Recommendations for discussion by the Clean Air Act Advisory Committee

Urban Air Toxics Workgroup

November 2015

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Urban Air Toxics Workgroup Report - November 2015
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Background

The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress ("Report") was released in August 2014.[1] The purpose of the Report was to describe the efforts of the United States Environmental Protection Agency ("EPA" or "Agency") to reduce public health risks to urban air toxics across this country. The report notes that there have been significant reductions in urban air toxics as the result of Agency, state, local, industry and community partner efforts. However, it also acknowledges that there remain areas around the country with elevated risks from potential exposure to air toxics as compared to areas of the country with very few or no sources of air toxics emissions.

In order to address this major finding, this Air Toxics Workgroup ("Workgroup") was organized under the Clean Air Act Advisory Committee ("CAAAC") for the purpose of discussing and identifying recommendations related to Urban Air Toxics. The Workgroup was charged by the EPA with the following questions:

1. What types of programs and approaches are currently most effective in reducing air toxics emissions and exposures, especially in communities most burdened by air toxics?
    a. What promising approaches and initiatives could EPA pursue, applying and leveraging available EPA resources, to more effectively reduce risk from air toxics, especially for children and other vulnerable populations?
    b. What strategies and programs led by others represent promising opportunities for further reducing risks associated with air toxics in communities, especially for children and other vulnerable populations?
2. How can EPA and its partners more effectively communicate with the community groups and other stakeholders concerning the risks from air toxics, including ways to avoid or reduce those risks and ways to work with sources and other potential partners to reduce those risks?
3. Are there additional data or perspectives beyond what are described in the Report to Congress that should be considered for understanding and reducing air toxics further?

The Workgroup's deliberations took into consideration the role of: national regulations, state, tribal and local governments, academic and non-profit organizational resources, businesses, community-based programs, data and research needs and current resource realities. Our work focused on:

1. Providing a review of key federal, state, tribal, local and industrial urban air toxics efforts and programming;
2. Understanding and documenting the variety of different non-regulatory, local programs that address urban air toxics, and the success and/or challenges faced by them;

[1] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress

3. Developing a framework as to how the Agency might better address air toxics, including support of local programs (past and present) to reduce air toxics and communicate more effectively with local communities about those programs; and
4. Proving recommendations as to how the Agency should address cumulative impacts, specifically in communities most burdened by air toxics, more effectively through the Urban Air Toxics work.

This multi-disciplinary Workgroup demonstrated through their actions the effectiveness of collaborative problem solving that is also a main theme of the recommendations that have been made.

Process Overview

The Workgroup is composed of twenty-two (22) members representing industry, government, tribes and community action groups. For the past year, the Workgroup met nearly once a month via conference call to discuss the charge, and receive technical presentations on topics related to air toxics. The following organizations/entities presented to the Workgroup: The Health Effects Institute, Truck and Engine Manufacturers' Association, Department of Environmental Quality, Gila River Indian Community, state air toxics programs (Indiana Department of Environmental Management, South Carolina Department of Health and Environmental Control, California Air Toxics Program), EPA's Office of Transportation and Air Quality ("OTAQ") and the EPA's Office of Environmental Justice. The Workgroup established two subcommittees to specifically address charges 1 and 2 early in the process. Face-to-face meetings were held in October 2014 and September of 2015. Each member of the Workgroup contributed to the following set of recommendations.

Feedback Desired

As is evidenced by the diversity of the Workgroup and the extensive number of recommendations, there is considerable interest in Urban Air Toxics. The Workgroup members were very selective in the formulation of recommendations, and members hope to remain informed as to EPA's response over the next year and beyond. This desire to remain informed is the basis for Recommendations 24 and 25. We know EPA takes the issue of Urban Air Toxics seriously, and we hope a formal process can be established to track EPA's responses to this report.

List of Recommendations

Topic: Communications

Recommendation No. 1: EPA should evaluate and recommend best practices in air toxics communications (states/local/tribal/industry) to help improve risk communications.

Recommendation No. 2: EPA should develop and share with state/local/tribal organizations/communities and industry training tools on air toxics communications.

Topic: Mobile Sources

Recommendation No. 3: EPA should request that the National Toxicology Program (NTP) evaluate the carcinogenicity of diesel exhaust.

Recommendation No. 4: EPA should collaborate with other federal agencies to expedite the retirement of the diesel engine legacy fleet.

Recommendation No. 5: The EPA Administrator should advocate for the issuance of an Executive Order to require clean diesel technology (or other lower emissions technology) engines be used in all federally funded infrastructure projects.

Topic: Community and Urban Air Toxics

Recommendation No. 6: EPA should invest more resources to partner directly with communities, local government, tribes, states and business communities in a collaborative fashion on community air toxics strategies.

Recommendation No. 7: EPA should develop a cumulative impacts policy that includes, but goes beyond, participation that results in reducing air pollution in EJ communities and overburdened communities. The EPA should use a screening tool that incorporates a cumulative impacts index to identify EJ communities and communities with high levels of cumulative impacts.

