



National Advisory Council for Environmental Policy and Technology (NACEPT) Meeting

**September 27 – 28, 2010
The Madison, Loews Hotel
1177 15th Street, NW
Washington, DC 20005**

MEETING SUMMARY

MONDAY, SEPTEMBER 27, 2010

Welcome and Introductions

*Nancy New, U.S. Environmental Protection Agency (EPA), Office of Federal Advisory Committee Management and Outreach (OFACMO), National Advisory Council for Environmental Policy and Technology (NACEPT), Acting Designated Federal Officer (DFO);
Cynthia Jones-Jackson, EPA, Acting Director, OFACMO; and
James H. Johnson, Jr., NACEPT Chair*

Ms. Nancy New (EPA, OFACMO), Acting NACEPT DFO, called the meeting to order at 9:05 a.m., welcomed the Council members, and thanked them for their participation. Ms. Cynthia Jones-Jackson (EPA, OFACMO) explained that Mr. Rafael DeLeon is on temporary assignment to EPA's Office of Civil Rights. In his absence, Ms. Jones-Jackson will be working with Dr. James H. Johnson, Jr., and the Council on key issues. Federal Advisory Committees, such as NACEPT, continue to demonstrate a proven track record as an effective mechanism for advancing the Agency's priorities and ensure that the independent advice provided to EPA is obtained through an inclusive and transparent public process. It is important for the Council members to meet face-to-face to discuss cross-cutting and cutting-edge issues. Each member provides a unique perspective and specialization that preserve the integrity of the Federal Advisory Committee Act (FACA) process. EPA Administrator Lisa Jackson has mandated that environmental justice be included in every Agency decision, and the special needs of vulnerable populations be at the forefront of all considerations. The Administrator also is interested in workforce issues. Ms. Jones-Jackson thanked the NACEPT members for their tireless efforts and dedication; she expects that this meeting will produce ideas and innovations to move EPA forward. She also thanked OFACMO staff for organizing this meeting and Dr. Johnson for serving as NACEPT Chair.

Dr. Johnson (Howard University), NACEPT Chair, thanked the members for participating in this opportunity to improve human health and environmental quality. The position of NACEPT Vice Chair has been established, and Mr. Howard Learner (Environmental Law and Policy Center), who led NACEPT's effort to respond to EPA's Strategic Plan, has accepted this position.

The objectives for today are to:

- ✧ Gather more information regarding the two charges and organize the workgroups to produce a draft outline and timeline that details how each workgroup can be responsive to the charges.
- ✧ Explore potential future topics via the presentation by Ms. Barbara Bennett.

- ✧ Learn about collaborations with other FACA committees.

Volunteers are needed to co-chair the workgroups; one position has been filled, but two to three more volunteers are needed.

Mr. Mark Joyce (EPA, OFACMO) thanked the members for their efforts and explained that the majority of the meeting will focus on refining the draft charges and determining the substance of the advice that NACEPT ultimately will provide to the Administrator.

Discussion of Emerging Technologies and Vulnerable Populations Charge

Paul Anastas, EPA, Assistant Administrator, Office of Research and Development (ORD), and Science Advisor to EPA;

Fred Hauchman, EPA, ORD, Director, Office of Science Policy (OSP);

Chris Saint, EPA, ORD, OSP; and

Charles Lee, EPA, Director, Office of Environmental Justice (OEJ)

Ms. Arleen O'Donnell (Eastern Research Group, Inc.), NACEPT member, described the emerging technologies and vulnerable populations draft charge to provide context for the morning's presentations and discussions. The workgroup received and discussed the charge at a meeting in May 2010 and further discussed it during a conference call in July 2010. The goal during this meeting is to refine the charge and schedule assignments. The original charge is as follows: EPA requests advice from NACEPT on the identification and use of existing or needed technologies that are innovative and safe for the environment and public health and can aid federal, state, and local government in community efforts to better protect vulnerable populations.

The workgroup identified four major issues surrounding the charge, which are the: (1) definition of technology, (2) definition of vulnerable populations, (3) definition of environmental risks, and (4) policy implications related to the charge. In terms of the definitions, the issue is how broad or narrow each definition should be. It was necessary to balance which issues could be defined more narrowly and which could be left more broad. Ms. O'Donnell highlighted some of the group's thoughts on each issue:

1. *Definition of technology.* The two main questions are: What technology? Whose technology? In terms of the first question, the group decided to focus on the narrower end of the spectrum and traditional technology (e.g., IT measurement technology). In terms of the second question, the workgroup thought that EPA must build the capacity to take advantage of technology outside the Agency (e.g., academic and institutional capacity), but for the charge, the focus might need to be technology with which the Agency is familiar while recognizing that capacity should be built.
2. *Definition of vulnerable populations.* The workgroup thought that incorporating environmental justice into the Centers for Disease Control and Prevention or other accepted definitions of vulnerable populations would be beneficial. A standard definition will allow the workgroup to determine which areas it will focus on.
3. *Definition of environmental risks.* The workgroup determined that data needed to be examined to provide solid background information regarding types of risks and available measurement and communication tools. The workgroup must be aware of existing work so that it can narrow its focus to those specific risks that should be addressed to provide technology recommendations within the scope of the charge.
4. *Policy implications.* It is difficult to examine technology in a vacuum. The workgroup decided that it should focus on policy changes that can accelerate the deployment of technologies.

The workgroup will consider external expertise when necessary to complete the charge. The workgroup expects to produce an advice letter in 6 to 10 months, with implementation occurring within 4 years. The

group also discussed collaborating with other EPA groups that already are working on this issue (e.g., National Environmental Justice Advisory Council [NEJAC], Office of Enforcement and Compliance Assurance [OECA], Board of Scientific Counselors [BOSC]).

Dr. Paul Anastas explained that NACEPT continues to be central to the deliberations and strategies of EPA. This is a very exciting time to be associated with the Agency because of the aggressive and bold initiatives that are being pursued. It is important to discuss the context under which NACEPT is working. Innovation is important to the Administrator, who wants the Agency to focus on what can be done in addition to what cannot be done. With innovation, EPA can accomplish its mission, but without it, it will fail. To pursue innovation, ORD must recognize that “systems thinking” is key to accomplishing its goals. It is important for ORD to consider how its work and research will be structured and how its research questions are framed. An important pillar is integrated transdisciplinary research, which includes all disciplines from the environmental, physical, biological, chemical, and social sciences and economics. This holistic approach allows researchers to protect disproportionately impacted populations better than the fragmented approach of examining each risk and chemical independently. In this manner aggregate, cumulative, and population risk can be examined. The prior framework has not proved to be adequate.

The Science Policy Council recently changed its name to the Science and Technology Policy Council (STPC), which elevates the role of technology and recognizes it as an essential core area for the Agency to be able to accomplish its mission. The advice and guidance that NACEPT provides is important for EPA to develop strategic plans and actions to move forward in terms of instilling innovation, protecting vulnerable populations, and enacting holistic systems-thinking. It also is essential that EPA examine how to act catalytically and formulate its research and products to empower the 3 million U.S. environmental protection specialists to act. In terms of policy implementation, deployment of technologies is key, but EPA must go further than implementation and determine how to “unleash” creativity (e.g., internal innovations grants) and establish collaborative tools so that the broad range of disciplines can collaborate on transformative innovations. The Agency also must consider how it can institutionalize holistic thinking and approaches.

Dr. Fred Hauchman (EPA, ORD, OSP) noted that many groups have examined environmental justice, vulnerable populations, and technologies in many different ways, and EPA has been holding discussions similar to those of the workgroup. The Council has the opportunity to provide focus and direction to ORD in terms of the types of research that the office can accomplish to advance science and technology in this area. ORD’s program in community-based research is in transition, and NACEPT can provide valuable advice to help shape the priorities that the program should consider from a technology perspective. ORD recommended to its Regional Applied Research (RARE) Program that it apply a community-based focus, and in the future, NACEPT could help guide some of the research that is supported by RARE. NACEPT’s guidance regarding the new focus on technology will be a resource that ORD has not had in the past. The Council should hold ORD accountable, especially in terms of measurements and metrics that determine whether the office has been successful. EPA will do its best to provide NACEPT with the resources that it needs.

Dr. Chris Saint (EPA, ORD, OSP) commented that within the draft charge, there are three main questions related to technology that focus on existing knowledge, most useful technologies, and current barriers. The question about which ORD is mainly interested is: What technologies are most useful (in particular, specific technologies that are now emerging as “game changers”)? EPA discussions have concentrated on Agency activities, such as *Draft Plan EJ 2014*, which is the focus of the next presentation, and the Symposium on the Science of Disproportionate Environmental Health Impacts held in March 2010. The five focus areas of *Draft Plan EJ 2014* are: (1) incorporating environmental justice into the rulemaking process, (2) considering environmental justice concerns in EPA’s permitting process, (3) accelerating compliance and enforcement initiatives, (4) supporting community-based action programs, and (5) fostering administration-wide action on environmental justice.

As has been discussed, it is important to define vulnerable populations and technology. In terms of vulnerable populations, interactions of various factors that contribute to vulnerability (e.g., level of exposure, inherent susceptibilities, empowerment) must be considered. One important feature is the cumulative impacts of these factors that can lead to disproportionate impacts. Each of these factors alone can lead to vulnerability. The complexity makes it challenging to supply a strict definition to the term. All of the factors must be considered in terms of how technology can contribute to sustainable solutions to these problems. Level of exposure involves chemical and physical factors, and susceptibility involves biological and sociological factors. Empowerment is particularly important in environmental justice, because lack of empowerment can create vulnerability in individuals and communities.

In terms of technology, EPA examined broad and narrow items, and asked what technology individuals need to make sound decisions. Three technology areas were identified: (1) data collection, (2) data management and analysis, and (3) risk management. Desirable characteristics of these technologies include innovation, cost-effectiveness, and user-friendliness. Data collection technology is important to identify vulnerable populations compared to the general population. Simple tools are needed to collect information—including that information usually obtained via questionnaires—in communities to determine solutions to specific problems (e.g., near-road exposures). Computational toxicology has great potential in the development of simple tools. Data management and analysis technology must be broader than IT, and examples include models for risk comparisons among different communities, GIS-based systems, Web-based frameworks for conducting risk assessment, and communication technologies. Community-based technologies are needed to address existing problems (e.g., Ambos Nogales Biodiesel Project). Low-cost, home-based pollution reduction and elimination technologies should be considered, and an emphasis should be placed on green technology and chemistry, which allows prevention. To evaluate technology needs, four questions need to be addressed: What is the technology? Who will use it? How will it be used? What is the anticipated impact?

Dr. Saint described some existing data management and analysis technologies for use by EPA, including GIS software and the Stochastic Human Exposure and Dose Simulation Model (commonly known as SHEDS). He also described technologies that can be applied to communities in the areas of data collection (e.g., low-cost monitors for criteria air pollutants and toxics), data management and analysis (e.g., Community-Focused Exposure and Risk Screening Tool or C-FERST), and risk management (e.g., conversion of cooking oil and grease to biodiesel). When NACEPT makes its recommendations, it should consider an organizing framework for evaluating technology needs and advising the Agency on the types of technology and intended use, particularly in terms of rulemaking and supporting community actions.

Mr. Charles Lee (EPA, OEJ) explained that Administrator Jackson issued a statement that the Agency will develop policies that have a measurable effect on environmental justice challenges. *Draft Plan EJ 2014* is an important tool to accomplish this. The plan outlines EPA's overarching strategy to advance environmental justice and serves as a roadmap to assist the Agency in integrating environmental justice in all of its programs. EPA is focusing on five cross-agency areas: rulemaking, the permitting process, enforcement and compliance, community-based action, and administration-wide action. The Agency also is working to develop a common mapping platform and a nationally consistent screening and targeting tool to enhance environmental justice analysis and decision-making, working to achieve better coordination among its multiple grant programs to enable communities to better access Agency grant resources and foster greater efficiency in program implementation, and asking each National Program Director to identify relevant programmatic items that could benefit overburdened communities.

The goals of *Draft Plan EJ 2014* are to protect health in communities overburdened by pollution, empower communities to take action to improve their health and environment, and establish partnerships with local, state, tribal, and federal organizations to achieve healthy and sustainable communities. Tools developed under the Plan involve science, law, information, and resources. Many EPA offices (e.g., OECA, Office of Water, Office of Solid Waste and Emergency Response) are developing program

initiatives in response to the Plan. The comment period ends on October 1, 2010, and the Plan should be finalized in early 2011. Implementing the Plan will be an iterative process.

In terms of rulemaking, the goal is to integrate environmental justice considerations into EPA's Action Development Process (ADP), and the two components of this process include process and technical guidance. The process guidance has been developed and will be finalized after its initial implementation has been assessed. The technical guidance will be developed in 2011. Mr. Lee provided an overview of the components of the process guidance, which include an introduction and background, key concepts about environmental justice concerns, and guidance for each stage of the ADP. The guidance indicates that environmental justice concerns may be involved if disproportionate impacts on minority, low-income, or indigenous populations are created, exacerbated, and/or not addressed by actions. To address this EPA will use various approaches to assess impact factors such as proximity and exposure to environmental hazards, susceptible populations, unique exposure pathways, multiple and cumulative effects, participation in the decision-making process, and physical infrastructure. The guide directs rule writers to consider how to promote environmental justice in developing and implementing actions and outlines how to achieve meaningful engagement.

