

**COMMITTEE ON SCIENCE AND TECHNOLOGY  
SUBCOMMITTEE ON ENERGY AND ENVIRONMENT  
U.S. HOUSE OF REPRESENTATIVES**

**HEARING CHARTER**

*Fostering Quality Science at EPA: The Need for Common Sense Reform*

Thursday, November 17, 2011  
2:00 p.m. to 4:00 p.m.  
2318 Rayburn House Office Building

**PURPOSE**

On Thursday, November 17, 2011, the Subcommittee on Energy and Environment of the Committee on Science, Space, and Technology will hold a hearing to review research and development activities at the Environmental Protection Agency (EPA) and how such activities support EPA program needs; explore the transition of science from the Office of Research and Development (ORD) to other program offices for use in developing and implementing regulations; examine the Science Advisory Board (SAB) process and how it contributes to the quality of science developed at ORD; and discuss any needed changes to the Environmental Research, Development and Demonstration Act which authorizes science activities at EPA.

**WITNESSES**

**Dr. Paul Anastas**, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency

**Mr. Arthur Elkins, Jr.**, Inspector General, U.S. Environmental Protection Agency

**Mr. David Trimble**, Director, Natural Resources and Environment, U.S. Government Accountability Office

**BACKGROUND**

The Environmental Research, Development, and Demonstration Authorization Act (ERDDA) authorizes research and scientific activities at the Environmental Protection Agency (EPA). Originally enacted in 1976, Congress subsequently passed annual authorizations through fiscal year 1981. In addition to establishing annual authorization levels, these statutes also directed EPA policy in a variety of areas, including establishing the Office of Research and Development (ORD)<sup>1</sup>, requiring a 5-year environmental R&D plan, and creating EPA's Science Advisory Board (SAB).

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<sup>1</sup> See Appendix 1 for EPA organizational structure.

<b>Year</b>	<b>Act</b>	<b>Public Law Number</b>
1976	ERDDA	94-475
1977	ERDDA of 1978	95-155
1978	ERDDA of 1979	95-477
1979	ERDDA of 1980	96-229
1980	ERDDA of 1981	96-569

Since 1981, there have been a number of bills introduced to reauthorize ERDDA that were not ultimately enacted into law.<sup>2</sup> As a result, explicit authorization of EPA’s environmental R&D ended at the end of fiscal year 1981. This failure to comprehensively reauthorize EPA programs and activities illustrates a broader trend among expired environmental statutes. The Congressional Research Service notes this trend, stating “Although Congress somewhat recently has renewed the authorization of appropriations for certain EPA programs and activities through targeted amendments to various statutes, a more comprehensive reauthorization of many of the statutes that EPA administers has not been enacted for a number of years.”<sup>3</sup>

In addition to ERDDA, EPA also derives authority for R&D activities through other major environmental statutes. For example, under the Clean Air Act, the EPA Administrator must issue air quality criteria that “shall accurately reflect the latest scientific knowledge useful in indicating the kind of extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air.”<sup>4</sup> Through the Safe Drinking Water Act (SDWA), EPA sets standards based on “the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices.”<sup>5</sup> Similarly, the Clean Water Act (CWA) requires EPA to publish water quality information “accurately reflecting the latest scientific knowledge.”<sup>6</sup>

In many cases, these major regulatory statutes also authorize specific R&D programs and activities. For example, the Clear Air Act established a national research and development program for the prevention and control of air pollution including establishing technical advisory committees and research on air pollutant monitoring. The SDWA authorized the Administrator of EPA to conduct research and studies relating to the causes, diagnosis, treatment, control, and prevention of physical or mental diseases resulting directly or indirectly from contaminants in the water including improved methods to identify and measure contaminants in drinking water and improved methods to identify and measure the health effects of contaminants in drinking water. The CWA directed the Administrator to establish national programs for the prevention, reduction, and elimination of pollution and as part of such programs to work in cooperation with other State and Federal agencies to coordinate and accelerate research,

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<sup>2</sup> HR 3115 (1982), HR 2804 (1982), S. 1205 (1982), S. 2577 (1983), HR 2899 (1984), S. 1292 (1984), HR 2319 (1985), S. 2702 (1985), S. 1144 (1986), HR 2355 (1987), HR 1523 (1987), HR 2153 (1989), HR 4873 (1990), HR 2404 (1991), S. 1655 (1991), HR 1994 (1993), S. 1545 (1993), HR 2405 (1995), HR 1814 (1995), HR 3322 (1996), HR 1276 (1997), HR 1742 (1999), HR 1743 (1999).