Recommendation No. 8: EPA should characterize and publish the variation of air toxics concentrations, air toxics emissions and air toxics related health risks within urban areas and determine if they are correlated with race or income.

Recommendation No. 9: EPA should carry out its statutory obligation to review, revise and publish, as appropriate, the Clean Air Act ("CAA") Section 112(b) (1) list of hazardous air pollutants ("HAPs").

Topic: Supplemental Environmental Projects ("SEP") Policy

Recommendation No. 10: EPA should encourage supplemental environmental projects that focus on reducing urban and tribal areas' exposure to air toxics, with a particular focus on diesel particulate emissions. Likewise, EPA should encourage state enforcement authorities to prioritize projects that reduce urban and tribal area air toxics as part of state compliance agreements.

Recommendation No. 11: In its settlement negotiations with companies regarding violations of CAA requirements that result in excess toxic emissions, EPA should direct penalty/SEP funds to states, tribes and localities to specifically mitigate future excess emissions equal to or greater than the toxic emissions experienced.

Topic: Funding

Recommendation No. 12: EPA should request that Congress continue and sustain funding for the Diesel Emission Reduction Act (DERA) Program.

Recommendation No. 13: EPA should fund community driven programs that make it possible for communities to organize internally, collaborate with other stakeholders and obtain expert assistance in order to address air toxics issues, particularly in disproportionately impacted communities.

Recommendation No. 14: EPA should provide grant funding options for tribes that support tribal air toxics programs and projects.

Topic: Data Gaps

Recommendation No. 15: EPA should form a workgroup to identify data gaps and limitations of the NEI, including gaps for hazardous air pollutants ("HAPs") and determine potential solutions to fill those gaps. The workgroup would be under the purview of the CAAAC and would include representatives from a broad group of experts and stakeholders from state, local and tribal governments, non-governmental organizations, industry and the EPA.

Recommendation No. 16: EPA should enhance NATA as a risk assessment and screening tool by issuing it on a three-year cycle using the most recent NEI, adding tools that can identify hotspots. Since EPA currently classifies diesel exhaust as likely to cause human cancer, future NATAs should attempt to estimate cancer risk associated with diesel exhaust. EPA should examine the feasibility and methodology for adding ingestion risks from mercury and other persistent, bio-accumulative toxics.

Recommendation No. 17: EPA should support programs and projects that address air toxics data gaps in Indian country and Alaska Native Villages.

Recommendation No. 18: EPA should continue, support and collaborate with programs to gather indoor, outdoor and personal monitoring data. Among other uses, such data should be used to enhance ambient and human exposure modeling to better characterize both the individual and the synergistic risk of personal, indoor, and ambient exposure to air toxics and inform strategies to address air toxics that are most harmful.

Recommendation No. 19: EPA should support robust community monitoring and citizen science projects that provide quality data and guidance on how to use the data to assess air toxics and inform effective strategies to address air toxics.

Recommendation No. 20: EPA should support the evaluation of portable and personal environmental monitors ("PEMs") for air toxics and other pollutants to ensure high quality data.

Topic: Best Practices

Recommendation No. 21: EPA should develop a sustainable platform from which best practices related to air toxics can be continually highlighted and shared between all stakeholders, including communities, industries, federal, state, tribal and local governments, environmental groups, academia, etc.

Topic: Recognition Programs

Recommendation No. 22: EPA should develop a recognition program for businesses, modeled after Energy Star ("Community Star") who exemplify the principles (i.e., empathy and caring) of being a "good neighbor" and having a strong commitment to the community, particularly regarding the reduction of air toxics and other toxic pollutants.

Recommendation No. 23: EPA should develop a recognition program for state/local or tribal governments who value community engagement and whose innovative efforts are making a difference in the communities they serve, particularly related to air toxics issues.

Topic: Next Steps

Recommendation No. 24: EPA should – by or before April 2016 – create a standing independent committee that reports to the CAAAC consisting of members representing community groups, industry, state/local/tribal governments that evaluates and reviews the progress and shares information – at least annually – on the programs and processes related to urban air toxics.

Recommendation No. 25: EPA should conduct a systematic review – using the criteria provided in the body of this report – to evaluate the effectiveness of federal programs that specifically address urban air toxics – by or before January 2017.

Supporting Materials for Each Recommendation

Topic: Communications

Recommendation No. 1: EPA should evaluate and recommend best practices in air toxics communications (states/local/tribal/industry) to help improve risk communications.