The general stages of the ADP are to commence activity, develop an analytic blueprint, conduct analyses, engage environmental justice populations, identify and select options, prepare the action, seek Agency review, publish a proposal, request public comment, review public comment, and finalize the rule. To develop the blueprint, EPA will identify potentially affected populations and/or tribes, outline and describe the plans and resource needs for meaningful involvement, identify available environmental justice assessment tools and resources, and determine the issues to be elevated to management. The final Agency review will address the environmental justice questions in Administrator Jackson's Action Memo. Senior staff and rule writers are being trained in this area, and a Web site has been established for discussion, comment, and information sharing. EPA's Office of Policy and OEJ will oversee implementation of this process, and a Guidance Development Workgroup will monitor and assess any implementation issues, provide assistance to rule writers, and identify best practices to inform technical guidance. An interim technical guide provides links to existing technical support. Significant progress is being made on advancing the science of environmental justice and disproportionate impacts. Outreach is being conducted, an external Web site was established for public comment, and *the Interim Guidance on Considering Environmental Justice During the Development of an Action* has been released. This guidance assists EPA staff in determining whether regulatory actions raise possible environmental justice concerns and encourages public participation in the rulemaking process.

Discussion

Dr. Johnson noted the importance of EPA appointing a Chief Innovations Officer, Dr. Peter Preuss, which indicates that the Agency is "walking the talk."

Ms. Vivian Loftness (Carnegie Mellon University), NACEPT member, noted that the environmental justice link to the definition of emerging technologies is important. Ms. O'Donnell had mentioned IT in her presentation, and Ms. Loftness was unclear whether IT was an important component of the draft charge. In terms of Dr. Anastas' mention of the importance of transformative thinking and finding the right triggers for making the most catalytic change, Ms. Loftness thought that although IT might be useful in identification, it is not the answer. She asked Dr. Anastas to what extent a broader range of innovative technologies is necessary for the Council to consider. Dr. Anastas agreed with this assessment and confirmed that he had asked Dr. Preuss to act as the Chief Innovations Officer. The charge he gave ORD is to determine how to think broadly and transformatively without regard to the old framework. One strength of ORD is its computational toxicology research, which provides essential insight into toxic substances that allows ORD to understand the environmental challenges. The critical component is how ORD uses this insight to inform rules of design for the next generation of chemicals so that they are not capable of causing toxicity to humans and ecosystems. The solutions orientation is critical.

Dr. Marian Chertow (Yale University), NACEPT member, asked Dr. Anastas how to better serve on NACEPT, especially with so many other EPA groups working on similar issues. In which areas and perspectives can NACEPT help the Agency the most? Dr. Anastas responded that the Council is well-poised, based on its experience and expertise, to advise EPA regarding pragmatic disconnects that need to be addressed, programs that are not serving their purpose, and questions that the Agency is not asking.

Mr. Learner noted that to address the draft charge, the workgroup will need to involve external expertise, and he asked Dr. Anastas whether there were any specific resources or expertise that should be consulted. Dr. Anastas replied that the STPC is comprised of members who have been involved in technological innovations for years to decades. He can provide contact information for these individuals. Mr. Learner agreed that this would be particularly helpful. Ms. Loftness asked Mr. Learner what he meant specifically in terms of the word “technology.” Mr. Learner explained that the second page of the workgroup’s operational recommendations, which indicate that added technological assistance (e.g., how GIS software works and can be diffused to the community) would be needed.

Ms. O’Donnell noted that points made in Dr. Saint’s presentation appeared to reflect workgroup discussions about the definition of vulnerable populations in that it should more broad. Dr. Saint confirmed that this is the approach that the workgroup should take. She asked Dr. Saint to provide examples of rulemaking under intended use. Dr. Johnson explained that Mr. Charles Lee (EPA, OEJ) would discuss this in his presentation.

Ms. O’Donnell asked about the scope of the technologies identified by the workgroup. Should the technologies be those in use currently or envisioned by EPA or should technologies in development in academia, the private sector, and other countries also be considered? Dr. Saint replied that technologies should be considered as broadly as possible, but considering use allows prioritization. For example, are there technologies in development that can be placed in the mainstream quickly and have a significant impact (e.g., sensor technologies)? Dr. Hauchman added that it has become apparent through community-based efforts that it is necessary to obtain input from the communities; if this aspect can be added to NACEPT’s deliberations, it would be helpful to the Agency in determining whether the technologies will be beneficial to the end-users.

Ms. Loftness thought that the definition of vulnerable populations was clear. She referred to the draft charge, which mentions science in addition to technology. Identification science and technology is very different from solution science and technology, although there is some overlap. She is hesitant to place solutions science under risk management in the identification science category. If addressing solution science is too broad for NACEPT, it should make it clear that the focus is on identification science and technology. Dr. Saint said that inclusion of risk management technology was an attempt at accomplishing this and broadening it. ORD’s job is to find sustainable solutions to environmental problems.

Dr. Mark Mitchell (Connecticut Coalition of Environmental Justice), NACEPT member, agreed that the definition and assessment of vulnerable populations is useful. Good definitions, however, can raise additional questions. Institutionalizing problem-solving in communities is important. In addition to new technologies, the workgroup should explore using current technologies in a different manner. For example, some environmental justice communities do not have computers, but they have cellular telephones, so researchers are examining ways to use cellular telephones in a way similar to how other communities use computers. He asked Dr. Saint whether ORD had examined using current technologies in other ways and whether NACEPT should investigate this. Dr. Saint thought that NACEPT should explore this concept, although he was not aware of any similar EPA efforts. Dr. Hauchman added that within ORD there is an Office of Science Information Management, and a member who deals with this issue will be present during the following day’s breakout groups.

Mr. Kurt Erichsen (Toledo Metropolitan Area Council of Governments), NACEPT member, thought that it was important to use IT for two-way communication. He agreed that many communities do not have computers or the ability to use them, but some communities that have computers also do not have the

ability to use them. It is important not to overestimate computer skills or to underestimate the importance of a community outreach campaign to obtain community buy-in and increase the ability to use EPA tools. He asked Dr. Saint whether EPA has standards for data used for enforcement. Dr. Saint confirmed that strict quality assurance and control programs are in place for data, particularly those used for enforcement.

Ms. Sara Kendall (Weyerhaeuser Company), NACEPT member, asked Drs. Hauchman and Saint how to transition from analytical tools that are not systems-oriented to sustainable implementation. Also, she did not see poverty alleviation addressed in the charge and asked whether EPA was interested in NACEPT examining this aspect. Dr. Hauchman responded that EPA has focused on the technology and not the broader context. There may be outreach and informational components for the identified technologies, so poverty could be considered in this context; however, this issue is outside the immediate scope. Dr. Saint added that when considering the current approach to environmental protection (e.g., chemical and regulatory based), there will be a transition period before the systems-oriented, sustainable approach can be applied. Those items that can be implemented quickly to solve problems should be prioritized, whereas other items may take more time to be implemented.

Dr. Olufemi Osidele (Southwest Research Institute), NACEPT member, asked Dr. Saint about the rulemaking recommendation he discussed in his presentation. Rulemaking, particularly in the context of multicomponent risk analysis, tends to be purposely vague to incorporate potential unanticipated factors. At what level should NACEPT deliberate rulemaking? Dr. Saint replied that Dr. Lee's presentation should help address this question; however, the most important factor that is considered when developing research programs to inform rulemaking is prioritization of issues.

Dr. Edith Parker (University of Iowa), NACEPT member, noted that Dr. Saint had highlighted the charge question about which technologies are most useful and asked whether NACEPT should focus on available technologies rather than how the Agency can identify future needs. Dr. Saint responded that NACEPT should focus on both, because to develop future technologies there needs to be an understanding of existing technologies. Two questions on which to focus are: What does EPA need to implement its environmental justice goals? What do communities need to implement their environmental justice goals? Identification of gaps would be useful. Dr. Johnson added that a process by which the Agency can identify these issues in the future also is desirable.

Ms. Ella Filippone (Passaic River Coalition), NACEPT member, asked Dr. Saint how the legal profession factors into environmental justice. How can EPA be provided the confidence to move forward in its decision-making despite pending litigation? Dr. Saint had not considered this issue; NACEPT can include this in its recommendations, and EPA will take it under advisement.

Ms. Filippone asked Mr. Lee whether the Agency had considered defining an area in the environmental justice community that would qualify for full funding to cover the cost of data gathering and monitoring once an issue is identified; this is important because environmental justice communities cannot afford to collect monitoring data. Mr. Lee agreed that this was a valid concern that highlights some of the challenges faced by disadvantaged and overburdened communities. The Office of Air and Radiation has a grant program for air toxics monitoring, and OEJ is working with the office to ensure that there is focus on environmental justice communities. There is a need for inexpensive technologies for real-time monitoring. Ms. Filippone noted that the U.S. Geological Survey can provide information. It would be useful for EPA's certified laboratories to provide certain monitoring and data gathering for environmental justice communities at a reduced rate.

Ms. Erica Bannerman (City of Alexandria Office of Environmental Quality), NACEPT member, noted that her understanding of environmental justice was equitable distribution of environmental burdens and benefits and asked Mr. Lee how to incorporate environmental benefits into the charge. Mr. Lee responded that EPA agrees with the view of including benefits in addition to merely reducing negatives. Benefits

must be considered holistically in a community context. Better community coordination is sought, and EPA has been encouraged to use communities as an organizing principle for its work. This is one manner by which to determine where to use resources. The approach must be holistic.

Mr. Billy Turner (BTurner Consulting, Inc.), NACEPT member, asked Mr. Lee whether the Agency has examined tools developed by other federal agencies (e.g., Department of Homeland Security [DHS]), specifically in the area of risk assessment. Mr. Lee replied that this was an excellent suggestion. EPA has collaborated with other health agencies, and DHS has entered some of these interagency discussions about environmental justice.

Dr. Mitchell commented that using communities to help identify sites for National Ambient Air Quality Standards monitoring is useful. He asked Mr. Lee about EPA's definition of cumulative risk to clarify existing confusion regarding the term. Mr. Lee was unable to address how the Agency defines this term, but he pointed out that from the environmental justice perspective, cumulative impacts should include consideration of multiple stressors (e.g., biological, physical, socioeconomic) and the nature of the vulnerability of the population. Dr. Saint noted that aggregate exposure is defined as multiple exposures to the same stressor. Cumulative risk (impact) under the Food Quality Protection Act is defined as multiple chemicals that cause the same health effect or have the same mode of action. When considering environmental justice, the definition is more broad and includes multiple stressors that can impact health.

Ms. O'Donnell commented that the workgroup may want to consider, in terms of deployment of technologies, development of a "loaner" program to allow expensive technologies to be shared among sites.

Discussion of NACEPT Reports on Commercializing Environmental Technologies and EPA's Response

Barbara J. Bennett, Chief Financial Officer (CFO), EPA

Ms. Bennett (EPA CFO) explained that although her time was limited today, she is willing to speak to the NACEPT again at a future date. The Agency's *FY 2011–2015 Strategic Plan* will be published this week, and Ms. Bennett thanked the NACEPT members for their comments on the draft document. In addition to the EPA Administrator, Deputy Administrator, and CFO, each Assistant Administrator was involved in updating the Plan. This document, which is not as lengthy as others in the past, should be used as a tool and considered a living document.

The STPC, a group of senior-level career-service executives that focus on Agency science and technology issues, is meeting this afternoon, and one of the main focuses of its discussion will be on environmental technology and innovation. Areas of discussion will include accelerating the technology development process (research and development), financing and commercialization (access to capital), and how to use regulations and rulemaking to encourage innovation. The EPA Deputy Administrator will outline the principles of what the STPC and the Agency will attempt to accomplish in this area.

In terms of research and development, the Agency is collaborating with research institutions, entrepreneurs, and the business community. In regard to access to capital, the goal is to identify opportunities to free some of the investment capital that is being held back as a result of the current economy. For the rulemaking aspect, it is known that sound science policy can drive technology and technological innovations in the economic sector while increasing environmental protection at lower cost. NACEPT's reports from 2006, 2007, and 2008 have provided the Agency with a framework for and an insight into technology programs, interagency collaboration, and engaging the marketplace. Administrator Jackson fully supports these efforts, particularly the need to embrace market opportunities and encourage investment.

Ms. Bennett, whose career has been primarily in the private sector, is involved with the efforts to ensure that there is a practical approach for the private sector. As such, she has been networking with the

investment community regarding venture capital, private equity, domestic and international banking, small business interests, and so forth so that the Agency's discussion of science and technology innovation resonates within the private sector. The Environmental Financial Advisory Board, another EPA FACA committee, has significant collective expertise in various mechanisms, and Ms. Bennett has discussed with it methods by which to encourage investment, communication, and innovation. EPA's grants programs provide opportunities to involve academia in innovative research and train new generations of environmental technology specialists. Another idea is to create an "Opportunity for Opportunities" conference to encourage progress in these areas. Communicating the Agency's regulatory framework may stimulate opportunities for emerging markets. External and internal stakeholders also will help EPA identify methods to encourage the private sector via unique approaches that complement the recommendations that NACEPT has made. The Agency is attempting to develop "innovation clusters" by working with the U.S. Small Business Administration and determining geographic areas in which EPA has strategic assets (e.g., Cincinnati, Ann Arbor) in which to build these clusters.

Discussion

Ms. O'Donnell commented that, in addition to new rulemaking, it would be beneficial to use permitting renewals and enforcement actions to leverage requirements for increased monitoring in the affected communities. Perhaps the regulatory community could begin to explore how to leverage existing regulatory requirements to encourage community-based monitoring. Ms. Bennett thought that this was an excellent suggestion and noted that this could be a topic of discussion when the groups convene.

Ms. Loftness asked to what extent the Agency distinguishes technologies as impact analysis technologies versus solution science technologies. Ms. Bennett responded that the first step is assessment, but a clear path to addressing problems and issues must be in place. EPA is including the topics that NACEPT is addressing at this meeting—workforce issues and emerging technologies/vulnerable populations—in its Strategic Plan so that it can be incorporated into the foundation of the Agency.

