

# Questionnaire for EPA Region VI Administrator Candidates

-- by Al Armendariz

## **Q: What is your experience with air pollution?**

**A:** First off, thank you for your engagement in environmental policy in Texas and other parts of Region 6. The air and water throughout the U.S. are cleaner because of the vigilance and hard work of the environmental community. If I get the privilege of serving as the next regional administrator, I would work hard to make sure that all stakeholders (the environmental community, regulated entities, elected officials, state and local regulators, medical professionals) feel like they are being treated fairly by EPA.

I have worked on a variety of projects during my career, but my primary focus has been on air pollution. My graduate degrees from the University of Florida and the University of North Carolina emphasized air pollution and closely related fields. I teach courses at the freshman, upper level, and graduate level on fundamental and advanced air pollution topics.

My work experience during the 1990's with Radian Corporation (now part of URS) was in the air pollution area. I worked on Title V and other permit applications for major natural gas utilities, pulp and paper mills, and wood products corporations. These projects were located in a number of states across the southeastern U.S. I set-up and managed the NSPS leak detection/repair program for a natural gas processing plant in Kentucky. I worked on projects for the Gas Research Institute (GRI) and for pipeline compressor station operators developing emission factors for greenhouse gases and criteria pollutants for compressor engines and other emission sources.

I joined the SMU faculty in 2002. During my time on the faculty, I have conducted research sponsored by the Centers for Disease Control and Prevention (CDC) to design, construct, and test a filtration system to reduce particulate emissions from diesel powered machinery and vehicles. In 2008-2009, I constructed an emissions inventory for oil/gas sector sources in the Barnett Shale field around Fort Worth, on a project sponsored by the Austin office of Environmental Defense Fund (EDF).

Along with these employment-related air pollution projects, I have also been actively involved in a series of community-oriented air quality efforts. These include preparing extensive comments to regulatory actions such as: the 2007 TCEQ SIP revisions for the DFW ozone nonattainment area, the 2008 EPA revisions to the National Ambient Air Quality Standard for lead, and the EPA 2008 New Source Performance Standards for cement kilns. In addition, I have participated in numerous meetings with local and state elected officials and business interests, and given testimony in the Texas Legislature on topics such as: DFW and Houston ozone nonattainment, the need for mercury controls from coal-fired EGUs, the availability of cost-effective emissions controls from oil/gas production sources, the potential public health impacts of the proposal to restart the Asarco smelter in El Paso, and the status of cement kiln emissions controls.

These are many of the major air pollution activities in which I have developed substantial experience. For the sake of space, I'll refrain from describing others and I invite interested parties to review the memos and reports that I have uploaded to my SMU webpage.

**Q: What experience do you have with water pollution?**

**A:** I have worked on a number of projects that are indicative of the kinds of water quality issues we have in this region.

In 1994, while working for the consulting firm CDM, I worked on a project in New Orleans (Jefferson Parish), Louisiana, to identify and remove abandoned and potentially leaking underground storage tanks (USTs) on Jefferson Parish government property. Underground storage tank leaks have contributed to hundreds of thousands of groundwater, surface water, and soil contamination sites in the U.S. The UST program begun by EPA and the states in 1984 has been successful in identifying and removing problem tanks and in establishing standards for tanks in operation. Nonetheless, in 1994, there were still many old and abandoned tanks in the greater New Orleans area at old fire stations, mosquito and flood control lots, and parish motor pools. I was a member of team locating these tanks so they could be emptied and pulled from service. I have worked on several related research projects (in 2004-2005, and again in 2009) sponsored by EPA and their partners in Native American governments to develop a portable method for use at UST and fuel spill sites to identify contamination problems in near real time, to supplement the traditional off-site soil and groundwater analysis that happens in chemical laboratories.

