencies are slowing their efforts to develop agency programs, decisions, and policy-making due to the burden of the Act cannot at this time be accurately determined (McGarity et al., 2005).

Even though it is not currently possible to quantify the costs of the Act at EPA, it is apparent that other substantial changes are taking place across the agency since the passage of the Act. Most of the data quality challenges filed at EPA have resulted in little or no changes made to any of EPA's documents or data in question; however, a common response by EPA to address the concerns of data quality challenges is to add disclaimer language to clarify on EPA websites that a particular document or set of information does not represent agency policy, or that the information is a draft document that does not at this time represent the views of the agency. For example, under EPA's National Air Monitoring Strategy Information website, a disclaimer reads "Virtually all the files accessible in this section represent draft material and do

not reflect established EPA policy” (EPA National Air Monitoring Strategy Information website). This statement renders the information and documents accessible from this website and links from this website excluded from EPA’s guidelines because the documents do not reflect final EPA policy, which EPA interprets to mean that the information is not agency-endorsed. This adaptation by EPA to exclude information on its websites is a precautionary measure to eliminate information from the provisions of the EPA guidelines and perhaps prevent or slow additional data quality challenges that could criticize that information.

Another precautionary measure that EPA has developed in response to the challenges is to remove old, historical data on its websites. Due to the Geronimo Creek Observatory challenges, certain historical data previously available on EPA air quality websites has been removed because of the potential for this information to be challenged in the future (D. LaRoche, personal communication, 28 February 2006). Although no indication exists that EPA is removing information on its websites not previously challenged to deter future data quality challenges, the potential to limit the availability of information to the public is apparent.

Since the Act’s implementation, EPA has been undergoing a slow cultural shift consisting of a heightened awareness and sensitivity among agency personnel due to the high visibility the Act. The Act itself has not prompted EPA to change substantially their processes and procedures regarding data quality across the agency. The main premise behind the Act was to ensure that agencies are consistent with maximizing the “quality, utility, objectivity, and integrity” of disseminated information. The results of the data quality challenges at EPA as of now do not indicate that the agency was not already maximizing quality to the greatest extent feasible. As many opponents would contend, this Act simply augments the opportunity for

primarily industry interests to use the Act as a means to challenge scientific information that does not meet their policy objectives (Shapiro, 2004).

EPA must address each challenge, whether or not it is substantive or relative to the information quality guidelines, because no restrictions exist on what kinds of data challenges can be submitted. In responding to data quality challenges, EPA must be very careful not to set a precedent to allow late comments to be included or considered after a final rulemaking has been promulgated. In the EPA Information Quality Guidelines, EPA states that the public comment process should be sufficient to address the concerns about EPA information and that EPA intends to address questions in its response to the comments (EPA Information Quality Guidelines, 2002). As such, the EPA guidelines state that "...the thorough consideration provided by the public comment process serves the purposes of the Guidelines, (and) provides an opportunity for correction of any information that does not comply with the Guidelines..." (EPA Information Quality Guidelines, 2002). In the case of RFC #04018 from Forest M. Mims of the Geronimo Creek Observatory, EPA responded that the request did not contain significant new information to warrant reopening the final rulemaking associated with this request. The public has sufficient opportunity to participate in every step of the rulemaking process, and if EPA had reopened this final rulemaking, the potential would exist for any EPA rulemaking to be subject to criticism through the data challenge provision under the DQA. EPA has responded to other data quality challenges in the same manner that question a decision after the period for public comment has ended. In another data quality challenge submitted in January 2005, a private citizen contended that the re-registration process for atrazine was in violation of the EPA Information Quality Guidelines (EPA RFC #05001, 2005). EPA responded that the requester did not provide sufficient new information to warrant reopening the comment period and thus denied this request.

If challenges question information relating to proposed rules, EPA has decided to include the RFCs as comments on these (EPA RFC #13166 & EPA RFC #04023, 2004). EPA's responses to these types of challenges have shown that the DQA has not been successful as an "anti-regulatory tool" that is used by a minority of industry interests who wish to bypass or delay the regulatory process.