Background Material in Support of Recommendation

The Workgroup discussions on air toxics communication ranged from local programs to broader communications on air toxics and risk at the national level. Workgroup members provided the perspectives of all stakeholders, which include: local communities, regulated facilities and sources, and state, local and tribal regulatory authorities. During the Workgroup discussions, several examples of effective communications, tools and approaches were discussed (e.g., the California Air Resources Board's ("CARB") "Reducing Toxic Air Pollutants in California's Communities,"[2] Superfund program, EJ Leadership Academy, EJ listserv, principles of the EPA's Community Action for a Renewed Environment ("CARE") Program,[3] and characterizing co-benefits). Members recognized that communication needs vary by community. Due to time limitations, the Workgroup could not conduct a survey or review of local community programs, which led to the recommendation for EPA to initiate an effort to evaluate best practices in air toxics communications. The Workgroup recommends that EPA organize an effort to evaluate and recommend best practices for states, local, and tribal groups and industry in air toxics communications to help improve risk communications. Such a focused effort soliciting examples of effective programs, whether driven by regulatory authorities or by local communities, would be helpful. In addition, EPA should serve as a clearinghouse and share with stakeholders training tools such as communication approaches, success stories, brochures, and webinars, and in a manner that uses common language (translating technical terms and acronyms). This approach would certainly be consistent with the OAQPS Community Assessments and Risk Reduction Initiative and Community Air Toxics Program.

One gap identified by Workgroup members related to comments prepared on proposed permits. The permit process is made stronger when the public has been provided with information and resources regarding both the process and the specialized terminology that is sometimes used. Examples of successful comment response approaches, and Agency encouragement, would be another area of interest to stakeholders.

EPA currently communicates risk on a national level, and estimates risk on a local census tract basis, through the National Air Toxics Assessment (NATA). NATA is developed using the NEI (National Emissions Inventory) and a variety of models. The current NATA is based on data from 2005, which do not reflect the emission reductions that have occurred over the last ten

[2] Reducing Toxic Air Pollutants in California's Communities. (n.d.). Retrieved November 9, 2015, from http://www.arb.ca.gov/toxics/brochure.pdf

[3] Community Action for a Renewed Environment ("CARE") Resource Guide. (2015, May 7). Retrieved November 9, 2015, from http://www2.epa.gov/communityhealth/community-action-renewed-environment-care-resource-guide

years, although EPA is planning to release an updated NATA in early 2016. NATA has been a useful tool to identify areas for further investigation and the Workgroup recommends that this activity be resourced and, at a minimum, updated every three years. EPA should also seek opportunities to streamline the data collection and analysis process to shorten the time between receipt of the NEI data and the development and release of NATA. This topic is discussed elsewhere in this report but is also included in this section as it is an excellent example of a valuable tool to communicate information on air toxics at a national level.

Recommendation No. 2: EPA should develop and share with state/local/tribal organizations/communities and industry training tools on air toxics communications.

Background Material in Support of Recommendation

The Workgroup agreed that further development of training tools on air toxics communications is an important element to support reducing air toxics. A goal of risk communication is to provide tools that can assist with the understanding of the sometimes complicated field of risk and risk assessments. Training tools are necessary to help communicate risk(s) to many different stakeholders. One important area where the Workgroup diverged on risk perspective was when, if and how to use risk comparisons. The Workgroup agreed that EPA should work with stakeholders to further assess the appropriate use of risk comparisons.

Some Workgroup members indicated that risks should be communicated on a broad basis that stakeholders can relate to. This would include comparing air toxics risks to other societal risks (e.g., smoking, driving, indoor air pollution). This information would help provide perspective for stakeholders, when terminology such as "ten-in-one million" cancer risk, in isolation, does not provide that perspective.

Other members noted that it may not be appropriate to compare risks that are based on personal choices (e.g., smoking) to those risks over which people have little or no control (i.e., air toxic emissions outside the home) and they wouldn't want the discussion of other societal risks to take away from the need to focus on air toxics reductions or for the discussion to seem like "blaming the victim." In this regard, some members felt that, depending on the circumstances, it might be better to explain air toxics risk in a manner that does not use comparisons. Or if it is felt that a comparison is useful it should be to communicate risk associated with different hazardous air pollutants or perhaps different geographic areas. The Workgroup could not reach unanimity with respect to the use of risk comparisons.

Risk is often presented with a single number (e.g., cancer incidence, maximum individual risk). As EPA has characterized in recent rulemakings, there is uncertainty in many factors that go into risk determinations (e.g. health factors, modeling, exposure times). EPA has typically, in various rulemakings and on websites, highlighted the uncertainties. It would be beneficial if EPA could expand risk analyses to include risk probability distributions and ranges for stakeholders to better

understand risk analysis results. The approach to include probability distributions would be consistent with EPA's work on probabilistic determinations.

Topic: Mobile Sources

Recommendation No. 3: EPA should request that the National Toxicology Program (NTP) evaluate the carcinogenicity of diesel exhaust.