<sup>3</sup> Congressional Research Service, “Environmental Laws: Summaries of Major Statutes Administered by the Environmental Protection Agency,” RL30798, August 11, 2011

<sup>4</sup> 42 U.S.C. §7408 (a)(2) (2000).

<sup>5</sup> 42 U.S.C. §300g-1(b)(3)(A)(i).

<sup>6</sup> 33 U.S.C. §1314 (a)(1).

investigation, experiments, demonstrations and studies relating to the causes, effects, extent, prevention, reduction and elimination of pollution in the navigable waters of the U.S.

The science enterprise at EPA is spread across program offices and regions. ORD is organized into three national labs (comprised of 18 separate labs) and four national centers (which have 19 divisions).<sup>7</sup> In addition to 18 labs within ORD, there are 9 labs split among several program offices and each of the 10 regions has its own lab.<sup>8</sup> In FY2010, the appropriations level for EPA Science and Technology activities (S&T includes ORD and the other 19 labs) was \$750 million. The appropriations level for FY2011 was \$650 million. The FY2012 House Committee-passed appropriations level is \$755 million and the FY2012 Senate Committee draft appropriations level is \$809 million.

The fragmented nature of EPA R&D presents a challenge to program management and coordination, and has complicated efforts to evaluate the effectiveness of these activities. Numerous studies conducted by the EPA Office of Inspector General (OIG), the Government Accountability Office (GAO), the National Academies of Science (NAS) and other outside groups over the years have cited significant concerns with the science activities of the Agency and the difficulties in evaluating the usefulness of the science to program needs.

## **ISSUES**

### ***Science Quality***

The FY2012 Annual Plan of the EPA's OIG raises significant concerns about science and technology activities at the Agency, stating that "[q]uestions exist as to whether EPA is collecting the right data, of sufficient quality, and is making that data available."<sup>9</sup> In terms of EPA's regulatory process, the Inspector General (IG) further states that "[m]any policies are out of date or are based on outdated science and technology."<sup>10</sup> As part of the update on its High-Risk Program, GAO highlighted concerns about EPA politicization of science, saying that "[i]n recent years, concerns have been raised regarding the perceived politicization of science in agency decisions."<sup>11</sup> In 2009, GAO added EPA's handling of toxic chemicals through the Integrated Risk Information System (IRIS) to its list of areas at high risk for waste, fraud, abuse, and mismanagement.<sup>12</sup> Similarly, the chair of a 2009 National Academy of Sciences panel on ways to improve the Agency's risk assessment told the EPA's Science Advisory Board (SAB) and Board of Scientific Counselors (BOSC) earlier this year that the risk assessment process was the Agency's "Achilles heel."<sup>13</sup>

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<sup>7</sup> See Appendix 2.

<sup>8</sup> See Appendix 3.

<sup>9</sup> EPA Inspector General (IG), "FY 2012 Annual Plan," November 2011, [http://www.epa.gov/oig/reports/2012/EPA\\_OIG\\_FY2012\\_AnnualPlan.pdf](http://www.epa.gov/oig/reports/2012/EPA_OIG_FY2012_AnnualPlan.pdf).

<sup>10</sup> Ibid.

<sup>11</sup> GAO, "Ensuring Sound Science," February 28, 2011, <http://www.gao.gov/highrisk/agency/epa/ensuring-sound-science.php>.

<sup>12</sup> GAO, "HIGH-RISK SERIES: An Update," January 2009, GAO-09-271, <http://www.gao.gov/new.items/d09271.pdf>. See also: David Trimble, "EPA HEALTH RISK ASSESSMENTS: Sustained Management and Oversight Key to Overcoming Challenges," Testimony before the Subcommittee on Investigations and Oversight, Committee on Science, Space, and Technology, U.S. House of Representatives, July 14, 2011, [http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/071411\\_Trimble.pdf](http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/071411_Trimble.pdf).

<sup>13</sup> *Inside EPA*, "Key Adviser Warns EPA to Improve Agency Science Or Face A 'Crisis'," July 6, 2011.