During the 2009 session of the Texas Legislature, I reviewed the numerous environmental bills filed by the House and Senate, and I quickly realized the importance of HB 4082 by Representative Farrar of Houston. The bill would have required large reductions in mercury emissions from electric generating units in Texas. Mercury accumulation in fish and other marine animals is a serious environmental problem, and unfortunately, federal standards on EGU mercury emissions have been unresolved since 1990. I gave supportive testimony to the House Environmental Regulation committee on April 29, 2009, but unfortunately, the bill never made it out of committee. Nonetheless, I am optimistic that EGU and other mercury sources see the writing on the wall and will either voluntarily or through federal/state regulation reduce their mercury emissions.

For the last two summers I have taught a summer class to a group of Dallas-area high school students as part of the ExxonMobil Green Team program, coordinated by the Volunteer Center of North Texas. The students come to SMU every Wednesday, and I talk to them for 90-minutes about the science and policy of global climate change. As part of these lessons, I stress to the students that the primary reasons we need to confront the buildup of carbon in the atmosphere are not primarily because of what will happen to the atmosphere itself. The oceans have absorbed 80% of the additional heat trapped on the planet because of anthropogenic greenhouse gases. In addition, the acidity of surface waters is expected to increase with the additional input of carbon dioxide into the oceans over time. These temperature and pH stresses come on top of the problems created by overfishing, massive nutrient flows, and conventional point and non-point source water pollution. This cocktail of anthropogenic insults to the oceans has already

contributed to the deaths of coral reef systems and the collapse of large fisheries worldwide, and the rising problem of temperature and acidity created by atmospheric carbon emissions will only make the problem worse. Add to this the evidence that tropical storm intensities are likely to increase with global temperature, and it's soon apparent that the oceans and what we are doing to them are a critical reason that we have the political and scientific consensus to control atmospheric carbon emissions.

**Q: What experience do you have in enforcement?**

**A:** My most recent experience in enforcement was as part of some work several years ago outside of my normal duties on the SMU faculty. A legal settlement was established in 2004 between an environmental group and one of the cement companies in Midlothian, Texas. The legal settlement stipulated that an outside scientist was to be brought in to observe and ensure compliance at the cement plant with all the provisions of the settlement. I fulfilled that role from 2005 to 2007.

My duties included many trips to the plant, where I got to inspect process and pollution control equipment. I observed stack testing and CEM accuracy testing. I reviewed the plant's permits, and compared the results of stack testing and continuous emissions monitoring to the permits, state and federal requirements, and to the legal settlement conditions. I spent hours reviewing fence-line PM monitoring data, and days observing and reviewing data from stack testing of air toxic emissions during the burning of alternative (non-traditional) fuels at the plant. I advocated to the plant and state agency for permit limit changes based on what I felt was technically achievable at the facility. I had complete access to the plant and its data and personnel.

I developed and maintained a good working relationship with the plant management and I earned the trust of the Midlothian-based environmental group.

During my work helping to enforce the settlement agreement, I got to observe first-hand how having an independent third party involved in these legal settlements can result in a higher level of trust between the environmental community and a regulated entity. If I get the privilege to serve as regional administrator, I intend to seek out additional opportunities in legal settlements and permit actions for third party observers to get involved the way I was able to.

**Q: TCEQ is in many ways a rogue agency—operating in violation of many provisions of the CAA and CWA—how would you bring them into control and at what point would you consider revoking the delegation to implement federal laws?**

**A:** I'll respectfully refrain from using your description of TCEQ as a "rogue agency", although I am on record of being sharply critical of actions the commission has taken in the past. In addition, I feel I must also refrain from speculating in detail about the state's delegation to implement federal environmental laws, since this is an issue that has been recently discussed between Region 6 and TCEQ. The next regional administrator (whether it's me or someone else) is likely to be involved in making decisions on this very subject.

What I will say is this:

A petition filed with EPA in January 2008 by Environmental Defense and Sierra Club identified a series of concerns with how Texas is implementing important parts of the CAA New Source Review/Prevention of Significant Deterioration program, including procedures related to the determination of Best Available Control Technology. Documents were recently published by the media from May 2009 meetings between EPA Region 6 and TCEQ, describing serious EPA concerns on how Texas handles issues related to flexible permits, plant-wide applicability limits, and upset emissions. In February 2009, EPA Region 6 had to step in to prevent the restarting of the Asarco smelter in El Paso under its TCEQ-issued permit, an action which placed the EPA, the City of El Paso, and State of New Mexico on the opposite side of the issue from the TCEQ.