Background Material in Support of Recommendation

The Workgroup recommends that EPA request the National Toxicology Program to evaluate the carcinogenicity of diesel exhaust. Since the EPA classified diesel exhaust as likely carcinogenic to humans in 2002, new studies have become available that inform the issue. This recommendation is consistent with the actions of the World Health Organization's International Agency for Research on Cancer ("IARC"), which, in 2012, classified diesel exhaust as a known human carcinogen.[4]

The Workgroup has not cited specific studies because the group could not come to consensus on which to include. We expect NTP to select the appropriate studies as part of their evaluation.

Recommendation No. 4: EPA should collaborate with other federal agencies to expedite the retirement of the diesel engine legacy fleet.

Background Material in Support of Recommendation

Due to the slow turnover of the diesel engine legacy fleet [Note: the term "fleet" means both on-road and off-road vehicles and equipment.], the Workgroup members recommend that the EPA Administrator collaborate with other federal agencies, including but not limited to the United States Department of Transportation and the United States Department of Energy, in expediting the retirement of the diesel engine legacy fleet. This collaborative effort, spearheaded by EPA, would result in significant emissions reductions, both in terms of criteria pollutants, as well as toxic air pollutants. This effort may require changes to the federal procurement process, but as with other federal procurement initiatives, this initiative of purchasing newer vehicles with clean diesel (or lower emissions) technology to replace the legacy fleet, falls in line with the Administration's efforts and goals to expand the use of alternative fuel vehicles to improve air quality and reduce the impact of climate change.

[4] Diesel Exhaust Carcinogenic. (2012, June 12). Retrieved November 8, 2015, from http://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

Recommendation No. 5: The EPA Administrator should advocate for the issuance of an Executive Order to require clean diesel technology (or other lower emissions technology) engines be used in all federally funded infrastructure projects.

Background Material in Support of Recommendation

The Workgroup recommends that the EPA Administrator advocate for the issuance of an Executive Order requiring clean diesel (or other lower emission) technology engines be used in all federally funded infrastructure projects. These types of projects are often situated near densely populated areas and the air toxics' emissions impact of large projects is often significant. Particularly along transportation corridors, nearby communities are impacted not just by the emissions from the construction project itself, but also by vehicles stopped by traffic congestion resulting from the project, creating a pollution "hot spot." For large projects, these emissions "hot spots" persist for months or even years. Moreover, these temporary emissions increases are generally not accounted for during the transportation planning process.

As described above, an Executive Order would result in assisting the agencies of the Executive Branch to expedite vehicle turnover through the equipment-specification mandatory clause in the federal procurement contracts, without potential legal dispute. Contractors would be required to modernize their equipment in order to bid on projects. Bidding competition should reduce the replacement costs of the project to an acceptable level in a shorter time frame because when one contractor upgrades its equipment, other contractors have to do so as well in order to compete in the bidding process.

A federal policy focused only on vehicles used in federal projects (and consequently funded at least in part by federal dollars) would not be onerous to implement and would have for-reaching benefits beyond the scope of the individual projects affected by such a policy. Furthermore, such a program cannot be reversed after the contractors purchase and modernize their fleets.

Many localities and private projects have utilized contract specifications to require clean diesel technology on public-works or individual private projects. These have ranged from clean fuels to diesel-retrofit installations to the use of newer vehicles. Philadelphia has joined this effort by requiring diesel retrofits or Tier 4 diesel pieces in all of its public-works contracts starting in 2014. This policy has gone smoothly to date and officials believe that public exposure to diesel pollution has been reduced as a result. Implementation of Tier 4 requirements in non-road applications and 2010 standards for on-highway vehicles have already yielded tremendous benefits to the American people. Recent research indicates that the improvements in tailpipe standards are likely reducing cancer risk in exposed populations.[5] Moreover, these technologies have been deployed nationally with very few operational difficulties and have proven to be workable and effective in reducing diesel pollution with minimal operational impact.

[5] Diesel Exhaust Carcinogenic. (2012, June 12). Retrieved November 8, 2015, from http://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf

This advice is consistent with the recent Executive Orders 13693 – Planning for Federal Sustainability in the Next Decade, which requires the purchase of zero emissions or plug-in-hybrid vehicles as part of the new fleet's composition.[6]

Topic: Community and Urban Air Toxics

Recommendation No. 6: EPA should invest more resources to partner directly with communities, local government, tribes, states and business communities in a collaborative fashion on community air toxics strategies.

Background Material in Support of Recommendation

The Workgroup urges EPA to invest more resources in partnering directly with community, state/local and tribal governments and business communities in a collaborative effort of identifying and addressing multi-pollutant concerns in disproportionate overburdened and vulnerable communities.

EPA's Community-Scale Air Toxics Program activities have included national, regional and community-based initiatives focusing on multimedia and cumulative risks to address and resolve issues at the local level through partnerships with state, tribal and local governments and community stakeholders. EPA and its state, local and tribal governments and other partners should continue working together to build community capacity towards better understanding air toxics and risk reduction through appropriate funding, information sharing, technical support and collaborative partnership building. Well-designed projects bring the appropriate stakeholders together, leverage technical expertise and community leadership, provide financial resources, and network other resources, developing tools, guidance, and information which can be used to provide information and assist communities in addressing their problems through community-based assessments and risk reductions projects.