Dr. Chertow found in her research for her doctoral dissertation that there are only small, specific methods by which to accelerate environmental technology innovations in the United States, and these methods will diminish without a sustained program and partnerships (e.g., U.S. Department of Energy [DOE]). The current situations highlights why there generally is no or only minor return on investment. Ms. Bennett agreed and commented that it is difficult to determine acceleration; however, investments must be made. Consumers are becoming aware of these issues, and this awareness will help drive innovation. The key is to show the private sector that there is a connection between regulation and return on investments. She has received a good reception to this approach. Additionally, Ms. Bennett is working with the DOE CFO.

Mr. Robert Olson (Institute for Alternative Futures), NACEPT member, commented that the most difficult areas in which to obtain investment are those that are high risk; are these areas part of the initiative with which EPA is involved? Ms. Bennett agreed that no areas were "off the table," and even challenging issues must be confronted. Mr. Olson suggested that EPA explore the projects that are funded by DoD's Advanced Research Projects Agency and determine which regulatory strategies could assist these projects.

Public Comments

There were no public comments.

Overview of Discussion With the Science Advisory Board (SAB)

James H. Johnson, NACEPT Chair

Dr. Johnson explained that NACEPT in its current form has been providing independent advice to EPA on a broad range of environmental, policy, and technology issues since 1990. The EPA Administrator and/or Deputy Administrator select the Chair and 26 Council members, which are equally divided among

business and industry, academia, nongovernmental organizations, and government. The study topics on which NACEPT focuses are identified by the Administrator or other senior-level officials.

NACEPT has produced a number of outputs, including advice letters and position papers from 12 workgroups. A few examples of subcommittee reports include those on effluent guidelines, Superfund evaluation, toxic data reporting, environmental technology, and promoting environmental stewardship. The workgroups have produced reports on emerging trends and issues, sustainable water infrastructure, energy and the environment, integrated modeling, and the *Report on the Environment*. Recently, the NACEPT Subcommittee on Environmental Stewardship, co-chaired by Mr. David Paylor and Mr. Lee Paddock, recommended methods by which the Agency could build stewardship capacity, increase the effectiveness and reach of existing and future partnership activities, use stewardship approaches to improve regulatory tools, and measure progress and define success. Another recent output, co-chaired by Dr. Johnson and Mr. Learner, was a high-level review of a draft of EPA's *FY 2011–2015 Strategic Plan*. The Plan has five goals and three cross-cutting strategies to expand the conversation on environmentalism and strengthening partnerships and the Agency's workforce.

Currently, NACEPT is addressing the issue of emerging technologies and vulnerable populations in terms of development and deployment of technologies to identify, measure, and reduce risks faced by environmental justice communities and other vulnerable populations. The Council also is addressing EPA's "Workforce of the Future," focusing on future technical competencies, tools to obtain and retain scientific and technical expertise, attraction and retention of superior executive leadership, development of Senior Executive Service (SES) members as leaders and supporters of an evolving workforce, and attraction of a diverse and technically astute SES applicant pool. Potential future NACEPT projects involve water quality and nonpoint sources, climate change and moving society to a low-carbon economy, global issues, and broad interagency challenges (e.g., energy, climate, sustainability) facing the Agency.

EPA works with other FACA committees, which were present at the recent SAB meeting. SAB provides independent advice to the Administrator and specified Congressional Committees on the technical aspects of the science that supports Agency decisions. BOSC evaluates science and engineering research, programs, plans, laboratories, and research management practices of ORD and recommends actions to improve their quality and/or strengthen their relevance to EPA's mission. The NACEPT members were provided with a document that describes each of EPA's FACA committees, many of which are specific in their scope. NACEPT may need to interact with SAB and BOSC, and Dr. Johnson suggested that liaisons to these FACA committees be assigned. The Council members should explore opportunities to network with other FACA committees, as well. These opportunities will strengthen NACEPT's future reports by offering multiple perspectives.

Discussion

Ms. Leah Ann Lamb (Utah Department of Environmental Quality), NACEPT member, thought that it would be beneficial to liaison with the Children's Health Protection Advisory Committee, as children are a vulnerable population.

Dr. Chertow asked about the relationship between NACEPT and SAB. Dr. Johnson explained that they are parallel committees, each of which reports directly to the Administrator. NACEPT addresses policy issues, whereas SAB does not, which allows the Council to focus on issues more broadly. Dr. Chertow asked which FACA committees report directly to the Administrator. Mr. Joyce responded that the National and Governmental Advisory Committees, which deal with implementation of the North American Free Trade Agreement Environmental Side Accord, and the Farm, Ranch, and Rural Communities Advisory Committee report to the Administrator. The Good Neighbor Environmental Board (GNEB) presents an annual report to the President and Congress. GNEB also is unique in that there are many representatives from federal agencies, which is unusual for a FACA committee; although it has a specific geographic scope, its environmental focus is broad.

Mr. Turner asked whether other FACA committees have staff support. Dr. Johnson explained that FACA committees have staff support at varying levels, and some of the DFOs also have other responsibilities. Mr. Joyce explained that staff support varies by committee based on different factors, including the activity level of each committee.

Mr. Erichsen strongly supports NACEPT exploration of water quality and nonpoint source issues. Current strategies are not adequate, and these need to be evaluated. Dr. Mitchell commented that environmental justice is a local, community-based issue. It would be useful to obtain input from environmental justice organizations, particularly NEJAC. Dr. Johnson agreed and noted that NEJAC is performing a study, and NACEPT members are participating in this study. The group that takes the lead depends on the issue (e.g., technology issues in terms of vulnerable populations would be handled by NACEPT). It is important to note, however, that technology should not be the “golden key” and is limited in its utility. Each workgroup will determine from which groups input will be obtained and determine their level of involvement (e.g., presentations to NACEPT, liaison joining the workgroup).

Ms. Kendall asked how EPA measures FACA committees’ effectiveness. Dr. Johnson provided the example of BOSCO, which examined how many of its recommendations the Agency accepted and the reasons behind the ones it did not accept. Another option would be to examine whether the implemented recommendations had an impact. Dr. Johnson stated that the workgroups must consider how to measure success in their deliberations. The workgroups’ advice must be useful and desired. Best practices can be shared as the work moves forward. Ms. Jones-Jackson explained that OFACMO has recently begun to encourage FACA committees to add performance measures in their charters.

Ms. Bannerman asked which of the four potential future projects on which Dr. Johnson presented was mostly likely to be assigned to the Council. Dr. Johnson explained that the four that he presented were a subset of a longer list; he chose the ones that could be most collaborative. His favorite was the issue dealing with broad Agency challenges, as it is interdisciplinary and can be examined holistically. The Council will need to determine which issue it will address. Dr. Osidele asked about the additional topics. Dr. Johnson explained that he was instructed by Mr. DeLeon not to share the entire list until it has been narrowed. Dr. Chertow asked whether items could be added to the list. Dr. Johnson stated that NACEPT needs to focus on the ones already brought forth, as it does not have the capacity to address more than three simultaneously.

Dr. Mitchell asked about topics on which other FACAs were working that might be of interest to NACEPT. Dr. Johnson explained that the chairs of each of the FACA committees will meet to discuss areas of potential collaboration; he will be able to present more information at the next meeting. There do not appear to be any current issues on which NACEPT could collaborate. Mr. Turner asked whether there is a list of other FACA committees’ efforts. Dr. Johnson replied that each committee’s Web site is the best place to obtain this information. It is important to understand what other committees are working on so that efforts are not duplicated.

Discussion of Workforce Issues Charge

Nanci Gelb, EPA, Acting Principal Deputy Assistant Administrator, Office of Administration and Resources Management (OARM); and

Raul Soto, EPA, OARM, Associate Assistant Administrator of Outreach, Diversity, and Collaboration

Ms. Jennifer Nash, (Northeastern University), NACEPT member, provided an overview of the workforce issues charge, which the workgroup received in May 2010. The charge, which is well-developed, includes eight questions with an additional eight subquestions and asks NACEPT to advise the Agency regarding its future workforce; this issue is central to EPA’s capabilities. The workgroup divided the questions into two categories, the first being those issues that NACEPT can use its expertise to address, and the other includes those questions that other organizations may be better able to address. One of NACEPT’s core competencies is thinking about the future.

Mr. Olson noted that the charge is responsive to some of NACEPT's prior recommendations, such as examining science and engineering core competencies and developing future scenarios regarding potential demands for new types of skills. Some key issues are evaluating the programs and tools currently available at EPA to obtain and retain scientific and technical expertise, attracting and maintaining superior executive leadership, achieving the concept of "One EPA," and determining how to pursue greater diversity. The diversity of the workgroup allows it to address these issues. The Council does not undertake large research projects, but it could develop certain ideas and obtain feedback from certain organizations and networks (e.g., Community of Practice, Society for Organizational Learning). It will be beneficial to convene with EPA to utilize its expertise in addition to that of NACEPT.

Ms. Nash commented that some of the areas in which the Agency is asking EPA to comment require extensive research and specialized expertise; therefore, it would be helpful to hire a contractor to conduct an extensive review of practices in the private sector and academia for procuring the types of technical competencies that EPA needs. Seven items in the charge deal with research about industry and academic best practices; these specialized questions require knowledge that the workgroup members do not possess.

Ms. Nanci Gelb (EPA, OARM) thanked NACEPT for helping the Agency to address workforce issues and understands the workgroup's concern about the specialized nature of some of the charge questions. She outlined the current challenges EPA and other federal agencies are facing, including the large percentage of retirement-eligible individuals in the workforce, which is compounded by the potential significant loss of institutional knowledge. Other challenges are ensuring that staff has cross-functional skills and competencies, the growing demand for increasing diversity in the workforce, a competitive labor market, and small growth in budgets and full-time equivalents (FTEs). EPA's priorities to address these challenges include workforce planning and recruitment in the scientific and technical occupations, executive leadership development, and enhancement of diversity. The Agency's *Strategic Workforce Planning Process* was created in 2006 and includes assessment of supply and demand, analysis of gaps, and development of strategies and solutions to address these gaps.

Ms. Gelb highlighted EPA's past workforce planning efforts. In addition to creating the *Strategic Workforce Planning Process*, the Agency identified 19 Mission Critical Occupations (MCOs), conducted Agency-wide competency assessments for employees and their supervisors for 12 priority MCOs, developed a retirement projection model for EPA's workforce to enable planning in regard to staff retirements, and refined a draft guidance to aid the Agency's Local Level Workforce Planning Process. Some of the MCOs are toxicologists, chemists, biologists, environmental engineers, economists, contract specialists, environmental protection specialists, and attorneys. The next steps are to reassess and update the *Strategic Workforce Plan* to promote greater involvement of senior management; align the *Strategic Workforce Plan* with the Agency's budgeting process, the Administrator's seven priorities, program and regional priorities, and national recruitment efforts; ensure that *EPA's National Strategic Recruitment Plan* addresses diversity enhancement; incorporate evaluations measures and tools to provide feedback; and develop, as a final product, a complete set of guidance, tools, and metrics for managers and supervisors.

Mr. Raul Soto (EPA, OARM) explained that the Agency currently is in the process of updating its *National Strategic Recruitment Plan* to expand and strengthen recruitment efforts, improve the overall diversity of EPA's workforce, and eliminate barriers to employment. Other plans are to improve training for national recruiters, develop a strong branding and marketing campaign involving social networking, evaluate EPA and other federal hiring systems and tools, and establish mechanisms to monitor and measure progress. Before it completes the Plan, the Agency would like NACEPT's input regarding any additional areas that should be included and whether the identified 19 MCOs are appropriate (e.g., Should nanotechnology be included?); these issues are reflected in the charge questions developed for the Council.

Ms. Gelb explained that, in terms of developing executive leadership, the Agency has developed an *EPA Executive Development Strategy* that outlines the desired leadership capabilities and culture. An active

Executive Resources Board makes recommendations on Agency-wide policies, promotes leadership and continuous learning for current senior executives and aspiring SES personnel, focuses on ensuring that EPA has a plan for employees to assume leadership positions within the Agency, and assesses and offers programs and developmental opportunities for senior executives in all career stages. Ms. Gelb highlighted a diagram that outlines the *EPA Executive Development Strategy*. Developing the “One EPA” culture includes developing leadership capabilities through new thinking, alignment, outcomes, and ownership and creating a leadership culture through purposefulness, reliability, synergy, connectedness, and inclusiveness.

EPA has been evaluating models for high-impact leadership development for its executive corps and has researched best practices in the federal and private sectors that indicate that there are 10 elements required for a successful high-impact leadership development program. The Agency is adopting this model and is beginning to develop three of the elements, which are: (1) a profile of leadership effectiveness, (2) creation of a leadership development curriculum that integrates learning with application, and (3) integration of core organizational and individual values into leadership development. The *Succession Management Strategic Plan* is being updated to focus on leadership development, identify key leadership positions that require unique skills, include strategies designed to close gaps, determine the readiness of current staff to assume leadership positions, develop coaching and mentoring strategies, and develop a knowledge retention program. NACEPT’s input is sought regarding the Agency’s executive development.

Mr. Soto discussed the diversity within the Agency’s workforce, including within regions, scientific and technical occupations, and MCOs. There is little difference between the various internal EPA components, but the Agency’s SES diversity does not reflect the U.S. population or the federal workforce. The Director of the Office of Personnel Management (OPM) asked all federal agencies to: (1) broadly pursue senior leadership candidates, (2) consult with organizations that can assist with reaching candidates of all backgrounds, and (3) ensure that the SES selection process is transparent and inclusive. EPA is exploring several diversity practice themes. Diversity policies create an inclusive workplace, and identifying and eliminating barriers allow for greater equal employment opportunities. EPA’s Office of Diversity Outreach and Collaboration (ODOC) Intranet Web Site is a comprehensive portal of the Agency’s diversity portfolio. Resources at the site include “Wikis,” recruitment and conference toolkits, regional and headquarters highlights, and a diversity blog.