## *Peer Review*

EPA IG's recently-released "Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes" raised a number of concerns about how the Agency classifies scientific assessments and information, as well as the quality of peer review that EPA science undergoes. In reviewing EPA's Technical Support Document (TSD) in support of the Endangerment Finding, the IG found that:

"EPA's peer review did not meet all OMB [Office of Management and Budget] requirements for such documents. EPA had the TSD reviewed by a panel of 12 federal climate change scientists. However, the panel's findings and EPA's disposition of the findings were not made available to the public as would be required for reviews of highly influential scientific assessments. Also, this panel did not fully meet the independence requirements for reviews of highly influential scientific assessments because one of the panelists was an EPA employee. Further, in developing its endangerment finding, we found that OAR [Office of Air and Radiation] did not: Include language in its proposed action, final action, or internal memoranda that identified whether the Agency used influential scientific information or highly influential scientific assessments to support the action. OAR also did not certify that the supporting technical inform."<sup>14</sup>

## *Advisory Panels*

Several concerns have been raised about the make-up, transparency, and rigor provided by EPA advisory panels like the SAB and the Clean Air Scientific Advisory Committee (CASAC). Despite the requirement under the Federal Advisory Committee Act that panels be "fairly balanced in terms of points of view presented and the functions to be performed by the advisory committee,"<sup>15</sup> GAO has found that "[m]any advisory committee members are not appropriately screened for potential conflicts of interest or points of view."<sup>16</sup> Similarly, EPA IG has also cited avenues for improving the Agency's process for establishing peer review panels. In a 2009 review of the National Center for Environmental Assessment's process, EPA IG found that the Center "does not have procedures for addressing conflicts of interest or potential biases," lacked "adequate controls to establish accountability for suitability determinations and rationale for including or excluding each panelist," and did not have a useful interpretation of impartiality in selecting peer review panels.<sup>17</sup> Testimony from a recent participant in CASAC's particulate matter National Ambient Air Quality Standard panel stated that the CASAC process is "flawed, narrow, and possibly ethically questionable."<sup>18</sup>

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<sup>14</sup> EPA IG, "Procedural Review of EPA's Greenhouse Gases Endangerment Finding Data Quality Processes," Report No. 11-P-0702, September 26, 2011, <http://www.epa.gov/oig/reports/2011/20110926-11-P-0702.pdf>.

<sup>15</sup> 5 U.S.C. App

<sup>16</sup> GAO, "Ensuring Sound Science." See also: John Stephenson, GAO, Testimony before the Committee on Environment and Public Works, U.S. Senate, "SCIENTIFIC INTEGRITY: EPA's Efforts to Enhance the Credibility and Transparency of Its Scientific Processes," June 9, 2009, <http://www.gao.gov/products/GAO-09-773T>.

<sup>17</sup> EPA IG, "EPA Can Improve Its Process for Establishing Peer Review Panels," April 29, 2009, Report No. 09-P-0147, <http://www.epa.gov/oig/reports/2009/20090429-09-P-0147.pdf>.

<sup>18</sup> Robert F. Phalen, University of California, Irvine, Testimony before the Subcommittee on Energy and Environment, House Committee on Science, Space, and Technology, October 4, 2011, [http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/100411\\_Phalen.pdf](http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/100411_Phalen.pdf).

## ***Prioritization***

In order for EPA science to better match the agency's environmental goals and the individual regulatory needs of program offices, both GAO and the EPA IG have recommended important reforms. GAO found that "EPA needs to better emphasize the development and use of environmental indicators and information... as a mechanism for prioritizing its allocation of limited resources,"<sup>19</sup> and that the "[l]ack of complete and comprehensive environmental information on air or water quality, for example, makes it difficult for EPA to evaluate the success of its policies and programs."<sup>20</sup> EPA IG has also found that, despite the fact that the top goal in the Agency's strategic vision includes "Taking Action on Climate Change,"<sup>21</sup> EPA "does not have an overall plan to ensure developing consistent, compatible climate change strategies across the Agency" which could "result in duplication, inconsistent approaches, and wasted resources among EPA's regions and offices."<sup>22</sup>