Many state/local jurisdictions have their own air toxics programs under Section 112(l) of the Clean Air Act and several have accepted delegation authority from the EPA to implement the Maximum Achievable Control Technology ("MACT") standards under 40 Code of Federal Regulations 63. However, there is a wide range in the level of stringency among these air toxic programs. For example, California has a progressive air toxics program addressing cumulative impacts of health risks from simultaneous exposure to multiple air toxics. The California program includes modeling of emissions from stationary sources, risk assessment of those emissions and requirements for stationary source emissions reductions where the risk is deemed unacceptable. Further, the California air toxics program involves many control strategies for reducing diesel engine emissions, including: idling, use of cleaner, low sulfur fuels (also adopted at the federal level), installment of post-combustion control technologies, incentive programs to

[6] Obama, B. (2015, March 25). Executive Order 13693—Planning for Federal Sustainability in the Next Decade. Retrieved November 9, 2015, from http://www.gpo.gov/fdsys/pkg/FR-2015-03-25/pdf/2015-07016.pdf

replace old buses, and so on. In contrast, some states approve air permits without any screening of air toxics except at the request of community groups.[7] EPA should provide proper training, sufficient tools and funding for state, local and tribal governments to evaluate, identify high risks and communicate the toxics impact effectively to the local communities.

EPA should also provide training for community leaders so that they can have meaningful participation early in the Zoning/Land Use process instead of at the tail end of the permit issuance hearing. Early community participation could result in environmental buffer zones or other mechanisms that might provide some protection for communities.

Effective community air toxics strategies should build upon the existing MACT regulations. EPA has accomplished a significant reduction in toxic air pollutants and their associated risks through the MACT standards for major stationary, area and mobile sources since 1990 under the Clean Air Act. As EPA finalizes the MACT standards for the remaining specific major and area source HAPs, such as fumigation, auto-body refinishing, etc., it should consider sensitive populations. Regulatory authorities, communities and industrial facilities should continue to seek reductions, if warranted, in air toxics emissions, either through process changes, changes in raw materials, or further controls and work practice standards.

Finally, EPA should further support epidemiological studies related to air toxics to further our understanding of exposure(s) and any subsequent impact(s) on human health.

Recommendation No. 7: EPA should develop a cumulative impacts policy that includes, but goes beyond, participation that results in reducing air pollution in EJ communities and overburdened communities. The EPA should use a screening tool that incorporates a cumulative impacts index to identify EJ communities and communities with high levels of cumulative impacts.

Background Material in Support of Recommendation

The Report[8] indicated that we have a cumulative impacts problem in the United States since it states there exists significant or elevated health risks in urban areas due to the presence of multiple sources of pollution.[9] The Report also discusses the need for more research on this

[7] Sills, R. (2010, February 25). Benchmarking Survey of State Air Toxics Assessments in New Source Permitting. Retrieved November 8, 2015, from http://www.michigan.gov/documents/deq/deq-aqd-toxics-Benchmarking_survey_for_states_air_toxics_programs_Feb_2010_Final_494731_7.pdf

[8] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress

[9] *Id.* See pages 1-1 and 3-20. The definition of cumulative impacts we are using for the purposes of this report is the interaction, and the effects of interaction, of multiple pollutants with each other and with social vulnerabilities. See Morello-Frosch, R., Zuk, M., Jarrett, M., Shamasunder, B. and A.D. Kyle. 2011. Understanding The Cumulative Impacts of Inequalities In Environmental Health: Implications for Policy, Health Affairs 30(5):879-887.

topic[10] but what it does not discuss is the need for a substantive cumulative impacts policy. While we agree that more cumulative impacts research is warranted, we also strongly recommend that EPA develop a substantive cumulative impacts policy. This type of policy should include, but go beyond, community participation to yield actual reductions in air toxics and other pollution for Environmental Justice ("EJ") and overburdened communities.

Although a substantive cumulative impacts policy could take many forms, one type that has been suggested by several EJ organizations is a place-based policy. An ideal place-based policy would have at least four elements: 1) it would identify EJ and overburdened communities[11]; 2) it would include strategies that protect these communities from new sources of pollution; 3) it would include strategies that reduce existing pollution in these communities; and 4) it would include incentives that improve other quality of life criteria[12] besides reducing a community's pollution load.[13] At least two EJ organizations, Communities for a Better Environment ("CBE")[14] and the New Jersey EJ Alliance ("NJEJA"),[15] have developed versions of place-based cumulative impacts policies that contain most or all of these four elements. CBE's policy is under consideration by the City of Los Angeles, while NJEJA's policy is yet to be implemented. A screening tool that incorporates a cumulative impacts index could be used to identify communities with high levels of cumulative impacts. Variations on this type of tool have been developed by a group of prominent EJ scholars in California,[16] the State of California[17] and the State of New Jersey.[18] EPA's EJ Screen could certainly be viewed as a type of cumulative

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[10] *Id.* Pages 3-24.