One of the next steps in enhancing diversity is to increase interagency collaboration between the Agency and the Department of Veterans Affairs, Department of Justice (DOJ), Department of the Interior (DOI), National Aeronautics and Space Administration, Central Intelligence Agency, Internal Revenue Service, and United States Agency for International Development. ODOC is assessing other federal agencies’ diversity practices and educating the public that EPA values racial and cultural diversity. Other activities include conducting a comprehensive review of the current versus the potential state of diversity structure and developing a variety of tools to support managers. The Agency seeks NACEPT’s advice regarding enhancing diversity. The Agency hopes to complete the process by the second quarter of fiscal year (FY) 2012.

Discussion

Dr. Johnson asked whether the demands in the *Strategic Workforce Planning Process* were based on scenarios. Ms. Gelb explained that this had been accomplished at the program- and office-specific levels.

Mr. Learner asked how the regions are involved in hiring and leadership development. Mr. Soto explained that some regions (e.g., Region 4) have similar plans, but regional involvement in this type of development could be improved. Ms. Gelb added that the Agency is working with the regions to create intern opportunities and increase diversity. In response to a comment by Dr. Johnson, Mr. Soto stated that although all regions have input in terms of needs regarding historically black colleges and universities and

tribal colleges and universities, those regions that have these types of institutions develop their own relationships with those institutions.

Ms. Kendall asked whether the assumption was that the 19 MCOs must be from EPA-owned resources. Should the workgroup consider other federal agencies that possess similar expertise? Mr. Soto responded that this is a consideration for the workgroup. The Agency is performing outreach to DOJ for attorneys and DOI in regard to a fish and wildlife youth conservation corps. The Agency does not claim ownership in that sense and is seeking leveraging opportunities.

Dr. Parker asked what percentage of Agency work was performed by contractors. Ms. Gelb was unaware of the percentage and explained that the focus is on the EPA workforce rather than contractors.

Dr. Ben Dysart (Dysart and Associates, Inc.), NACEPT member, asked whether the 19 MCOs were listed in priority order. Mr. Soto said that they were listed on the slide in no particular order. Dr. Dysart asked which of these MCOs were seen as the most challenging to develop to meet future Agency needs. Ms. Gelb agreed that this is an important question, and studies are being conducted in this area. She would have to research the specific answer. Dr. Dysart asked how the current MCO list differs from several years ago. Ms. Gelb responded that the occupations would be similar, but the training, skills, and expertise within the occupations has changed. One question to consider is whether the Agency needs more specialists or more “generalists” to respond to the ways in which work is conducted has changed during the last several years.

Dr. Osidele wondered whether the MCOs need subsets because requirements sometimes need to be defined to the specific job, but it also is beneficial to conduct a broad search. He asked whether the Agency had considered how to balance these issues. Mr. Soto replied that the Office of Human Resources has a workgroup that is focused on how to standardize position descriptions to address this issue. The Agency also is working on cross-sharing among offices. Dr. Osidele asked whether the Agency has, in the past, considered the subsets. Mr. Soto explained that this had been done in the past, but in the future, broad-oriented position descriptions will be needed that include these specific subsets.

Ms. Loftness thought that diversity could be addressed by examining mission-critical employee needs. As she examined the list of MCOs, she noticed that they fell into four clusters: (1) public policy, (2) science, (3) engineering, and (4) organization. Two clusters, however, are missing: (1) physical science and planning and (2) human science (e.g., anthropologists, risk scientists). It will be difficult to meet Administrator Jackson’s goals without involving physical planners. It also is important to recognize that academia is rapidly diversifying its specializations (e.g., water engineering, forest engineering, forest science). It may be valuable to compare a matrix of job titles to the Administrator’s goals, and treat them as system goals rather than product goals.

In response to a question by Ms. Filippone, Ms. Gelb explained that EPA currently has 17,000 positions. Ms. Filippone asked about the projected increases during the next 10 years and whether EPA has a diversity target. Mr. Soto responded that the number of positions is projected to remain static, and the Agency does not have a specific diversity target as this could be construed as a quota. Ms. Gelb said that EPA compares its workforce to civilian workforce statistics; these statistics are gathered via self-identification.

Dr. Dewitt John (Bowdoin College), NACEPT member, asked whether EPA has found that state environmental agencies have the same challenges and if lessons learned can be shared between the federal and state levels. Also how are the states included in the “One EPA” concept? Ms. Gelb noted that one of the Administrator’s goals is to strengthen the relationship between the Agency and the states and tribes. She is unaware if the states have the same issues, but she suspects that they do. Mr. Soto added that EPA strongly cooperates with state governments via the Environmental Council of the States.

Mr. Turner asked how the contracting services relate to the workforce and what role outside expertise plays in terms of the overall mixture of staffing. Mr. Soto reiterated that these statistics were not readily available, but he and Ms. Gelb could research this issue and report back to NACEPT. Ms. Gelb explained, in terms of the role of outside expertise, the Agency has many opportunities to partner with states, industry, academia, and stakeholder groups to ensure that specialized and localized experiences are being utilized. Mr. Turner said that it would be helpful for the workgroup to understand how outside contracting might impact its recommendations.

Ms. Kendall noted that the questions on pages 9 and 18 of the handout are not the same as those contained in the initial charge, and she asked whether these were the questions on which the workgroup now should focus. Ms. Gelb explained that the questions in the handouts do not replace the charge questions. Ms. Kendall asked whether internal data are available about SES barriers and obstacles. Mr. Soto replied that there are some data, but they are not extensive or comprehensive.

Ms. Kristie Orosco (San Pasqual Band of Mission Indians), NACEPT member, asked the presenters to discuss how the evolution of the workplace (e.g., telecommuting, fast pace of technological advances) might impact workforce demands and therefore affect the workgroup's charge. Also, has there been discussion on recruiting for trainable skills versus intrinsic knowledge (e.g., knowledge that cannot be taught)? She also noted that it is important that employees be flexible, particularly in terms of emergency response and its role in public perception of EPA. Ms. Gelb responded that although EPA is changing, and there is growth in telecommuting and other technologies, much of its work is not portable, and the Agency still is office-based. Also, managers in the federal government have not been taught to manage in this way, but EPA is instituting training regarding how to manage a remote workforce. Mr. Soto explained that, in terms of intrinsic knowledge, cultural knowledge often is sought.

Ms. Lamb commented that although there has been a loss of institutional knowledge as a result of retirement, there has been an increase in technological knowledge via younger workers. She asked whether the Agency is anticipating such a change in its workforce. Ms. Gelb relayed the example of the Emerging Leaders Network that the "Millennials" within EPA developed to promote their career pathways; these individuals are facile and move around the Agency experiencing various programs and offices.

Ms. Nash stated that it appears that EPA is comfortable with the manner by which the workgroup is choosing to address the charge; Ms. Gelb and Mr. Soto agreed and clarified some specific issues for the workgroup members. In terms of the timeline, Dr. Johnson noted that an advice letter by the second quarter of FY 2011 might be helpful in addition to a full report at a later date. Ms. Loftness stated that it would be helpful for the workgroup to know how many of the MCOs are outsourced to contractors, particularly in the Washington, DC, area. For example, within the National Science Foundation, these resources would be provided to universities and university research, which in turn fosters excellent candidates for employment from a young age.

In response to a question from Dr. Johnson, Mr. Soto explained that the unpublished draft guidance mentioned in the presentation would be provided to NACEPT. Dr. Johnson noted that information on the best practices model and successful management work would be beneficial as well. The SES distribution within the Agency is a missing component.

In response to a question from Mr. Olson, Dr. Johnson explained that all requests for information are made through the DFO. Dr. Johnson added that the day's presenters are the owners of the workgroups' projects; the DFO will receive information via them. These are the offices/staff that will make best use of NACEPT's products.

Public Comments

There were no public comments.

Chair's Summary

James H. Johnson, NACEPT Chair

Dr. Johnson stated three key points:

1. The presenting offices are the owners and sponsors of the workgroup studies.
2. Workgroups should incorporate measures of success in their work that help the Agency identify when it has been successful in addressing issues of technologies for vulnerable communities and implementing a work plan that address important EPA issues.
3. Co-Chairs for the workgroups still are needed. Mr. Learner will sit in on the workforce issues workgroup, and Dr. Johnson will sit in on the emerging technologies and vulnerable populations workgroup.

The products of the workgroup discussions that should be ready by 12:00 p.m. the following day are:

1. An outline of a report that is responsive to the charge.
2. A list of materials that will be needed.
3. A list of assignments detailing which members are responsible for which issues, including assignment of Co-Chairs.
4. A timeline detailing when the next workgroup meeting will be; workgroups can meet via teleconference, and as long as there is no quorum, the teleconference does not need to be public.

After discussing the following day's logistics, Dr. Johnson recessed the meeting at 5:27 p.m.

TUESDAY, SEPTEMBER 28, 2010

Emerging Technologies and Vulnerable Populations Workgroup Morning Session

The Emerging Technologies and Vulnerable Populations workgroup session included nine NACEPT members: Dr. John, Ms. O'Donnell, Ms. Loftness, Dr. Mitchell, Dr. Dysart, Ms. Orosco, Dr. Parker, Mr. Erichsen, and Ms. Filippone. Dr. Hauchman, Dr. Saint, Ms. Lynnann Hitchens (EPA, ORD, OSP), and Ms. Victoria Robinson (EPA, OEJ) also participated in the workgroup session.

Dr. John opened the workgroup session by suggesting that the workgroup may need to investigate alternative ways to achieve the tasks laid out by Dr. Johnson. Ms. O'Donnell added that the workgroup may want to start by considering "what do we need to accomplish" before delving into the substantive issues. She outlined the workgroup tasks as: reviewing the charge; identifying a workgroup chair person; laying out a time period of performance for the workgroup; making assignments for workgroup members; and preparing a draft report outline.

Ms. Loftness recommended that it may be useful to start with the "end goals—water quality, air quality, waste, etc." of the charge then identify the urgency associated with each environmental issue (using GIS methods) and the potential technology approaches (i.e., identification, solution, and ADP technologies) to solve the problem. When needed, Ms. Robinson offered to explain the EPA GIS mapping methods for screening potential environmental justice areas. Dr. Dysart noted that "vulnerable populations" include many threatened populations more than environmental justice populations alone.

Ms. Loftness suggested that indoor air quality (IAQ) may merit a higher quantitative value (i.e., 25%) than the other end goal environmental issues (i.e., water quality, outdoor air quality, waste/abandonment, land use and transportation, and access to reliable energy) because of the pervasive nature of the IAQ

problem. Referring to the draft matrix/grid she created, Ms. Loftness explained that for IAQ, for example: threshold identification technologies may be available to detect IAQ pollutants like volatile organic compounds and particulate matter; ADP technologies may be available to regulate paints and pesticides; and solution technologies may be available to recognize IAQ best practices and new technologies.

In reviewing Ms. Loftness' matrix, Dr. Dysart asked if this end goal orientation addresses Workgroup Charge Questions 1 and 2.¹ Ms. Loftness replied positively that the matrix does attempt to illustrate the urgency of various environmental problems affecting vulnerable populations and what technologies may be available to address them.

Ms. O'Donnell proposed an alternative matrix for identifying high priority environmental problems. She agreed that the major problems are air and water quality, waste, and so forth. She suggested, however, that it may be useful to identify the pollutants associated with these problems, the stressor causing the problem (e.g., transportation causing particulate air pollution problems), and the potential measurement and remediation technologies to solve the problem. Ms. O'Donnell suggested that some of the environmental problems such as water quality may be more of a rural rather than an urban problem because environmental regulations have addressed most urban water quality issues. She suggested that some subcategories (e.g., urban, rural) could be created among the environmental issues to highlight problems unique to various vulnerable communities. Dr. Dysart added that the subcategories may be extended to include old versus new legacy problems.

Ms. Orosco asked about the solution technologies for these environmental problems. She asked how "best" technologies can be identified and who will ensure that these technologies will solve the targeted problem. Ms. Loftness replied that it may not be possible to identify the best and most qualified technology solution; it may only be possible to identify the scale of the problem and range of possible technology solutions. Ms. Orosco said that she hoped the identification of recommended technology solutions may spur the development and availability of these technologies. She said that the cost of GIS technologies, for example, has gone down and they are now more affordable among Indian tribes. Dr. Dysart added that the availability of simple, low-cost, affordable technologies is key to solving many environmental problems for vulnerable populations. There was general agreement that the availability of affordable technologies should be a recommended policy regardless of the type of technologies identified.

Mr. Erichsen mentioned that emerging technologies for vulnerable populations should include communication as well as monitoring technologies. He stressed that communications technologies are important because they help increase the interaction with affected communities and populations, and help interpret what the data mean. Ms. O'Donnell agreed that information technologies such as real-time monitors can provide monitoring and communications data. Ms. Loftness cautioned that generic statements such as "this is a Red Alert day for air quality" are not helpful to anyone because the potentially affected populations want to know "so what do I do, I have to go out and work today." Ms. O'Donnell added that this might be the subject of a workshop—identify an environmental problem for a vulnerable population; ask outside experts to provide suggestions on what technologies might be available to address these problems; and discuss how to communicate data with affected communities. Alternatively, Ms. Orosco said that technology experts could be invited to workgroup conference calls to discuss technology alternatives with the workgroup.

Ms. Orosco suggested that land use may be a better definition of an environmental problem for environmental justice communities than waste, and workgroup members agreed. If land use is identified then subcategories under this term could be issues such as transportation activities that affect land use.