In 2001 and 2004, the City of Waco took the unusual step of suing the state agency and animal feedlot operators because of contamination to the city's primary drinking water supply from poorly managed concentrated feedlot operations. In 2006, a report by Environment Texas indicated that the majority of major industrial and municipal facilities in Texas discharged water pollution quantities greater than their CWA permits allowed during an 18-month period.

The duty of any federal official is fidelity to federal law and regulation. Congress was very clear when crafting the Clean Air Act and Clean Water Act in the intent to have the major programs under these laws delegated to and operated by the states. But they were also clear in their intent for EPA to assist, closely monitor, and supervise state implementation of these programs. EPA does have the authority and responsibility to impose penalties under or even re-federalize major CAA and CWA programs, if EPA finds that states are unable or unwilling to administer them properly.

If the concerns identified by EDF, Sierra Club, EPA, Environment Texas, the City of El Paso, and others are valid and indicative of program-wide problems, then clearly changes ought to be made at the state level to ensure that the CAA and CWA programs in Texas are operated according to the law. I am sure that an action as serious as revoking state delegation is not something any regional administrator would take lightly. And I would hope that the next regional administrator is able to work with all the states in the region to quickly repair any minor or serious deficiencies. But at the end of the day, Congress was clear that EPA has the obligation and responsibility for ensuring that the CAA and CWA programs are administered legally in all states.

**Q: Many old landfills in Texas have been grandfathered and continue to be granted expansions over unlined, non-Subtitle D compliant dumps with very limited water monitoring. What would you do as RA to address these issues?**

**A:** I must admit that I have less knowledge of the problem of non-Subtitle D compliant landfills in Texas or the rest of the region, than I do an understanding of air or water pollution problems. I have had the pleasure of meeting and looking for projects of mutual interest with staff of the City of Dallas Sanitation Department and the engineers at the city's McCommas Bluff Landfill. I've been to the landfill many times, and the new cells at McCommas Bluff certainly appear to be state-of-the-art, well-engineered, and carefully monitored structures. I recognize that historical solid and hazardous waste management practices in the region might not meet the levels of care a modern well-managed landfill can achieve.

If I have the opportunity to serve as regional administrator, I would certainly welcome a dialogue with the environmental community, municipal governments, and other stakeholders to identify both areas of concern and best management practices for solid waste disposal and discuss how groundwater resources are monitored and protected. I am a strong believer that measures taken today to prevent future contamination are vastly less expensive than remediation projects will be in the future to clean up otherwise preventable problems.

**Q: Have you ever consulted for industries regulated by local, state or national environmental agencies? If so, which companies or other entities have you been employed by?**

**A:** Yes, I have been a consultant for, retained by, employed by, worked on sponsored research, or otherwise paid by a number of regulated entities, including my current full-time employer Southern Methodist University. The list below shows in reverse chronological order my regular employers, followed by a list of consulting or fixed-term project sponsors.

Employers:

Southern Methodist University (2002-present)  
U.S. Environmental Protection Agency (2002)  
University of North Carolina (1998-2001)  
Radian Corporation (1995-1998)  
CDM (1994)

Consulting clients or project sponsors:

Environmental Integrity Project (present)  
Eight Northern Indian Pueblos Council, Office of Environmental Technical Assistance (present)  
Centers for Disease Control and Prevention/NIOSH (2005-present)  
Environmental Defense Fund (2008-2009)  
Holcim (Texas)/Downwinders at Risk (2005-2007)  
Cherokee Nation of Oklahoma, Environmental Services (2004-2005)  
U.S. Air Force Institute for Environment, Safety, and Occupational Health Risk Analysis (98-01)  
International Paper (1996-1998)  
Columbia Gas Corporation (1995-1998)  
Gas Research Institute (1995-1997)  
Masonite Corporation (1995-1996)  
Jefferson Parish, Louisiana (1994)  
City of Galveston Water Department (1994)  
US Environmental Protection Agency (1993-1994)

**Q: What matters have you be prohibiting from participating in because you lobbied on that particular matter or specific issue area?**

**A:** None. I am not now nor have I ever been a lobbyist. I can work on whatever projects I find interesting, limited only by time and availability.