[11] There would probably be extensive overlap between EJ and overburdened communities but not all EJ communities are necessarily overburdened with pollution and not all overburdened communities are EJ communities. By EJ communities we mean communities Of Color and low-income communities. The precise definition of overburdened should be developed in a process that includes stakeholder input.

[12] These criteria might include for example green space; access to affordable, fresh food; and non-polluting private enterprise.

[13] The policy should also include strategies that ensure robust and meaningful community participation.

[14] CBE's Green Zones policy was developed at least in part as a response to the issue of cumulative impacts. Information on this policy can be accessed at: http://www.cbecal.org/issues/green-zones/ .

[15] NJEJA's policy can be accessed at: http://www.tesc.edu/watson/institute/documents/cumulative_impacts_permitting.pdf .

[16] See Sadd JL, Pastor M, Morello-Frosch R, Scoggins J, Jesdale B. 2011. Playing it safe: assessing cumulative impact and social vulnerability through an environmental justice screening method in the South Coast Air Basin, California. *Int J Environ Res Public Health* 8(5):1441-59.

[17] California calls its tool "CalEnviroScreen 2.0" and on its website states that is a health screening tool. Information the tool can be accessed at: http://oehha.ca.gov/ej/ces2.html .

[18] New Jersey has developed a nascent screening tool that has not been used externally. It is described in a technical report entitled "A Preliminary Screening Method to Estimate Cumulative Environmental Impacts" and can be accessed at: http://www.state.nj.us/dep/ej/docs/ejc_screeningmethods20091222.pdf. An accompanying power point of the same title can be accessed at: http://www.state.nj.us/dep/ej/docs/ejc_screeningmethods_pp20091222.pdf.

impacts screening tool, however, it does not use an index that indicates relative levels of cumulative impacts. Although we fully understand that a substantive cumulative impacts policy is not easily developed, it is important that EPA commits to more than procedural fairness for EJ communities and creates a policy that reduces health threatening pollution in EJ and overburdened communities.

Recommendation No. 8: EPA should characterize and publish the variation of air toxics concentrations, air toxics emissions and air toxics related health risks within urban areas and determine if they are correlated with race or income.

Background Material in Support of Recommendation

There is an important data gap in the Second Urban Air Toxics Report that needs to be closed or clarified. The Report acknowledges that exposures to air toxics varies significantly within urban areas[19] but presents no data in the main body of the Report showing this variation. It is not clear whether this data does not exist or exists and is just not presented in the main body of the Report. Variation of air toxics concentrations, emissions and exposure within urban areas is important to the health of urban residents and should be characterized by the EPA. Once characterized, the nature of the variation should be made broadly available to the public.

A related data gap is the lack of information in the main body of the Report on whether air toxics emissions, concentrations or exposures are correlated with race and income within urban areas. This information should allow EPA to determine if EJ communities in urban areas are more burdened with air toxics than other urban communities. It is surprising that this information is missing given EPA's increased focus on EJ issues and the Report's statement that many EJ communities have the most polluted air.[20] Residents of urban EJ communities, as well as EJ advocates, would certainly be interested in having easy access to this data. EPA should determine if air toxics emissions, concentrations and health risks are correlated with race and make this information broadly available to the public.

Just as more data needs to be collected or displayed on an intro-urban basis, we believe that the Urban Air Toxics Strategy should have an intra-urban component. The Strategy should address disproportionate impacts within urban areas in addition to its current goal of addressing these impacts across urban areas.[21]

[19] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress; see pages 3-19 and 3-20.

[20] *Id.* See page 4-1.

[21] *Id.* See page 1-3.

Recommendation No. 9: EPA should carry out its statutory obligation to review, revise and publish, as appropriate, the Clean Air Act ("CAA") Section 112(b) (1) list of hazardous air pollutants ("HAPs").

Background Material in Support of Recommendation

CAA Section 112(b) (2) Revision of the list requires that the Administrator:

> …shall periodically review the list established by this subsection and publish the results thereof and, where appropriate, revise such list by rule, adding pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which case reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise, but not including releases subject to regulation under subsection (r) as a result of emissions to the air. No air pollutant which is listed under 108(a) may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which is listed under section 108 (a) or to any pollutant which is in a class of pollutants listed under such section. No substance, practice, process or activity regulated under title VI of this Act shall be subject to regulation under this section solely due to its adverse effects on the environment.[22]

The CAA Section 112(b) (2) as cited above, states that the Administrator shall periodically review and revise the list of HAPs. This has never been done. While EPA considers its statutory responsibilities under §112(b) (2), it should also provide a list of all pending petitions to list or delist pollutants under §112(b) (3).