¹ Charge question 1: What is currently known about major environmental and related health risks faced by Environmental Justice communities and other vulnerable populations. Charge question 2: What technologies are most useful (i.e., accessible, affordable, understandable, easy to implement) in monitoring, communicating and reducing these risks, in particular, specific technologies that are now emerging as "game changers"...

Dr. Hauchman agreed that the environmental media approach (used in the matrix) is useful because his office was considering offering the workgroup case studies to review of environmental problems facing vulnerable populations. He added that one of the technology needs to include in the workgroup analysis of these issues is the guidance needed in the regulatory development process (i.e., the ADP). Further, he said that the scope of the charge is open and is the workgroup's responsibility as much as it is his office's. The charge did not specifically identify ADP, but EPA is interested in tools that its staff can use to better adapt the ADP to issues affecting vulnerable populations. Ms. Loftness agreed that technologies for regulatory oversight are needed and the Clean Water Act may be one of the most effective tools for dealing with vulnerable population communities. Dr. Hauchman explained that as part of the ADP, for example, EPA estimates levels of exposure (using air dispersion models and other techniques) for populations around industrial sources.

Dr. Hauchman noted that one of Administrator Jackson's priorities is "expanding the conversation on environmentalism and working for environmental justice."² As a result of this guidance, he explained that there is a high Agency interest in identifying vulnerable communities and populations that may be at a higher risk to environmental hazards. He suggested that there may be datasets and tools available that would help EPA conduct these needed assessments. Further, he said EPA is looking for data, information management, and information collection technology suggestions in addition to solution technologies. If there is interest, Dr. Hauchman offered to have EPA specialists in the ADP to meet with the workgroup and discuss some of the Agency information technology needs.

Dr. John noted that another part of this regulatory development process is permitting. He suggested that if there is a potential permitting problem as a result of the Agency's regulatory guidance then vulnerable communities will be the first to know about it and may be able to offer remedies. Ms. Orosco added that a proactive approach is needed throughout the regulatory development process. She noted that water quantity as well as water quality are major issues for environmental justice communities.

Ms. Orosco explained that many rural tribal and environmental justice communities are not connected to a municipal water system and are concerned about having an adequate water supply. She said the Safe Drinking Water Act is one of the most useful federal mandates that help rural tribal and environmental justice communities deal with these issues. Further, she stated that federal environmental laws are important for tribal lands because most tribes rely exclusively on these laws for compliance and enforcement issues. Ms. Loftness noted that relying on federal laws may be beneficial in some cases because the fragmentation of environmental laws among state and local jurisdictions often prevents the adoption and use of new innovation technologies.

Ms. Orosco noted that many environmental innovation technology vendors have approached tribal communities to demonstrate and test technologies on tribal lands because of the lack of conflicting environmental requirements. She described, for example, one Southern California tribal community that is considering the use of "grey water" within households although such a practice would be prohibited in the County of San Diego.

Ms. Robinson cautioned workgroup members to not "stovepipe" environmental media problems within environmental justice and other vulnerable populations. She said that most vulnerable populations are concerned about cross-media and cumulative environmental problems not single media problems. Dr. John added that there are synergistic problems that many vulnerable communities face and the workgroup should be sensitive to these issues. He explained that many vulnerable populations and communities would like to know how EPA can customize the regulatory development process to address their local needs.

Mr. Erichsen noted that environmental pathways are important, too. He explained that eating contaminated fish or lead-based paint can be as detrimental as ambient exposure issues. Dr. John

² January 12, 2010, Memorandum from Lisa Jackson, Administrator to All EPA Employees.

suggested that environmental problems have to be examined from both the community and the government (i.e., EPA) perspectives. He cited the EPA RARE Program that deals with various human health and/or ecological concerns as an example of the potential capacity within the Agency to create building blocks to assist communities in need. He said it would be useful for the workgroup to identify these and other existing “building blocks” as a means for more fully identifying solution technologies.

Ms. Robinson encouraged the workgroup to “think outside the traditional box” in investigating emerging technologies and vulnerable communities. She said the workgroup should not be limited to where the Agency is now but should consider where the Agency should be in the future. She explained that the Agency is developing a new policy and tools for environmental justice screening and mapping. An Environmental Justice Geographic Assessment Tool, for example, is being developed and it might be useful for workgroup members to learn more about this tool and its planned capabilities.

Workforce Issues Workgroup Morning Session

The workgroup session was attended by nine NACEPT members: Mr. Olson, Mr. Turner, Ms. Kendall, Ms. Lamb, Ms. Bannerman, Mr. Learner, Mr. Rivera, Dr. Chertow, and Dr. Osidele. Ms. New, Ms. Jones-Jackson, Ms. Rosyletta Simms (EPA, Office of Human Resources [OHR]), Mr. James Hiscock (EPA, OHR), Ms. Claire Milam (EPA, OHR), and Mr. David Semick (Government Accountability Office [GAO]) also were present.

Mr. Olson opened the workgroup meeting by asking participants to introduce themselves. He explained that the mission of the meeting is to establish an outline for the report that the workgroup will develop. During the previous day’s discussions, it became clear that EPA’s human resources personnel would like advice from NACEPT as soon as possible. Therefore, the workgroup will produce an advice letter rather than a comprehensive report.

Mr. Olson asked how quickly the advice letter is needed. Ms. Milam explained that a retreat will take place on October 12–13, 2010, to work on the development of a leadership program for the SES. Any best practices that the workgroup could identify in time for that retreat would be valuable. More generally, however, providing information by February or March would be helpful. Ms. Milam referred to the previous day’s discussions of transformational thinking and said that EPA would like the workgroup’s thoughts on this topic and on what the ORD can do to stay innovative.

Mr. Learner explained that in almost every major city there is a leadership program, usually coordinated by the community foundation, which brings together young leaders from government, the private sector, and nonprofit organizations. Most such programs are diverse in terms of race and gender and are a true pipeline to engagement with community leadership. Local government agencies usually participate, but federal government agencies often miss out on this opportunity. Mr. Learner recommended that EPA regional offices have their top staff members participate in such programs to spur their career development. Mr. Billy Turner mentioned the Institute for Environmental Leadership in Georgia as another worthwhile opportunity, and Ms. Leah Ann Lamb noted that there are regional institutes in her area for environmental and health leaders.

In response to a question from Ms. Kendall about the upcoming retreat, Ms. Milam explained that the retreat is for SES personnel and is part of the creation of a formal leadership development program for this group. Until now, leadership development for the SES has been conducted on an ad hoc basis. In response to a question from Dr. Osidele, Ms. Milam explained that there is a formal candidate development program (CDP) to prepare employees at the GS-14 and GS-15 levels for the SES. EPA does not run its own CDP but instead participates in a program run by OPM. EPA ran its own CDP in the past, but the program was costly, and the Agency does not plan to run its own program again. However, EPA is exploring possible partnership options with other agencies.

Ms. Bannerman asked how many of the approximately 300 SES personnel at EPA are political appointees; Ms. Simms clarified that about 20 to 30 are in that category.

Dr. Chertow asked for clarification of the “One EPA” concept. Ms. Simms responded that the concept originated in a meeting between the Administrator and senior EPA executives. At that meeting, the executives asked about EPA’s “brand.” Questions considered at the meeting included the following: How does the Agency want to be known? How do outsiders perceive the Agency? How do EPA personnel and offices support each other in success? How can different EPA offices touch the community without giving mixed messages?

Mr. Learner asked whether anything special is done for EPA executives who are nominated for Presidential Rank Awards. He explained that these individuals are EPA’s true stars, and the Agency should invest in developing and retaining them. Ms. Simms responded that nominations for the awards come from individual offices or regions, and that there is no specific strategy for training these individuals. Mr. Learner said that focusing on these high performers is an obvious best practice. Ms. Milam noted that retention in the federal government is high. Turnover is not a major issue in the SES, but developing leadership capabilities is. Mr. Learner replied that turnover might become more of a problem if the economy rebounds because EPA’s top performers are the people whom the private sector, universities, or other government agencies would want to recruit. Providing top people with opportunities for growth and development is standard practice in the private sector.

Ms. Kendall suggested performing a survey of the SES to determine what they see as their own needs and the barriers to advancement in their careers. Ms. Milam responded that surveys of a sample of this group have been performed, and the results indicated that most development was focused on the individual rather than on corporate factors such as the Agency’s strategic goals.

Mr. Olson explained that there would be a break in the workgroup’s meeting and that when they returned, the workgroup would need to focus on developing an approach to their upcoming work. He provided members with a two-page document in which he had grouped the questions that the workgroup had been given and listed the topics that workgroup members felt they could address without contractor input. Mr. Olson proposed that the workgroup form smaller teams to address each of the issues, discuss who the leaders would be for each team, and decide what the immediate next steps for each team would be.

Remarks by Deputy Administrator Bob Perciasepe

Dr. Johnson opened the session noting that Administrator Jackson and Deputy Administrator Bob Perciasepe have a strong interest in the two NACEPT workgroup charges. He noted that one of Administrator Jackson’s high priorities for the Agency is to focus on vulnerable groups, such as children, elderly, and lower income communities that are susceptible to environment health risks, and one of Deputy Administrator Perciasepe’s high priorities is EPA workforce development issues. Following his remarks, Dr. Johnson introduced Deputy Administrator Perciasepe to the NACEPT members.

Deputy Administrator Perciasepe explained that Administrator Jackson was unable to attend the NACEPT meeting because she was en route to the Gulf of Mexico where she will be introduced as the Chair of the Gulf Coast Recovery Fund. This fund is being established, with Presidential approval, as the mechanism to address the long-term recovery and restoration efforts in the gulf. The Gulf Restoration Plan, written by Secretary of the Navy Ray Mabus, was submitted today to the President, who accepted the plan and named Administrator Jackson as the Task Force Chair.

Deputy Administrator Perciasepe said that both he and the Administrator are pleased that NACEPT has taken on the two issues—Workforce Development and Emerging Technologies and Vulnerable Populations—as its current tasks. He noted that this is the second time that he has talked with NACEPT members about workforce issues since he addressed this issue at the previous (i.e., May 25–26) NACEPT meeting.

Deputy Administrator Perciasepe noted that EPA has a storied 40-year history of accomplishments and many of the current Agency career management leaders have grown up with the Agency during this period. As a result of their service to the Agency, he explained that nearly 50 percent of the current EPA Senior Executive Service members are eligible to retire. This presents a dual challenge of replacing these leaders with highly capable individuals and filling these leadership positions with EPA officials that represent the face of America.

Deputy Administrator Perciasepe explained that EPA today is at a pivotal point. Many of the environmental abuses identified in the 1960s and 1970s have been addressed. Rigorous air pollution controls have been installed, automobile emission controls have been adapted, industrial discharges have been reduced, and pesticides have been more closely scrutinized and labeled—all of these efforts are examples of significant Agency progress. Along with these accomplishments, however, have come problems because the levels of pollutant detection are now more comprehensive and awareness of chemical contaminants is more pervasive. He said that more complicated and difficult environmental problems such as climate change and infrastructure issues are facing the country today and require a highly capable and diverse workforce to deal with them. Based on its foundation of environmental success, Deputy Administrator Perciasepe said that EPA needs to determine how to replenish its talent pool and do so in the most effective and useful way to deal with the complex environmental problems the Agency is being asked to address.

One of the high priority issues the Agency faces, according to Deputy Administrator Perciasepe, is the need to determine if the public health and environmental protection that it is providing is being distributed equitably. For example, are children as protected as they should be or are they more vulnerable to some environmental problems? Likewise, are there are communities that may be more vulnerable because of urban sprawl and/or unchecked land use development issues? Deputy Administrator Perciasepe noted that an interesting example of this vulnerability is New York City. He explained that the New York City Department of Health and Mental Hygiene has collected data on the fine particle concentrations in the city's metropolitan area—the five city boroughs. These concentrations are available in a map that is similar to a weather map illustrating particle concentrations in gradient colors.

Deputy Administrator Perciasepe explained that the notable feature about the New York City particulate map is that it defines air pollutant concentrations largely along street routes that allow truck traffic. This translates into East Manhattan having as much fine particle concentrations as the South Bronx. West Manhattan does not have heavy particle concentrations because all New York City truck traffic is shunted onto 1st and 2nd Avenues that run roughly in a north-south direction along Central Park. He noted that the Upper East Side of Manhattan has some of the highest income based on the latest U.S. Census track in the United States; yet, they also have some of the highest concentrations of fine particles similar to the South Bronx, which has a considerably lower income level. The environmental question is: Are both the Upper East Side of Manhattan and the South Bronx disproportionately impacted communities? The answer is yes, but are these overburdened communities? The answer is probably no, based on access to health care, summer camp for children, the housing stock, and other quality of life issues. He explained that disproportionate impacts often result in more asthma cases and higher hospital visits; the question is how EPA should deal with these human health and environmental protection issues. The answer is both an internal Agency concern for having the right workforce to tackle such issues and an external Agency concern for understanding how environmental problems impact communities.

Discussion

Regarding vulnerable populations and EPA authority to protect human health and the environment, Ms. Loftness asked whether the Agency has the authority to regulate products such as consumer goods, toys, and foods. Deputy Administrator Perciasepe replied that the Toxic Substances Control Act provides EPA with the authority to regulate chemicals in commerce and may extend to the manner by which these chemicals are used in the production of some consumer household goods. In addition, the Food Quality

Protection Act and the Federal Insecticide, Fungicide and Rodenticide Act provide EPA with authority to regulate food pesticides. The licensing and labeling of pesticides used on food materials also includes the need to understand more fully how these substances are used; so, the overall question of how vulnerable populations are impacted through the use of pesticides is of great concern to EPA.