## ***Scientific Integrity***

Finding that significant numbers of ORD staff were unaware of the Agency's policies earlier this year, the EPA IG recommended that "ORD should improve how it evaluates the effectiveness of its policies and procedures for scientific integrity and research misconduct."<sup>23</sup> Concerns have also been raised about the lack of detail in EPA's draft scientific integrity policy.<sup>24</sup>

## ***Management of Laboratory and Science Activities***

In a July 2011 report requested by Ranking Member Miller, GAO found that EPA's laboratory activities "remain fragmented and largely uncoordinated," and that "EPA has not undertaken an agency wide, coordinated approach to managing its scientific efforts and related facilities as part of an interrelated portfolio of facilities." This report also found that the Agency had failed to implement the recommendations of five independent evaluations of EPA's scientific and laboratory management since 1992.<sup>25</sup>

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<sup>19</sup> GAO, "Improving the Development and Use of Environmental Information," November 12, 2009, <http://www.gao.gov/highrisk/agency/epa/improving-the-development-and-use-of-environmental-information.php>.

<sup>20</sup> GAO, "Environmental Protection Agency," November 6, 2009, <http://www.gao.gov/highrisk/agency/epa/>.

<sup>21</sup> <http://www.epa.gov/planandbudget/strategicplan.html>.

<sup>22</sup> EPA IG, "EPA Needs a Comprehensive Research Plan and Policies to Fulfill its Emerging Climate Change Role," February 2, 2009, Report No. 09-P-0089, <http://www.epa.gov/oig/reports/2009/20090202-09-P-0089.pdf>.

<sup>23</sup> EPA IG, "Office of Research and Development Should Increase Awareness of Scientific Integrity Policies," July 22, 2011, Report No. 11-P-0386, <http://www.epa.gov/oig/reports/2011/20110722-11-P-0386.pdf>.

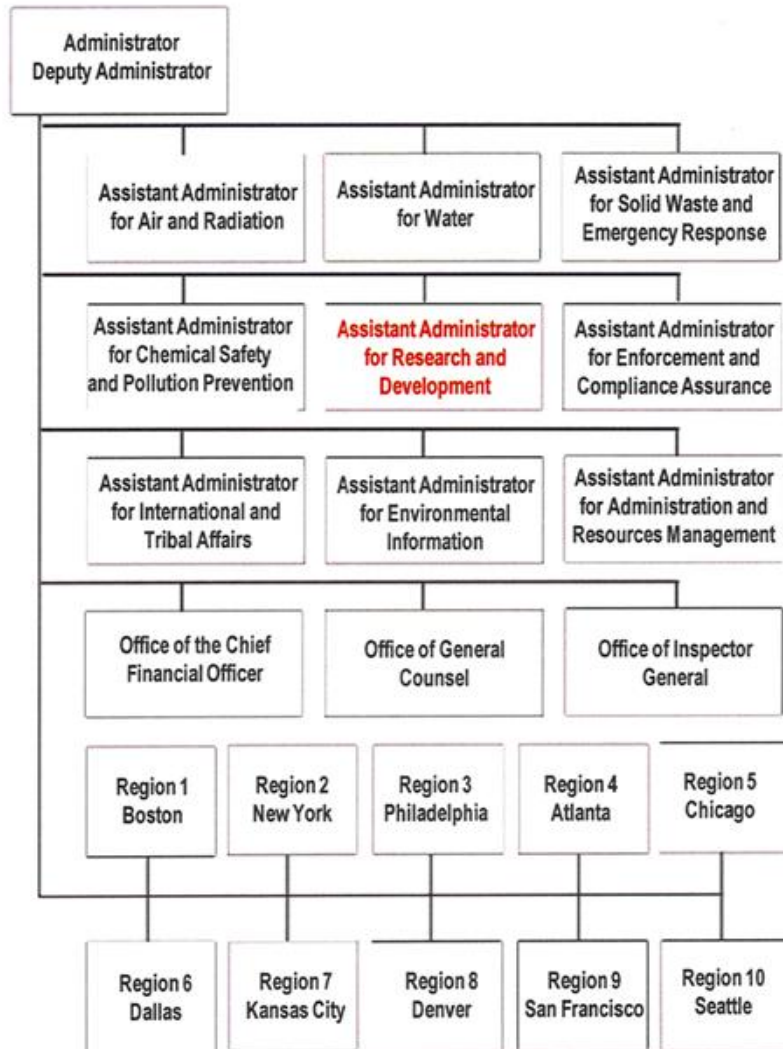
<sup>24</sup> Emily Yehle, "EPA's Scientific Integrity Policy Draft Skimpy on Specifics, Critics Charge," *Greenwire*, August 8, 2011, <http://www.nytimes.com/gwire/2011/08/08/08greenwire-epas-scientific-integrity-policy-draft-skimpy-o-5210.html>.