Topic: Supplemental Environmental Projects ("SEP") Policy

Recommendation No. 10: EPA should encourage supplemental environmental projects that focus on reducing urban and tribal areas' exposure to air toxics, with a particular focus on diesel particulate emissions. Likewise, EPA should encourage state enforcement authorities to prioritize projects that reduce urban and tribal area air toxics as part of state compliance agreements.

[22] 42 U.S. Code §7412 Hazardous air pollutants (b) (2) Revision of the list retrieved November 8, 2015, from http://www.gpo.gov/fdsys/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapI-partA-sec7412.htm

Background Material in Support of Recommendation

EPA's current supplemental environmental project ("SEP") policy, updated in 2015[23], seeks environmental benefits as part of settlements that take place under civil judicial and administrative enforcement actions. EPA focus areas for SEPs include improving children's health; addressing disproportionate environmental impacts in disadvantaged communities; mitigating the generation of environmental releases through pollution prevention projects; using innovative technologies to reduce emissions, thus hastening the spread of advanced technologies while addressing human health and the environment; and implementing projects that address climate change by reducing emissions of greenhouse gases and/or improving the efficiency of energy use and industrial processes.

A SEP that focuses on urban and tribal area air toxics reductions fits neatly into the 2015 SEP policy construct. For one, many urban and tribal areas have, at minimum, pockets of disadvantaged residents that are disproportionately impacted by exposure to ambient air toxics, particularly diesel particulate matter. Second, one of many ways (and some would argue a preferred way) to deal with urban and tribal air toxics would be to have a SEP focus on replacing older diesel engines with Tier 4 technology, which has been shown by the Health Effects Institute and others to substantially reduce emissions of diesel particulates and other emissions.[24] An engine replacement policy like this would fit well with the current 2015 SEP policy's emphasis on innovative technology and pollution prevention. To ensure that the emission reductions from engine replacements accrue in urban and tribal areas, a SEP directed at diesel particulate matter reductions could focus on difficult-to-move construction equipment, generators, short-haul engines and related equipment in rail yards and harbors. Of course, diesel school bus retrofits, already acknowledged under the current SEP policy, would continue to be an appropriate SEP focus area due to the link with protecting children's health.

Third, current SEP policy as well as Congressional action already authorizes EPA to allow, if not encourage, diesel emission reduction projects. These projects could be particularly advantageous in urban and tribal areas.

Forth, considering the advisability of seeking input from urban and tribal communities during settlement discussions, SEPs focused on urban and tribal air toxics reductions, especially projects that would address diesel particulates, should address citizens' concerns about their health and that of their children.

SEPs go beyond what is normally required by law, and may be used to benefit communities by reducing environmental and human health impacts in ways not necessarily envisioned by drafters of environmental statutes. In its 2015 SEP policy, EPA defines a SEP as, "[a]n environmentally

[23] 2015 Update to the 1998 U.S. EPA Supplemental Environmental Projects Policy. (2015). Retrieved November 8, 2015, from http://www2.epa.gov/enforcement/2015-update-1998-us-epa-supplemental-environmental-projects-policy

[24] See *Reducing Exposure to Traffic Emissions,* The Newest Results on Progress on Diesel Engines, a presentation to the EPA Clean Air Act Advisory Committee Urban Air Toxics Workgroup by Dan Greenbaum, President, Health Effects Institute, February 11, 2015. Will be posted on the CAAAC website soon; citation will be added.

beneficial project or activity that is not required by law, but that a defendant agrees to undertake as part of a settlement of an enforcement action." The focus on "settlements" is key, as EPA makes it clear that SEPs are not to be considered by EPA, judges or courts at hearings or trials. EPA enforcement officials must make certain that a SEP addresses a number of special criteria: that there is a "nexus" between the nature of the violation and the proposed SEP; that it addresses certain categories like improving public health, preventing or reducing pollution, restoring the natural environment, or regularly assessing or auditing environmental performance; and that it satisfies a number of certification and liability parameters.[25]

Recommendation No. 11: In its settlement negotiations with companies regarding violations of CAA requirements that result in excess toxic emissions, EPA should direct penalty/SEP funds to states, tribes and localities to specifically mitigate future excess emissions equal to or greater than the toxic emissions experienced.

Background Material in Support of Recommendation

To the extent that a violation of CAA requirements results in verifiable emissions in a specific area, and EPA is pursuing an enforcement action regarding those violations, such enforcement action should take into account and target mitigation of the environmental damage associated with the violation. If EPA is negotiating a settlement agreement with the company that includes monetary penalties or funding of a SEP, SEP funds should be directed to specifically mitigate the environmental harm in the specific community affected.