Mr. Turner agreed with Deputy Administrator Perciasepe's perspective that EPA has had many environmental successes during the past 40 years. He suggested that many of the Agency's accomplishments have not been adequately described. Deputy Administrator Perciasepe acknowledged this public perception issue and admitted that EPA in many cases has achieved environmental results at lower costs than originally estimated. Catalytic converters are one example of how the Agency persevered and the auto industry accepted the need to address mobile source emissions.

Deputy Administrator Perciasepe noted that EPA encourages the use of innovative approaches in solving environmental problems. In waste water treatment, for example, phosphorus was historically removed in waste water treatment plants through chemical addition and precipitation; today, biological approaches are used for such removal. Likewise, to remove nitrogen oxides from combustion flue gases, selective catalytic reduction has been proven to be a more effective and economic solution than other approaches previously used.

Mr. Olson asked how the Agency deals with workforce issues. Deputy Administrator Perciasepe explained that federal workforce issues are being examined across the government through the President's Management Council. He noted that one recurring question across federal agencies is if the government should promote from within or recruit senior managers from outside the government. The general conclusion among Council members is that the federal government needs to recruit SES members from the outside; concurrently, all federal agencies need career paths so that employees know there are opportunities for promotion within their agencies. He explained that most federal agencies have SES Candidate Programs that train prospective candidates for career senior management positions. For example, EPA Administrator Jackson went through the EPA SES Candidate Program.

Ms. Kendall asked about the "One EPA" vision. Deputy Administrator Perciasepe explained that EPA implements environmental laws passed by the U.S. Congress and many of these laws are media specific so this results in the "stovepipe" organizational design (i.e., air, water, and waste offices) within the Agency. However, the Agency also has hybrid and/or cross-media offices such as ORD, OECA, Office of General Counsel, Office of Policy, Economics, and Innovation, and so forth. Deputy Administrator Perciasepe noted that EPA is a matrix managed organization and there are cross-organizational elements among all Headquarters and regional offices.

In explaining the "One EPA" vision, Deputy Administrator Perciasepe used an analogy. He said that many retail stores want to instill a customer service attitude in their employees. To instill this attitude requires a constant "drum beat" from managers for employees to think beyond their personal boundaries in dealing with customers. In much the same way, EPA Headquarters and regional managers and staff need to think about each other's functions as policy is being derived and programs and projects are being implemented. For example, when an EPA official speaks at a local city council meeting discussing landfill issues, the perception is that an EPA official addressed the council, not that an EPA official from the regional Office of Solid Waste addressed the council. The public thinks about "One EPA," not different EPA officials from different parts of the Agency.

To instill a "One EPA" vision, Deputy Administrator Perciasepe explained that the Agency has started meeting with the nearly 1,500 managers and supervisors across the Agency, and will eventually have meetings about this concept with nearly all 18,000 Agency employees. He concluded by saying this need for a "One EPA" vision will be an internal, constant conversation among employees about how everyone can do their jobs better.

Dr. John asked about emerging technologies and vulnerable populations. Specifically, he asked about the ADP and the Agency's overall regulatory development process. Deputy Administrator Perciasepe explained that it is important for the Agency to be aware of how environmental benefits are distributed geographically and among different populations. Equally important is the need for the Agency to apply its discretionary authority in regulatory development evenly. He emphasized that what is done by EPA Region 1 (Boston), for example, must be consistent with what is done by EPA Region 4 (Atlanta) and this approach must be integrated into the Agency's rulemaking processes.

Ms. O'Donnell asked if EPA managers have identified any key issues affecting vulnerable populations. Deputy Administrator Perciasepe replied that the cumulative environmental impacts (from a variety of media-specific pollutants and wastes) affecting vulnerable populations are important. He said communities often are concerned about the combination of automobile exhaust problems, possibly mercury contamination problems, and others collectively rather than single media environmental problems.

Dr. Johnson thanked Deputy Administrator Perciasepe for his remarks and asked the NACEPT workgroups to reconvene and return in several hours to make presentations on their deliberations. Specifically, he asked the workgroup leads to return with the following results: (1) the designation of a workgroup Chair and Co-Chairs; (2) workgroup assignments for how they will be addressing their charge; and (3) a draft outline of a workgroup report.

Emerging Technologies and Vulnerable Populations Workgroup Late Morning Session

Dr. John reconvened the workgroup and thanked everyone for their active participation in the first workgroup session. To ensure that environmental justice and other vulnerable populations have a role in the EPA regulatory development process, he stressed that there is a need for them to have a more prominent role in the process. This means that the Agency will need to be more sensitive to their needs as regulations are being developed. Ms. Loftness agreed and suggested that these capacity issues need to be integrated into the matrix wherein environmental issues and how technologies might address those issues are listed.

Ms. Orosco reminded workgroup members that Deputy Administrator Perciasepe said that the Agency is concerned about cumulative impacts for vulnerable populations and wants to have a consistent model to apply across all 10 EPA regions. She said that Environmental Impact Statements (EISs) do not adequately address cumulative impacts from single and/or multiple pollutants. She explained that EISs normally include only major and minor impacts and these impacts are usually media specific. She suggested that it might be useful to develop a matrix that could be incorporated into the EIS development process that includes cumulative environmental impacts.

Ms. Loftness asked for an example of a cumulative impact for a tribal community. Ms. Orosco replied there are numerous cross-media problems. Tribal water quality, for example, could be impacted by air pollution problems or water quality could be affected by non-point sources issues; on a media-specific basis, these may be considered minor environmental problems but cumulatively they have major impacts on the tribal community. Further, she said that poor air quality can affect the agricultural crops on tribal lands and these problems are long term because the soil and land use are significant parts of the tribal culture.

Ms. Robinson offered to send the NACEPT DFO some background EPA documents on cumulative impacts that may help workgroup members better understand the concept. She explained that EISs do not normally include cumulative or aggregate exposure impacts since they are based on media specific (i.e., air, water, and waste) regulatory requirements.

Dr. Saint explained that the terms cumulative and aggregate have unique definitions. Exposures are aggregate; they add up. However, cumulative impacts unlike exposures can be synergistic or antagonistic

and they are much harder to characterize and identify. In yesterday's presentation by Mr. Lee on environmental justice issues, Dr. Mitchell pointed out there was a difference between cumulative exposure (e.g., exposure from many sources) and cumulative impacts (e.g., effect on biological systems). Further, he noted aggregate exposure is normally considered repeated exposure to the same pollutant or adverse source. Unfortunately, he explained from a regulatory standpoint exposure from a single minor air pollution source or 50 minor air pollution sources are the same; however, from a biological perspective exposure from numerous minor air pollution sources does make a significant difference.

Ms. Filippone asked if EPA has defined any of these terms. Dr. Saint replied that EPA has definitions for aggregate exposure and cumulative risk, and there are additional definitions in the Food Quality Protection Act. Ms. Loftness explained that it will be important to have a consistent and accepted glossary and definition of terms for the words describing the vulnerable community health effects. She said that dosage is as important as exposure and impacts. Dr. Saint said that it is important to recognize the relationship between exposure, dose, and effects. These are dosage issues. Exposures do not accumulate; multiple exposures to the same chemical and exposures to multiple chemicals are different issues; it is important to remember that the effects on a body from exposures accumulate. He noted that the critical difference is normally between aggregate exposures and cumulative doses or risk. Cumulative risk is the combined risks from aggregate exposures to multiple agents or stressors.

It was generally agreed that the workgroup would accept and use the definitions provided by EPA for all health-related terms such as exposure, risk, and effects. Ms. Robinson added that the 2005 NEJAC report also might be useful for the workgroup because it offers the communities, not EPA's, view on cumulative impacts and risks. Further, she said that some of the figures used in Chris Saint's slide presentation yesterday were based on data derived from the 2005 NEJAC report.

Dr. John noted that the availability of technologies to environmental justice and vulnerable population communities may have significant consequences and suggested that more can be done relative to making their needs known and accommodated in the regulatory development process. Ms. O'Donnell agreed that there may be a limited amount of information that may be listed on the proposed matrix or grid, and the 2005 NEJAC report may offer another qualitative perspective that could be integrated with what will be listed in the grid.

Dr. Parker asked about the availability of vulnerable population case studies for the workgroup to review. Dr. Hauchman said there may be a limited number of case studies available from EPA; he suggested that EPA regions and OEJ may be useful sources and his office would work with these other offices to find case studies for the workgroup to review.

Dr. Mitchell offered a snapshot of Hartford, Connecticut as a possible workgroup case study. Hartford's population is about 80 percent black and Latino; it has the sixth lowest income in the country; it is the state capitol but also home to the fifth largest trash incinerator in the country. Seventy surrounding Connecticut towns bring trash to Hartford to burn. Hartford has one of the country's largest sewage treatment plants in the country handling not only Hartford's waste water but sludge and waste water from eight surrounding Connecticut towns. Hartford also has a sewer sludge incineration facility that burns sludge from numerous local towns. Three- to five-hundred trucks daily enter Hartford with sewer sludge.

Dr. Mitchell explained that Hartford also has two of the largest landfills in the state and two of the state's largest recycling facilities. Unfortunately, very few of these facilities hire Hartford residents and only the recycling facility pays minimum wages. Further, there are four small electrical power plants within the Hartford city limits. Two interstate highways run through Hartford and there are several Brownfield facilities in the city.

Beyond Dr. Mitchell's proposal, Ms. O'Donnell asked who else could develop case studies for the workgroup. She suggested that the workgroup may need a range of case studies covering urban, rural, tribal and possibly media-specific (e.g., air and/or water) case studies that may be affecting a vulnerable

population and/or community. Ms. Filippone acknowledged that the Hartford case study is representative of numerous East Coast urban cities to include many in New Jersey such as Patterson, Passaic, Newark, and even the five boroughs in New York. She said that wetlands around these cities present particular problems because these areas create legacy pollutant problems. The challenge of cleanup for legacy pollutants is more difficult because ownership cannot easily be identified. Ms. Loftness noted that each of the case studies reviewed by the workgroup should include some profile of measurement technologies that might help identify and isolate environmental stressors that could be regulated. It was noted that the case studies should include science and policy considerations in addition to technology issues.

Ms. Loftness suggested that a comprehensive list of environmental stressors may first be needed then case studies could be sought that links these stressors to vulnerable populations. Beyond EPA and the NEJAC report, it was suggested that some university experts such as Manuel Pastor, University of California, Santa Cruz, may have information on environmental stressors and case studies that could be of use to the workgroup. Ms. Loftness noted that abandoned buildings may not be viewed as a significant problem but the longer these buildings are neglected and homeless people start to use them the greater potential problem they can be to a community.

Ms. Orosco asked about the availability of EPA experts to talk with the workgroup about the emerging technology and vulnerable population issues. It was agreed that these experts should be invited to the next NACEPT meeting or might participate in workgroup teleconferences. Ms. Loftness cautioned that the technology issues are not information technology solely. She noted, for example, that the Swedes have converted all of their coal-fired power plants to waste-to-power plants and have reduced their mercury emissions substantially.

Dr. Mitchell noted that Hartford's experience with waste-to-power generation is mixed. He explained that there are many unknown contaminants in waste and it is presumptuous to believe that waste-to-power is a panacea. He noted that continuous emission monitors, on the other hand, have been very beneficial to the Hartford community in measuring and identifying harmful pollutants. It was suggested that an EPA expert on continuous emission monitors might make a presentation to the workgroup about the benefits and limitations of this technology to communities. Ms. Filippone offered to provide a speaker for the workgroup on some of these issues; she may be able to provide the speaker's name and potential availability in several weeks. It also was suggested that Dr. Johnson, the NACEPT Chair, may be able to offer some expert speakers based on his previous experience with the EPA SAB and BOSC.

Dr. John suggested that it might be useful to start identifying some tentative recommendations even though the workgroup is only starting to analyze the issue of emerging technologies and vulnerable populations. Ms. Loftness agreed and said it would be useful to list as much information as possible in the nine-box matrix. Ms. O'Donnell asked about the type of technologies that would be identified in the matrix. She said that the application of various technologies is important, particularly from the regulatory and ADP standpoints.

Dr. Hauchman explained that the key technology questions are: who uses them and for what purpose. He referred workgroup members to the two tables in Dr. Saint's presentation yesterday. In these tables, a distinction is made between "Technology for EPA Actions" (i.e., GIS and exposure assessment software) and "Technology for Community Actions" (i.e., web-based exposure and risk assessment frameworks, and low cost monitors for criteria air pollutants and air toxics).

Dr. Hauchman offered an example of a potential technology user. An EPA risk assessor, for example, will need exposure information about who lives around an industrial source. The characteristics of the population will be needed; plus, their distance from the industrial source and the contaminant emitted from the industrial source. Measurement and data management technologies are the types of technology that would be used to collect this type of information. Ms. O'Donnell added that beyond measurement and monitoring technologies, regulatory management technologies also may be needed.

Dr. Mitchell stressed that the communities' use and application of technology is as important as the EPA use and application of these technologies. Ms. Orosco agreed explaining that it is necessary to determine from a community or tribal perspective how technologies can be used in the analytical process to include economic analysis and risk assessment.

Ms. Filippone asked about the permitting process. She explained that permitting is related to rulemaking and there should be some analysis of the effects of local permitting. Dr. Mitchell noted that permitting is based on technology not health. For example, the Clean Air Act Maximum Achievable Control Technology (MACT) Standards are generally recognized as protective of human health yet these standards change. He noted that if these standards were truly protective of human health than they would not have to change. Ms. O'Donnell suggested that this may be a tentative workgroup recommendation that EPA should look at the rule making process more broadly and include the implications of changing technology-based permits on vulnerable communities.

Dr. Hauchman noted that "Considering Environmental Justice Concerns in EPA's Permitting Process" is one of the five cross-Agency focus areas in the *Draft Plan EJ 2014*; so it is well within the workgroup's charge to make recommendations about this issue.³ He added that technology is an important part of the rulemaking process because the level at which a standard is set, for example, at 20 parts per million (ppm) or 5 ppm is based on available technology and monitoring frequency.