One serious risk that the Act poses to EPA is the potential weakening of its credibility over time as the challenges attack the scientific bases and information that the agency uses to make decisions. Two of the four requests for correction filed by Forrest M. Mims of the Geronimo Creek Observatory (EPA RFC #04018 and EPA RFC #04024), stated "EPA's reputation within the United States and international scientific community is diminished by the erroneous statements (referenced within subject RFC) and at many other EPA websites." (EPA RFC #04018, 2004; EPA RFC #04024, 2004) In the case of the United States Chamber of Commerce's request (EPA RFC #04019) filed to EPA in May 2004, William Kovacs, vice president of the Chamber contended that 16 EPA databases had inconsistent numerical data and models for physical-chemical constants for various chemicals (EPA RFC #04019, 2004). EPA responded that the databases in question were in compliance with the EPA guidelines and made the following two minor changes in regards to the request: 1) two clarifying sentences were added to EPA PBT Profiler website, and 2) the Soil and Transport database was removed temporarily until a determination could be made if it was not in compliance with the EPA guidelines. In April 2005, William Kovacs stated in the appeal that, "EPA, in its response, refuses to check the questioned data....Passing on to those using the databases and models the responsibility for and consequences arising from the use of such erroneous data is an abdication of the government's responsibility to use and foster the use of good quality data in protecting

human health and the environment” (EPA RFR #04019A, 2005). Although the final outcome of this appeal has not been determined, EPA has persisted in defending the quality and soundness of its data.

Indeed, opponents of the Act continue to maintain that there has been no demonstrated need for the Act. Sidney Shapiro, a professor at Wake Forest University and a recognized expert in regulatory law, testified to the U.S. House of Representatives Subcommittee on Regulatory Reform in July 2005 that there was little evidence, if any, that the government had been relying on poor quality information (Shapiro, 2005a). Thomas O. McGarity, president of the Center for Progressive Regulation, an organization that supports regulation to protect human health and the environment, stated that, “The argument that it costs too much to protect people does not sell, but what does sell is this idea that the science is not good” (Weiss, 2004). As most of the challenges have been filed at regulatory agencies such as EPA, the DQA has the potential to be misused by industry interests to criticize scientific information used by the government (Shapiro, 2005b).

In effect, the DQA has been an instrument mostly of industry interests who use it to further the “sound science” campaign, which attempts to discredit scientific information or insist that additional research is needed to come to a policy decision (Shapiro, 2005b). The DQA has also been used to undermine the “weight-of-evidence” approach used to evaluate environmental problems. This approach considers all the relevant information and studies in a collective manner in order to make a decision (EPA Information Quality Guidelines, 2002). In an effort to discredit agency decisions, DQA challenges have attempted to dissect information that originally had been considered collectively to make a decision (Shapiro, 2005b). However, if the DQA is used properly, the corrections mechanism can be a tool to ensure that agencies are complying with standards and procedures to maximize the quality of disseminated information.



## **Conclusion**

In order to accurately assess the long-term impacts of the DQA on EPA and other federal agencies, agencies must record the actual time spent and number of resources used to review and respond to data quality challenges. Accurate metrics must be collected, because, without these metrics, it is difficult to determine whether agencies are hampered by the additional workload of responding to data quality challenges. As of now, the results of the data quality challenges at EPA do not indicate that the agency was not already maximizing quality to the greatest extent feasible. It remains to be seen whether industry interests, such as the U.S. Chamber of Commerce and the CRE, will continue to use the DQA as a tool to criticize scientific information used by EPA to make decisions. Even so, any “affected citizen” can use the DQA to attempt to discredit agency decisions, as the case of the Geronimo Creek Observatory challenges at EPA showed.

The DQA has not been successful as an “anti-regulatory tool” to bypass or delay the regulatory process. The results of the EPA data quality challenges thus far show that EPA has continued to abide by its quality, regulatory, and policy-making procedures and has not allowed the challenges to alter agency policies and procedures for the assessment and use of scientific information.

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## Appendix A –EPA Challenges FY2003 through FY2005

<b>FY2003</b>								
<b>EPA Office</b>	<b>EPA Office</b>	<b>RFCs</b>	<b>Appeals</b>	<b>RFCs Granted</b>	<b>RFCs Denied</b>	<b>Request Not Within IQG Scope (Denied)</b>	<b>Appeals Granted</b>	<b>Appeals Denied</b>
Office of Air and Radiation	<b>OAR</b>	<b>2</b>				<b>2</b>		
Office of Research and Development	<b>ORD</b>	<b>2</b>	<b>1</b>		<b>2</b>		<b>1**</b>	
Office of Prevention, Pesticides, and Toxic Substances	<b>OPPTS</b>	<b>2</b>		<b>1*</b>	<b>1</b>			
Office of Environmental Information	<b>OEI</b>	<b>4</b>	<b>1</b>			<b>4</b>		<b>1</b>
Office of Enforcement and Compliance Assurance	<b>OECA</b>	<b>1</b>			<b>1</b>			
Office of Water	<b>OW</b>	<b>1</b>			<b>1</b>			
Office of Air and Radiation and Region 6	<b>OAR/Region 6</b>	<b>1</b>			<b>1</b>			
	<b>Totals:</b>	<b>13</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>1</b>

\* RFC #12467 regarding EPA's Gold Book - Guidance for Preventing Asbestos Disease Among Auto Mechanics. EPA agreed to update this reference book.