<sup>25</sup> GAO, "ENVIRONMENTAL PROTECTION AGENCY: To Better Fulfill Its Mission, EPA Needs a More Coordinated Approach to Managing Its Laboratories," July 2011, GAO-11-347, <http://www.gao.gov/new.items/d11347.pdf>.

# Appendix 1



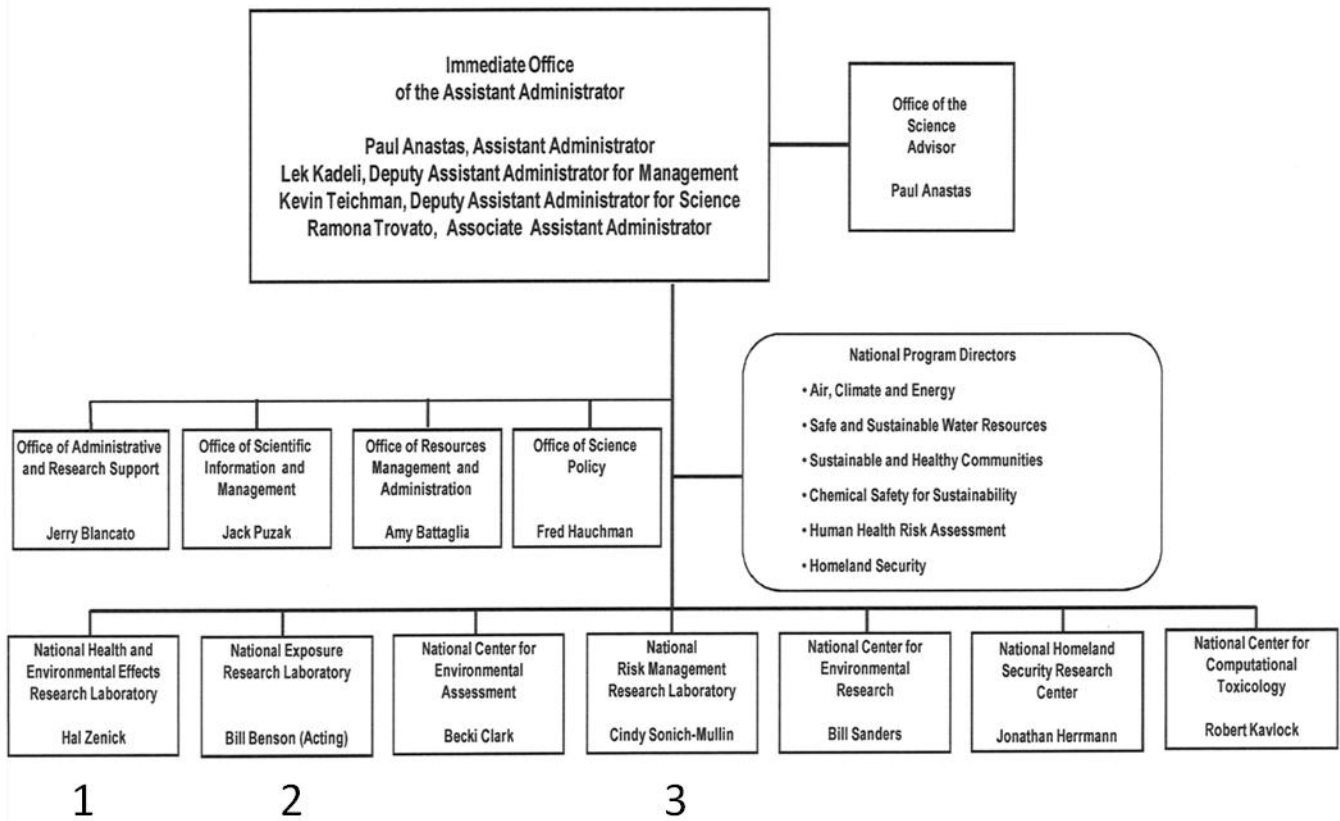
## U.S. EPA Organizational Chart



## Appendix 2



# ORD's Organization



The bottom of this chart shows three national labs and four national centers. The three national labs are broken down in Appendix 3.