Ms. O'Donnell suggested that they review the work assignments among workgroup members. She noted that Ms. Loftness plans to revise the matrix and outline based on workgroup discussions. For case studies, Dr. Mitchell will provide a Hartford, Connecticut case study; Ms. Orosco will provide a tribal case study; Ms. Filippone will provide a Newark, New Jersey case study; and Dr. Hauchman will provide a case study from EPA's perspective. Ms. Robinson will send NEJAC materials to the NACEPT DFO for use by the workgroup. Ms. Loftness asked if it would be possible to receive case studies from all workgroup members.

It was agreed that all workgroup members should try to prepare a case study but the four primary case studies (i.e., Hartford, tribal, Newark, and EPA) will form the core of the case studies to be reviewed. Ms. Loftness added that national GIS maps illustrating troublesome air and water problems on a regional and local basis also may be helpful to the workgroup. Further, Ms. O'Donnell said that there was general agreement that invited EPA speakers on emerging technologies will be needed for the upcoming workgroup teleconferences and the next quarterly NACEPT meeting.

Ms. Orosco noted that EPA also would be providing the workgroup with a glossary of key terms and definitions for emerging technologies and vulnerable populations. She added that a fuller discussion is needed with EPA experts on the regulatory development process. Dr. Dysart agreed to help identify keywords for vulnerable populations and environmental justice for the glossary. Mark Joyce noted that Dr. Mitchell has available a copy of House of Representatives Bill 5820, the Toxic Chemicals Safety Act of 2010 that is proposed to amend the Toxic Substance Control Act. This Bill includes a number of vulnerable population terms and definitions that may be useful to the workgroup.⁴

Ms. O'Donnell noted that future workgroup discussions should focus on three issues: (1) case studies; (2) technology reviews; and (3) regulatory reviews. Ms. Loftness agreed and suggested that one of her tentative recommendations might be for EPA constantly to track international solution-set technology innovations for air, water and land for vulnerable populations. An example is trash-to-power technologies; these types of technologies could have significant benefits for vulnerable populations and communities. Ms. O'Donnell agreed that it would be useful to list tentative recommendations and have a fuller workgroup discussion about them in future meetings.

³ *Draft for Public Comment, Plan EJ 2014*, U.S. Environmental Protection Agency, July 27, 2010. <http://www.epa.gov/compliance/ej/resources/policy/plan-ej-2014.html>

⁴ H.R. 5820, The Toxic Chemicals Safety Act of 2010. <http://www.govtrack.us/congress/billtext.xpd?bill=h111-5820>

Dr. John suggested that deadlines are needed for each of the workgroup member assignments. He said the workgroup should meet monthly. Ms. Orosco proposed the afternoon of the first Friday of each month as the workgroup teleconference meeting dates. Mr. Joyce asked the workgroup what they expect to accomplish by the January 2011 NACEPT meeting. Ms. O'Donnell suggested that the workgroup should be able to have a completed matrix; an identification of case studies; a draft report outline; a schedule for report completion; and some tentative recommendations.

For the November 5 workgroup teleconference, Ms. Loftness suggested that workgroup members should plan to identify air, water, and land substressors in the matrix—she would distribute a draft of indoor air quality substressors, as an example, for workgroup review and expansion. She asked if EPA would be able to provide staff assistance in the preparation of the matrix because there may be a total of eight to 10 submissions among the various environmental media. Mr. Joyce agreed that EPA would be able to provide staff support.

For the November teleconference, Dr. John suggested that each workgroup member should submit something in the next 2 weeks in response to the charge. This submission could be in the form of a case study or any of the issues discussed by the workgroup. Ms. Loftness suggested that the workgroup may want to try to identify the performance goals and/or functions of the various measurement, solution and regulatory technologies in the matrix. For outdoor air quality controls, for example, she suggested a reasonable question might be: what are the measurement technologies for transportation and land stressors?

It was generally agreed that for the November teleconference, a list of case studies would be identified, tentative “off-the-cuff” recommendations would be collected, environmental media substressors would be listed, and some performance goals and/or functions would be identified. Ms. O'Donnell asked how EPA can help the workgroup collect and distribute information. Mr. Joyce replied that EPA will provide whatever staff support is needed but it is important for the workgroup to have a Chair to manage the process; so far, he noted, only Dr. John has offered to be a workgroup Co-Chair. Dr. John acknowledged that he is not an environmental justice expert and the workgroup Chair should have this type of experience and expertise. He added that he will have limited time between now and January 2011 to spend on workgroup issues.

Dr. Johnson suggested that in the absence of another workgroup Co-Chair, Dr. John might be the “integrator and/or coordinator” for tasks undertaken by other workgroup members. This would not require him to be an expert on any specific environmental justice and/or vulnerable population issue but to integrate the materials and suggestions offered by other workgroup members. Ms. O'Donnell offered to collect and summarize tentative recommendations from the workgroup; Ms. Loftness agreed to work on the matrix; and Dr. Dysart agreed to keep the list of case studies suggested by workgroup members.

Dr. Parker suggested that the matrix may need more information on who is disproportionately affected by environmental problems and how these problems are affecting them. For example, are there vulnerable subpopulation references (e.g., elderly, young, asthma patients, heart patients, etc.) that may need to be identified? Ms. Orosco agreed and suggested that the specific workgroup recommendations should consider these issues.

Mr. Joyce asked that all of the workgroup members copy one another on all e-mails regarding their emerging technologies and vulnerable populations work to ensure that everyone is aware of ongoing activities.

Workforce Issues Workgroup Late Morning Session

The second portion of the workgroup's meeting focused on a draft outline for an advice letter, which listed the following five topics/questions to be covered: (1) technical competencies needed to be prepared for tomorrow's challenges; (2) strategies to obtain and retain scientific and technical expertise;

(3) strategies to attract and retain superior executive leadership talent; (4) leadership capabilities and culture for “One EPA”; and (5) ensuring diversity.

Mr. Olson asked the workgroup whether the topics seemed appropriate and informed them that they could request any written materials that they needed from the acting DFO, Ms. New. Ms. Simms said that the human capital division is simultaneously working on strategic workforce planning, succession management, and recruitment strategies and will be updating plans for all three at the same time. She asked for clarification on when the workgroup would submit its advice letter. Mr. Olson pointed out that the workgroup would not be able to contribute on all topics; some are better left for specialists. He suggested that the workgroup could produce an advice letter by March. Ms. Milam said that advice related to Question 1 could be used even earlier, and workgroup members agreed to respond to this question by December.

Ms. Simms recommended amending the list of 19 mission-critical occupations. Engineers should have been grouped together, as should leaders, including both executives and political leaders. Mr. Olson proposed that synthetic biologists should be included in the list. Ms. Simms noted that physical planning, human sciences, and behavioral and social science fields also may need to be included. Dr. Osidele commented that he liked the matrix concept. Matrix organization is important to ensure that the right people are present for the tasks at hand.

In response to a question from Mr. Turner, Ms. Milam said that the list of mission critical occupations was derived from research performed several years ago. It was intended that the list would be winnowed down and prioritized, but this has not been done yet.

Mr. Olson and Dr. Osidele expressed an interest in working on the response to Question 1 and agreed to provide it by the end of the year. Ms. Simms said that this timeline would be consistent with EPA’s timeline for revisiting the workforce plan and strategic plan. In response to a question from Ms. Lamb about the process of producing the advice letter, Ms. New said that NACEPT would meet in December but not necessarily face to face. Mr. Learner noted that for an advice letter that was sent out during the previous summer, circulating it to the committee and holding a teleconference proved to be a workable method of obtaining feedback from all of NACEPT.

Dr. Chertow suggested obtaining input from the career placement officer at Yale University, Mr. Peter Otis, who is knowledgeable about activities of professional associations. Dr. Olson proposed having a draft of the advice letter reviewed by the Futures Network and interviewing Dr. David Rejeski at the Woodrow Wilson Center, who once led a futures unit in EPA. Ms. Kendall asked for more information on how the list of mission critical occupations was generated, and Ms. Simms responded that the information would be in EPA’s strategic workforce plan. Ms. Simms also suggested recent EPA human capital management reports and a GAO report as useful resources. Dr. Chertow and Ms. Milam proposed reviewing what environmental agencies in the United Kingdom and Canada, respectively, are doing. Ms. Bannerman clarified that the timeframe to be studied is the next 10 years. Ms. Kendall commented that information about how much of EPA’s technical competency is provided by contractors is another resource need. Ms. New replied that a GAO report indicates that roughly 6,000 EPA employees are contract related. Ms. Kendall said that the workgroup would need a definition of EPA contractors by technical areas. Ms. Bannerman asked for information on internships, and Ms. New replied that it could be provided. Ms. Milam noted that much work is accomplished by grants and that dollars and grants are not equal; it can be challenging to determine how much work is accomplished by second or third parties. Ms. Jones-Jackson noted that understanding how internships fit in can be difficult because some count against an FTE, whereas other interns count as contractors or grantees.

The workgroup then discussed Question 2. Dr. Chertow agreed to be on the team that would respond to this question and commented that uncertainty in the EPA hiring process may be impairing the Agency’s ability to attract top talent. Ms. Simms noted that the hiring process has been simplified in recent years. Dr. Chertow said that the group needed to understand the formal process and then build a case that it does

not work as well as it should. In her experience, well-qualified applicants who want to work for EPA, including master's students from the Yale program, have difficulty obtaining EPA jobs. Ms. Kendall asked whether there is a document that summarizes the current recruiting strategy, and Ms. Simms replied that the 2007 national strategic recruiting plan could be provided. Ms. Kendall suggested gathering data from several universities where graduates are especially targeted toward EPA.

Ms. Milam noted that the workgroup seemed interested in reexamining the EPA hiring process; there has been an assumption that the system works. Dr. Chertow explained that her experience indicates that the system needs improvement. There can be long delays in the hiring process, for example, and after people are hired, their starting dates may be postponed, often for long periods, which may prompt them to turn down EPA and seek other employment. Ms. Kendall pointed out that the hiring process in industry only takes a few weeks. Ms. Simms said that the EPA hiring process takes 80 days. Efforts are made to limit it to 68 days, but this length of time does not take into account some of the initial tasks managers have to perform. Ms. Simms agreed to provide a document that explains the hiring process, but it may not include the time-to-hire model. In response to a question from Dr. Roger Rivera, Ms. Simms explained that background checks are not included in the timeline, and that the personnel security branch should be able to provide information on background checks. Mr. Rivera noted that at other agencies, background checks have added significantly to the length of the hiring process.

Ms. Milam and Mr. Hiscock told the group that EPA could provide retention data. Mr. Hiscock said that the data had not been divided by specific areas but could be.

Ms. Kendall asked whether efforts were made to recruit people who have interacted with EPA's mission, such as those with a business or state/local government background. Ms. Simms said that such individuals might be hired in administrative occupations. She also explained that EPA's current recruitment process is decentralized and not cohesive. The Agency is reevaluating its approach to recruiting to make it more centralized and to tie recruitment to strategic workforce planning and would like NACEPT's thoughts on these changes. Dr. Chertow noted that this is a very contemporary issue because the President issued a memo on May 11 on improving the federal hiring process, in which he said that the complexity of the process deters qualified individuals from seeking federal jobs. Ms. Simms agreed to share EPA's response to the Presidential memo with the group.

Mr. Olson noted that during the hiring process, the importance of technology should be emphasized. EPA needs technically innovative people.

In response to a question from Mr. Rivera about centralizing EPA's hiring functions, Ms. Simms said that the culture may not be ready for this. The assistant administrators and regional administrators prefer to do their own recruitment. Mr. Rivera explained that the trend toward decentralized hiring in the federal government has eviscerated diversity recruitment. His organization, the National Hispanic Environmental Council, would support centralization. Ms. Simms explained that EPA's office of diversity outreach and collaboration is taking an overarching strategic look at how the Agency does diversity hiring. There are programs such as an environmental intern program that address diversity issues, but even that program has been decentralized because of limited resources.

Ms. Kendall pointed out that those overseeing EPA's OARM have recognized the need for more centralization and asked whether this has been discussed with the Administrator. Ms. Simms replied that she did not think it had; there is a culture at EPA that the assistant administrators and regions are autonomous in terms of hiring.

Ms. Bannerman asked whether usajobs.gov is used at the regional level, and Ms. Simms responded that both usajobs.gov and EZHire are used throughout EPA. Ms. Kendall commented that the issue Mr. Rivera had raised about diversity would fit in well with Question 5.

With regard to Questions 3 and 4, Dr. Chertow drew attention to the statement made on the previous day that NACEPT needs to stand back and look broadly at the system. EPA seems to be a very hierarchical classic system. As the workgroup thinks about questions related to executive talent and leadership, they should think about whether a hierarchical organization works with today's bottom-up management style. Ms. Milam agreed that the organizational structure may need improvement. Ms. Simms commented that the SES corps needs a different set of mission critical capabilities. The younger generation is skilled with technology but lacks the core management training that the SES CDP leads them through. It is a challenge to train those in the pipeline so that there will not be a gap between their technical skills and management skills. Ms. Milam said that changing the culture to make it less hierarchical is challenging.

Mr. Learner commented that federal agencies are inherently hierarchical because of the GS system. He proposed four topics for consideration: (1) increasing the capabilities of all SES personnel to operate in modern society; (2) creating strategies to retain the top performers in SES; (3) providing a career path pipeline for the next generation of leaders; and (4) recognizing that to meet the goals of "One EPA" and diversity, there must be a path to bring people into the Agency horizontally.