**Q: There have been a lot of complaints about TCEQ's permitting process over the last several years by citizens' groups, particularly about the lack of public participation. As RA, what do you think EPA could do to improve the process?**

**A:** The major federal environmental laws all require some level of public participation during permitting processes, and Region 6 should ensure that all applicable state and federal environmental actions in the region follow federal law regarding public notification, public participation, public hearings, etc. I am aware of concerns that permit amendments and permit changes at some facilities have been allowed without those actions being subject to a level of public participation that would appear to satisfy federal requirements. My priorities with regard to public participation would be to:

(1) strive for a goal of 100% compliance with the legally-required levels of public participation opportunities in all applicable state and federal permit actions,

(2) evaluate the policies and practices for permit modifications, flexible permits, minor permits, permits by rule, administrative amendments, and other processes to make sure that they are consistent with federal law regarding public participation,

(3) in those areas where law and regulation are ambiguous or nonexistent, work with the states to develop programs that will encourage, inform, seek out, and enhance public participation, not discourage or diminish it.

This last priority is really important to me. I myself am frequently frustrated with the difficulty in getting complete and up-to-date information about regulated facilities. I can take me many hours of on-line searching, together with more hours of phone calls and faxes, and several trips to state and federal government offices to get a complete set of current permits, draft permit workups and email, permit applications, permit modifications, upcoming public hearings, emissions statements and TRI data, enforcement actions, and other information for a single facility. I can only imagine how frustrating this must be for a general member of the public or a local elected official who does not work in environmental protection to try to do this on their own.

I would hope that the next RA could work with one of the states on a pilot program, to integrate all these pieces of information in a web-accessible format, for all the regulated entities in the state. The goal would be to start at one state, and then eventually roll out region-wide. For the average person, getting this information should only be about as difficult as looking up and mapping a local business in Google Maps. Right now, it can be a confusing mess of permit numbers, entity numbers, copy charges, state versus federal jurisdiction, etc. The technological barriers to building an integrated system are gone. The current system has got to change if we really want the public informed and involved.

**Q: Despite 20 years of trying to achieve “attainment” for ozone pollution, neither D/FW nor Houston are close to that goal. As RA, what would you do differently, if anything, to attempt to finally bring both metro areas into compliance with the Clean Air Act?**

**A:** The levels of ozone pollution in D/FW and Houston are stubborn and troubling, and the latest epidemiological and toxicological studies tell us that people in these cities are at higher risk for sickness and fatality because of the poor air quality. Baton Rouge, Beaumont/Port Arthur, and El Paso similarly have levels of ozone or airborne particulates above federal standards. I think there is a lot that can be done to reduce ozone levels in D/FW and Houston. In the name of space, I'll list a few of the major ways:

(1) Passenger Rail Systems. I would use the influence, technical expertise, and other soft-power of the agency to assist advocates for high-speed interstate rail, regional rail, and local light rail systems in these and other cities. Politicians and business interests who fight against rail initiatives will hear from me that every ton of passenger vehicle NO<sub>x</sub>, VOC, and PM we do not remove with rail is one extra ton I'll have to go out and get from an EGU or industrial stack in order to reach attainment. Federal, state, and local officials trying to study, cite, or propose rail projects will have a proactive and enthusiastic supporter with me as regional administrator.