\*\* RFR #2293A regarding oral dose for Barium. EPA agreed to a revised assessment of the reference dose.

<b>FY2004</b>								
<b>EPA Office</b>	<b>EPA Office</b>	<b>RFCs</b>	<b>Appeals</b>	<b>RFCs Granted</b>	<b>RFCs Denied</b>	<b>Request Not Within IQG Scope (Denied)</b>	<b>Appeals Granted</b>	<b>Appeals Denied</b>
Office of Research and Development	<b>ORD</b>	<b>1</b>	<b>1</b>			<b>1</b>		<b>1</b>
Office of Air and Radiation	<b>OAR</b>	<b>2</b>			<b>2</b>			
Office of Air and Radiation and Region 6	<b>OAR &amp; Region 6</b>	<b>2</b>			<b>1</b>	<b>1</b>		
Region 6	<b>Region 6</b>	<b>1</b>				<b>1</b>		
Office of Environmental Information	<b>OEI</b>	<b>1</b>			<b>1</b>			
OEI along with ORD, Office of Solid Waste & Emergency Response, OPPTS, and OAR	<b>OEI &amp; other offices*</b>	<b>1</b>			<b>1</b>			
Office of Enforcement and Compliance Assurance	<b>OECA</b>	<b>1</b>	<b>1</b>	<b>1*</b>				<b>1</b>
Office of Water	<b>OW</b>	<b>1</b>			<b>1</b>			
Office of Solid Waste & Emergency Response	<b>OSW&amp;ER</b>	<b>1</b>			<b>1</b>			
Office of Prevention, Pesticides, and Toxic Substances	<b>OPPTS</b>	<b>1</b>		<b>1**</b>				
	<b>Totals:</b>	<b>12</b>	<b>2</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>0</b>	<b>1</b>

\* RFC #04022 – regarding errors and misleading statements in a fact sheet concerning US vs. Wal-Mart Stores (May 2004) about storm water runoff from construction sites. EPA agreed to correct the fact sheet.

\*\* RFC #04025 – requesting changes to toxicology section of Isocyanates Profile on EPA Office of Pollution Prevention and Toxics (OPPT) Design for Environment webpage (<http://www.epa.gov/opptintr/dfe>). EPA agreed to make minor changes to some of the requests.

<b>FY2005</b>										
<b>EPA Office</b>	<b>EPA Office</b>	<b>RFCs</b>	<b>Appeals</b>	<b>RFCs Denied</b>	<b>RFCs With-drawn</b>	<b>Request Not Within IQG Scope (Denied)</b>	<b>Appeals Not Within IQA Scope (Denied)</b>	<b>Appeals Denied</b>	<b>Appeal With-drawn</b>	<b>Appeal Decision Pending</b>
Office of Water	<b>OW</b>	<b>1</b>	<b>1</b>			<b>1</b>		<b>1</b>		
Office of Environmental Information	<b>OEI</b>	<b>1</b>	<b>1</b>	<b>1</b>			<b>1</b>			
Region 6	<b>Region 6</b>		<b>1</b>				<b>1</b>			
Office of Prevention, Pesticides, and Toxic Substances	<b>OPPTS</b>	<b>1</b>	<b>1</b>	<b>1</b>					<b>1</b>	
Office of Solid Waste & Emergency Response	<b>OSW&amp;ER</b>	<b>1</b>		<b>1</b>						
OEI along with ORD, Office of Solid Waste & Emergency Response, OPPTS, and OAR	<b>OEI &amp; other offices*</b>		<b>1</b>							<b>1</b>
Office of Air and Radiation and Region 6	<b>OAR &amp; Region 6</b>		<b>1</b>					<b>1</b>		
Office of Pesticide Programs	<b>OPP</b>	<b>1</b>		<b>1</b>						
Office of Research and Development	<b>ORD</b>	<b>2</b>			<b>1</b>	<b>1</b>				
	<b>Totals:</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>



## **Vita**

Nina Hardman completed undergraduate studies in Biology at Virginia Polytechnic Institute and State University in 1994. Ms. Hardman received a certificate in Natural Resources from Virginia Tech in 2004, and she plans to complete the Master of Natural Resources in the spring of 2006. Her academic goal upon entering the Masters program in Natural Resources at Virginia Tech was to gain a solid knowledge and understanding of local as well as global natural resources management and conservation issues. Ms. Hardman has almost 10 years experience in the Information Technology field and upon completion of this degree, she plans to make a career change into the natural resources field.