In response to a question from Ms. Kendall, Ms. Milam said that she could provide a chart showing where SES personnel come from. Sixteen percent are external hires.

Ms. Bannerman asked whether the 360 degree review system commonly used in industry, in which employees at a variety of levels provide input on each other's performance, is used at EPA. Ms. Simms replied that the system has been used but does not influence promotion decisions. Ms. Kendall added samples of leadership evaluation models to the list of needed resources.

In response to a question from Mr. Turner, Mr. Hiscock clarified that EPA has approximately 5,000 employees at the GS-14 and GS-15 levels, 1,500 managers, and 300 SES executives. Ms. Milam explained that diversity in the SES is similar to diversity at the GS-15 level; if increased diversity is desired, EPA cannot continue to recruit for SES almost exclusively from within the Agency.

Mr. Learner suggested having one team handle topics 3 and 4 together, with individual teams for the other three topics, and the workgroup agreed.

For Topic 5, Mr. Rivera suggested expanding the questions in the bulleted list to include the entire EPA workforce, not just the SES, because the SES is drawn primarily from the EPA workforce. Diversity will not be achieved at the SES level if it is not present in the pipeline. Mr. Rivera noted that there are only about a dozen Hispanics in the EPA SES. Ms. Milam noted that the Administrator is interested in improving diversity in the short term as well as the longer term. Ms. Kendall recommended discussing diversity in the context of Question 2 as well as Question 5 because it relates to the pipeline.

Ms. Kendall explained that her industry, like EPA, historically has not been diverse and that her company, Weyerhaeuser, has conducted an award-winning diversity program. She suggested that this program's leader could be interviewed to obtain ideas about how to increase diversity.

The workgroup then assigned members to address the specific topics and questions. Mr. Olson, Dr. Osidele, and Mr. Turner will address Question 1, and Mr. Kobi Wright, who was not present at the meeting, will be invited to join their team. Mr. Olson will chair the team. Dr. Chertow will chair the team that addresses Question 2; Ms. Lamb and Mr. Rivera also will be on the team; and Ms. Christine Costopoulos, who was not present, will be asked to join them. Mr. Learner and Ms. Lamb will co-chair the team that addresses Questions 3 and 4, and Dr. Osidele will also participate in this team. Question 5 will be addressed by Mr. Rivera, Mr. Kendall, and Ms. Bannerman, with Mr. Rivera as chair.

The topic of institutional knowledge/knowledge retention will be addressed by the Questions 3 and 4 team. Mr. Rivera suggested adding the Student Temporary Employment Program (STEP) and Student Career Experience Program (SCEP) to the charge for the Question 2 team because these programs are a

major way that young people are brought into the federal workforce. Mr. Turner asked for a breakdown on diversity for EPA leadership—the SES and grades 13, 14, and 15.

The timeline for completion of the advice letters will be December for Question 1, the end of January for Question 5, February or March for Questions 3 and 4, and March for Question 2. Mr. Rivera asked how the wording of the draft outline could be amended. Mr. Olson replied that using the notes from this meeting, he could rewrite it from the primary document.

Mr. Olson thanked all members of the workgroup for performing a heroic amount of work in a small amount of time. He advised all workgroup members to examine past advice letters on the NACEPT Web Site.

NACEPT Plenary Session To Discuss Workgroup Charges

Dr. Johnson opened the session by reminding NACEPT members that the EPA offices (i.e., ORD and OARM) that own the projects and charges made to the committee will be providing the needed materials to the respective workgroups. He explained that EPA is providing the workgroup research associate support so there should be no need for workgroup members to identify and/or collect materials independently.

Dr. Johnson asked each workgroup to report out on their progress to date. He said this will allow the entire NACEPT membership to understand what is happening within the two workgroups; further, it will allow workgroup members to learn from each other in terms of work task approaches.

Dr. John gave an overview of the workgroup focusing on emerging technologies and vulnerable populations. He said there were nine NACEPT members present for the workgroup deliberations. In the future, the workgroup agreed to conduct monthly teleconferences on the first Friday afternoon of each month. The four topics the workgroup will be addressing include: (1) a grid/matrix of environmental problems, environmental technologies to address these problems, and environmental justice and vulnerable population concerns within these categories; (2) a glossary to define various issues; (3) case studies; and (4) tentative recommendations. OEJ will be providing various documents to the workgroup to review. Dr. Johnson added that several workgroup members have agreed to be responsible for specific activities; Ms. O'Donnell will be collecting tentative recommendations; Ms. Loftness will be updating the grid/matrix; and Dr. Dysart will be collecting the case studies.

Ms. Lamb asked if the workgroup plans to interact with the EPA Children's Health Advisory Council. Dr. John replied that this was a useful suggestion and the workgroup will look into it.

Ms. Kendall spoke on behalf of the workgroup focusing on workforce issues and development. She explained that the workgroup is using a "phased Chairperson" approach in the completion of their tasks. Dr. Olson will initially lead the workgroup, and Ms. Kendall will assume responsibility in January 2011. The workgroup subdivided the charge into tasks and expects these tasks to be completed in phases over time. She noted that EPA has a greater near-term need for some tasks than others; therefore, the workgroup's completion of these tasks will follow the Agency's priorities. The first task for the workgroup is to review the Agency's MCOs; EPA has asked for input by December 2010. Dr. Olson is chairing this initial workgroup task.

The second workgroup task focuses on tracking, retaining, and attracting Agency professional talent. Dr. Chertow will be leading this second workgroup task with participation from Dr. Lamb, Mr. Rivera, and Ms. Costopoulos (who was not present). It is hoped that this workgroup task will be completed in March 2011. Topics 3 and 4 in the charge—leadership and development strategies—were combined with the "One EPA" task into a single workgroup task. Mr. Learner will be leading this workgroup task with participation from Dr. Lamb and Dr. Osidele. Ms. Kendall also will be supporting this workgroup with a specific task request from Ms. Milam.

The last workforce task will be the diversity topic. Mr. Rivera will lead this workgroup task, and the workgroup's goal is to provide a product by January 30, 2011. Ms. Bannerman and Ms. Kendall will be working with Mr. Rivera on this workgroup task.

Dr. Johnson asked Mr. Joyce to update members on the membership of each workgroup to include NACEPT members who did not participate in this meeting. Mr. Joyce summarized that:

- The workgroup focusing on emerging technologies and vulnerable populations includes: Arleen O'Donnell, Ella Filippone, Ben Dysart, DeWitt John, Vivian Loftness, Jennifer Nash, Mark Mitchell, Kristi Orosco, John Preston, Edith Parker, and Kurt Erichsen.
- The workgroup focusing on workforce issues includes: Bob Olson, Erica Bannerman, Howard Learner, Christine Costopoulos, Sara Kendall, Lee Ann Lamb, Olufemi Osidele, Roger Rivera, Billy Turner, and Kobi Wright.

Public Comments

There were no public comments.

Wrap Up and Next Steps

Dr. Johnson asked all NACEPT members to communicate with one another regarding their workgroup projects and to keep Mr. Joyce, the NACEPT DFO, and himself informed as well. Dr. Johnson asked Mr. Joyce to develop workgroup mailing lists for each workgroup so that everyone is aware of with whom they need to communicate about workgroup activities. Dr. Johnson asked workgroup members to be cognizant of task timelines. He explained that he will report on NACEPT workgroup activities at the next SAB meeting and will need to describe workgroup plans and timelines. He noted that another issue that workgroups need to be mindful of is that most members are working with one another for the first time and everyone needs to understand each other's work styles. He complemented members on their ability to work together in this meeting and appreciated the various workgroup volunteers who offered to lead and/or actively contribute to tasks.

Dr. Johnson asked members which days of the week were most convenient for future NACEPT meetings. It appeared that Tuesday–Wednesday meetings dates may be preferred. A question also arose about meeting locations. For 2011, there will be three NACEPT meetings—January, May, and September. Dr. Johnson said that Washington, DC, meetings are convenient because of the availability of EPA officials; this may not be as convenient if meetings were held in other cities. Once familiarity of EPA officials and NACEPT subjects increases, it may be possible to have their participation by teleconference but this will depend on the issues for discussion. Mr. Joyce added that a NACEPT Web Site link was used for distributing background materials for this meeting, and this link will be used to post new presentations from this meeting as well as future meeting materials.

Ms. Jones-Jackson thanked NACEPT members for their efforts in responding to the two EPA charges discussed in this meeting and welcomed the opportunity to continue working with members on these issues in the future.

Mr. Joyce also thanked Dr. Johnson and the NACEPT members for their active participation in the meeting and Mr. Learner for his efforts in reviewing and providing comments on the *EPA Strategic Plan*. He also thanked Nancy New for her work as the interim NACEPT DFO.

Ms. New adjourned the meeting at 12:50 p.m.

Action Items

- ✧ Dr. Anastas will provide the Emerging Technologies and Vulnerable Populations Workgroup with contact information for STPC members who have been involved in technological innovations.
- ✧ Ms. Gelb and Mr. Soto will provide the Workforce Issues Workgroup with information regarding the Agency's use of contractors, the "best practices" Model for High Impact Leadership Development, the Succession Management Strategic Plan, and the Draft guidance to aid the Agency's Local Level Workforce Planning Process (2007-2010).
- ✧ NACEPT members will communicate with one another regarding their workgroup projects and keep Mr. Joyce, Ms. New, and Dr. Johnson informed as well.
- ✧ OFACMO will develop workgroup mailing lists for each workgroup.
- ✧ The following action items were identified for the Emerging Technologies and Vulnerable Populations Workgroup:
 - Future workgroup teleconferences will be held in the afternoon of the first Friday of each month; the first workgroup teleconference is planned for November 5, 2010.
 - The four topics the workgroup will address include: a matrix/grid listing environmental problems, technologies to address these problems, and vulnerable population concerns about these problems; a glossary to define relevant issues; case studies; and tentative recommendations.
 - Ms. Loftness will update her draft matrix/grid and distribute a copy for the workgroup members to review.
 - Ms. O'Donnell will collect tentative recommendations.
 - Dr. Dysart will collect the case studies.
 - OEJ will send relevant materials to the workgroup for review and reference.
- ✧ The following action items were identified for the Workforce Issues Workgroup:
 - A team chaired by Mr. Olson and including Dr. Osidele and Mr. Turner will prepare an advice letter by December 2010 on technical competencies needed to be prepared for tomorrow's workforce challenges. Mr. Wright, who was not present at the meeting, will be invited to join this team.
 - A team chaired by Mr. Rivera and including Ms. Kendall and Ms. Bannerman will prepare an advice letter by the end of January 2011 on ensuring diversity.
 - A team co-chaired by Mr. Learner and Ms. Lamb and including Dr. Osidele will prepare an advice letter by February or March 2011 on: (1) strategies to attract and retain superior executive leadership talent, and (2) leadership capabilities and culture for "One EPA."
 - A team chaired by Dr. Chertow and including Ms. Lamb and Mr. Rivera will prepare an advice letter by March 2011 on strategies to obtain and retain scientific and technical expertise. Ms. Costopoulos, who was not present at the meeting, will be invited to join this team.

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**National Advisory Council for
Environmental Policy and Technology
Final Agenda
September 27 - 28, 2010**

**The Madison, Loews Hotel
1177 15th Street, NW
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(202) 862-1600
*Montpelier Room***

Monday, September 27, 2010

8:30 a.m. Registration

9:00 a.m. Welcoming Remarks and Introductions

Nancy New
NACEPT Acting Designated Federal Officer

Cynthia Jones-Jackson, Acting Director
Office of Federal Advisory Committee Management and Outreach

Dr. James H. Johnson, Jr.
NACEPT Chair

9:30 a.m. Discussion of Emerging Technologies and Vulnerable Populations Charge

Paul Anastas
Assistant Administrator, Office of Research and Development
Science Advisor to the EPA

Fred Hauchman
Director, Office of Science Policy
Office of Research and Development

Charles Lee
Director
Office of Environmental Justice

11:15 a.m. Break

11:30 a.m. Discussion of NACEPT Reports on Commercializing Environmental Technologies and EPA's Response

Barbara J. Bennett
Chief Financial Officer

12:30 p.m. Public Comments

1:00 p.m. Lunch

2:30 p.m. Overview of Discussion With the Science Advisory Board

Dr. James H. Johnson, Jr.
NACEPT Chair

3:45 p.m. Discussion of Workforce Issues Charge

Nanci Gelb
Acting Principal Deputy Assistant Administrator
Office of Administration and Resources Management

Raul Soto
Associate Assistant Administrator
Outreach, Diversity and Collaboration
Office of Administration and Resources Management

5:15 p.m. Public Comments

5:30 p.m. Chair's Summary

Dr. James H. Johnson, Jr.
NACEPT Chair

5:45 p.m. RECESS

Tuesday, September 28, 2010

8:30 a.m. Workforce Issues and Vulnerable Populations Workgroups Meet in Separate, Concurrent Sessions. (Montpelier and Hamilton Rooms)

9:30 a.m. Remarks by Administrator Lisa P. Jackson (Montpelier Room)

10:00 a.m. Break

10:15 a.m. Workforce Issues and Vulnerable Populations Workgroups Meet in Separate, Concurrent Sessions. (Montpelier and Hamilton Rooms)

12:00 p.m. NACEPT Plenary Session To Discuss Workgroup Charges

1:00 p.m. Public Comments

1:15 p.m. Wrap Up and Next Steps

2:00 p.m. ADJOURN

Chair Certification

I, Dr. James H. Johnson, Jr., Chairman of the National Advisory Council for Environmental Policy and Technology (NACEPT) certify the meeting minutes for September 27-28, 2010 are complete and accurately reflect the discussions and decisions of said meeting.

/Signed/

12/18/10

Dr. James H. Johnson, Jr., NACEPT Chair

Date