(2) Emissions Inventories. Computer modeling is the most critical tool used for air quality planning. And yet, there is growing evidence that the emissions inventories for D/FW, Houston, and other major cities are seriously flawed. Studies by HARC and others indicate that the actual emissions of some VOCs in the Houston area are 5 to 10 times greater than the amounts allowed in state permits and reported to the state. These findings are supported by physical measurements of VOC compounds at air quality monitors, which are often many times greater than the air quality models would predict should be there. Similarly in D/FW, an inventory I recently completed for oil/gas activity around Fort Worth found that NO<sub>x</sub> emissions and VOC emissions are likely many times greater than what was used by TCEQ in the most recent ozone modeling. Sadly, these problems are not exclusive to Texas. The past few years have seen an explosion of attention related to emission sources at the Ports of Los Angeles and Long Beach. Many new studies are concluding that previous emission inventories for the ports were grossly underestimated. What is most frustrating is that the Houston ship channel sources, Barnett Shale infrastructure, and Ports of LA/Long Beach did not spring into existence from nothing in 2006. Given how long these cities have had notorious air quality problems, we ought to have accurate emissions inventories by now, along with procedures for capturing new sources as they are constructed. Otherwise, we are wasting a lot of people's time and money modeling airsheds with inventories of very questionable quality. One of my top air quality priorities will be to work with the states to develop accurate emissions inventories for D/FW, Houston, and all other cities in or near nonattainment. In addition, we have got to establish state and federal procedures for getting accurate data on minor and area source emissions that do not routinely report into state and federal inventories. I do not think I could support federal approval of any nonattainment SIP revisions for D/FW or Houston (or L.A. for that matter), unless there were substantial improvements to the quality of the emissions inventories being used.

(3) BACT/RACT/LAER determinations. I am concerned that facilities are being constructed and/or are operating in the nonattainment areas and in nearby regions with control technology

that does not appear to meet federal requirements for BACT/RACT/LAER. This not only makes nonattainment that much more difficult in our major cities, but it also places businesses that are meeting their environmental obligations at a competitive disadvantage. As RA, I would work to expand the number of staff at Region 6 reviewing BACT/LAER determinations in permit applications and RACT determinations in SIPs. While all other aspects of the air program are important (modeling, enforcement, TRI, etc.), the BACT/RACT/LAER determinations are critical since they often (very literally) set in concrete the emissions rates and control equipment to be used for many years or decades.

**Q: President Obama and EPA Administrator Jackson have identified Environmental Justice as an important component for their environmental decision-making. Please tell us what the term means to you, and some examples of how you've worked toward the goal of environmental justice.**

**A:** Environmental justice to me means that every citizen is entitled to fair protection under the environmental laws. No person or community should have its rights violated because of historical prejudice, socio-economic factors, or government neglect. Everyone's air and water should receive comparable protection and attention from federal agencies.

From the engineering side, I have worked for the last 3.5 years on a research project to develop a filtration system for diesel particulate matter. The goal is to reduce airborne concentrations of diesel particulate in workplaces as a way to lower the incidence of lung cancer and other diseases. Most of the employees at places with high levels of occupational diesel exhaust, such as coal miners, metal/nonmetal miners, construction workers, and bus drivers are blue-collar middle-class workers. Unlike highly-trained and better paid engineers at semiconductor, aerospace manufacturing, or pharmaceutical plants, coal miners and others exposed to high concentrations of diesel exhaust typically do not wear personal protective equipment. Nevertheless, these workers are entitled to regulatory and research attention from the government and I am glad to be working with CDC/NIOSH on this project.

From the public policy side, I have worked since 2005 to try and convince local, state, and federal policy makers that there are off-the-shelf technologies that could greatly reduce emissions from the cement industry. This work included many hours reviewing the status of the industry and seeing what similar plants in other parts of the U.S. and overseas were doing to reduce emissions. This interest was motivated by what I saw in the small town of Midlothian, where a high concentration of cement manufacturing takes place. At the same time that the modern kilns in the town were using wet scrubbers to reduce sulfur emissions, baghouses to reduce particulate emissions, and RTO's to reduce VOC emissions, the older kilns which had been operating in town for many decades were not implementing these technologies and had no apparent plan to do so. I felt vindicated earlier this year when the federal government proposed a new set of cement MACT rules which will essentially require these technologies at most U.S. cement plants.