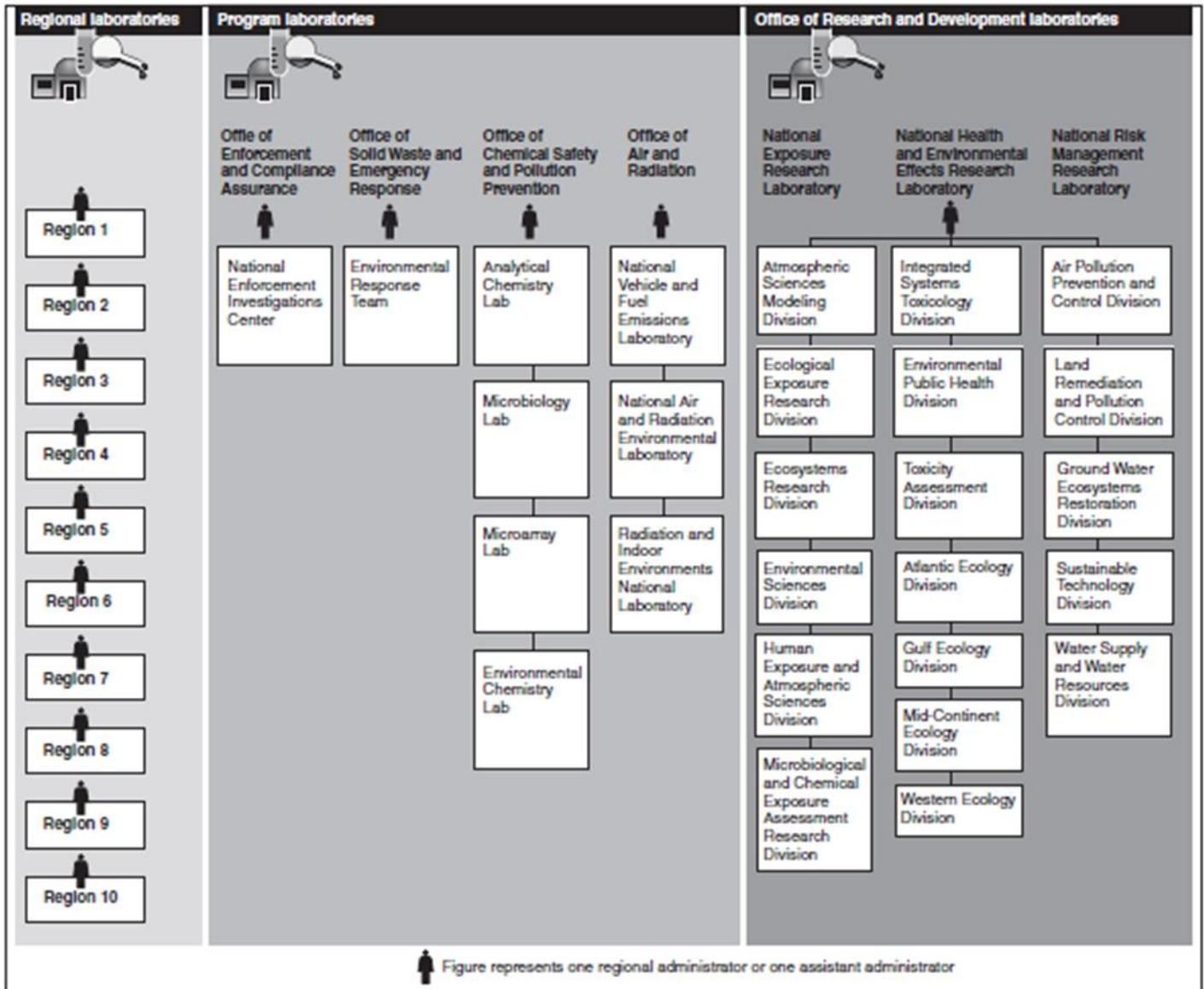


# Appendix 3

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2

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Source: GAO.

Column 1 shows 10 regional labs. Column 2 shows 9 program labs. Column 3 shows 18 ORD labs.