**Q: The Midlothian cement plants have been identified as a large source of regional air pollution in North Texas. What strategies or technologies would you consider as RA to reduce their emissions of Nitrogen Oxides and air toxics in general?**

**A:** As I just mentioned, I have spent a fair amount of time examining these plants' emissions, partly out of concern for the cumulative impact on a small town, and partly because they are just south of the city where I live and work (Dallas). The newest cement kiln in Midlothian uses modern baghouses, wet scrubbers, and an RTO system to reduce emissions. The newly proposed federal MACT standards will essentially require these or comparable technologies at all the cement kilns in Texas, including the 9 other kilns in Midlothian. This should greatly reduce their local and regional air quality impact. In addition, the Institute for Clean Air Companies (ICAC) and the Linde Group have each stated that current technologies exist which could reduce NO<sub>x</sub> emissions from cement plants significantly below current levels. Taken together, these approaches allow for the production of cement with substantially lower emissions.

**Q: Houston is nationally recognized as a pollution hot spot for air toxics because of its concentration of petro-chemical facilities. What, if anything, would you do as RA to help reduce the cumulative emissions from these facilities?**

**A:** Earlier in this memo I discussed the problem of the current emissions inventory in Houston. We have to accurately understand the emissions sources in the Houston area, at a much higher level than we do today, if we are going to fix the air toxics, ozone, and fine particle problems. In addition, we have got to have vigorous enforcement of permits and environmental regulations. The first step to accomplishing both of these is to put more EPA people on the ground in Houston. I think the next RA should work hard to acquire new funding, or reallocate existing funding, to put another 20-30 inspection and enforcement personnel in the Houston office. These new personnel would be exclusively focused on the petrochemical and refining sources along the Gulf coast from Corpus Christi to New Orleans. In addition, this team has to have the latest in ground-based and airborne instruments for identifying emission sources (IR cameras, helicopters, etc.). Mayor White has done an incredible job in bringing national attention to an air toxic issue that frankly is the result of historical state and federal failures in properly tackling the problem. When mayors feel like they have to invoke nuisance ordinances to deal with benzene and butadiene levels in neighborhoods, someone at another level of government has to step up and take ownership of the problem.

**Q: Several metro areas in Texas are on the brink of violating the national ambient PM standard. Do you believe the current standard is scientifically defensible and what proactive measures could you take as RA to prevent these areas from becoming non-attainment for PM pollution?**

**A:** Yes, several areas in Texas are violating or nearly violating the PM<sub>2.5</sub> or PM<sub>10</sub> ambient standards. In addition, a recent court remand is likely to force EPA to reset the annual PM<sub>2.5</sub> standard to a level that is going to bring more cities into nonattainment. Yes, the current PM<sub>2.5</sub> standard of 15 µg/m<sup>3</sup> (when it was established in 1997) was a defensible standard that was strongly supported by the best medical evidence. In addition, the lowering of the standard to a value below 15 µg/m<sup>3</sup> (which is likely going to happen as a result of the court remand) is also supported by scientific studies which indicate that people living in areas with long-term concentrations in the 12-14 µg/m<sup>3</sup> range experience increased levels of mortality and morbidity.

I am not sure if completely new programs are going to be required for addressing PM<sub>2.5</sub> nonattainment. In general, the same sources (motor vehicles, EGUs, industry, minor sources) contribute to all the air pollution problems that are a concern in Region 6 (air toxics, ozone, PM<sub>2.5</sub>, greenhouse gases, regional haze). Reducing emissions of VOC and NO<sub>x</sub> for the ozone problem will also help reduce levels of PM<sub>2.5</sub>. In addition, the enforcement of BACT/RACT/LAER for PM and other pollutants such as SO<sub>2</sub>, NO<sub>x</sub>, and VOC should also help to lower levels of PM<sub>2.5</sub> in all cities in danger of nonattainment. If additional measures focused tightly on PM<sub>2.5</sub> need to be developed, I think they should be based on the latest scientific studies of airborne particulate chemical composition in Texas, which tell us which sources are contributing most to the problem.