For example, EPA is currently negotiating with Volkswagen Group of America, Inc. regarding alleged violations of CAA Section 101(a) (2).[26] The alleged violations resulted in excess emissions of diesel particulate matter ("PM") and nitrogen oxides ("NOx") emissions across the country. EPA has data regarding the number of violating vehicles sold by state and is able to extrapolate excess emissions resulting from those specific vehicles. Volkswagen Group of America should be held responsible for mitigating those excess emissions. EPA should direct penalty/SEP funding to pay for projects which reduce diesel PM and NOx emissions in those affected states/tribal areas and localities. EPA should give priority to mitigation efforts in environmental justice ("EJ") areas.

Topic: Funding

[Note: While we understand the EPA's primary function is not to administer or obtain funding for programs, we believe that strategic funding activities can play an important role in reducing HAP concentrations in urban areas.]

[25] *Id.*

[26] Notice of Violation to Volkswagen Group of America, Inc. (2015, September 18). Retrieved November 8, 2015, from http://www3.epa.gov/otaq/cert/documents/vw-nov-caa-09-18-15.pdf

Recommendation No. 12: EPA should request that Congress continue and sustain funding for the Diesel Emission Reduction Act (DERA) Program.

Background Material in Support of Recommendation

Diesel exhaust can have detrimental impacts on the health of community residents. Exposure to diesel exhaust is linked to lung damage, asthma attacks, premature deaths, millions of lost work-days and numerous other negative health impacts every year. Although new diesel engines are cleaner than ever before, nitrogen oxides, carbon dioxide, fine particulate matter and air toxics emissions from pre-2007 diesel engines continue to adversely impact the health of our communities. Recognizing this as one of our most important public health and air quality challenges, the EPA initiated the National Clean Diesel Campaign in 2000. The Diesel Emissions Reduction Program ("DERA") was created under the Energy Policy Act of 2005. This Act gave EPA new grant and loan authority for promoting diesel emission reductions and authorized appropriations to the EPA. Congress appropriated funds for the first time under this program in FY2008. Since its inception, diesel emissions from school buses, truck fleets, ports and construction sites affected by the DERA Program have been significantly reduced and public health benefits have accrued as a result of these reductions.

According to the EPA's *Second Report to Congress: Highlights of the Diesel Emissions Reduction Program,*[27] every dollar in public funds appropriated through the DERA Program is leveraged with an additional three dollars in non-federal funding, including significant private sector investments that result in seven to eighteen dollars in benefits to the public. This intensive funds-leveraging makes DERA one of the most cost-effective federal air quality programs. Despite these accomplishments, future federal funding for the DERA program beyond 2016 remains questionable and uncertain. In addition, state, local and tribal air programs have relied on DERA funding as a key tool to maintain compliance with ozone and particulate matter National Ambient Air Quality Standards ("NAAQS") and to improve air quality in overburdened communities.

> EPA grants have funded projects that provided immediate health and environmental benefits. From 2008 to 2010, EPA awarded nearly $470 million to more than 350 grantees in 50 states and the District of Columbia to retrofit, replace, or repower more than 50,000 vehicles and equipment in a variety of industries. EPA estimates that these projects will reduce emissions by at least 203,900 tons of NOx and 12,500 tons of PM over the lifetime of the affected engines. As a result of these pollution reductions, EPA estimates that the health benefits associated with up to 1,400 fewer premature deaths and fewer hospital visits, among other impacts, will total approximately $3.4 billion to $8.2 billion. These clean diesel projects also

[27] Second Report to Congress: Highlights of the Diesel Emissions Reduction Program. (2005). Retrieved November 9, 2015, from http://nepis.epa.gov/Exe/ZyNET.exe/P100GDJC.txt?ZyActionD=ZyDocument&Client=EPA&Index=2011 Thru 2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQField

> are estimated to reduce carbon monoxide (CO) emissions by 2.3 million tons, as well as generate fuel savings over 205 million gallons as a result of idle reduction.
>
> The DERA program has shown that retrofits and engine replacements are effective in reducing emissions and provided valuable lessons in how to administer clean diesel programs. Going forward, EPA plans to sharpen its focus on areas of disproportionate exposure to emissions from diesel engines, and ensure that clean diesel projects are as cost-effective as possible.[28]

As an example, at the state level, the State of South Carolina has targeted a significant amount of DERA funding to projects associated with activities at and around the State Ports Authority in Charleston which ultimately reduces exposure of air pollutants to overburdened communities in the Charleston and North Charleston areas. Since 2008, $2 million of DERA funds have been spent on port-related projects. These federal funds were leveraged with an additional $4 million in private funding, bringing the total investment in reducing diesel emissions to $6 million. Projects have included repowering several tugboats, replacing drayage trucks, replacing yard tractors, replacing a diesel conveyor used for agricultural commodities with an electric conveyor, installing control equipment on school buses and refuse trucks, and repowering locomotives.

In addition to the funding administered through the South Carolina Department of Health and Environmental Control's Air Quality Program, the South Carolina Ports Authority received an American Recovery and Reinvestment Act (ARRA) grant of $2 million to repower 36 pieces of cargo handling equipment, two tugboats and one dredge. They have also installed multi-stage diesel filters on 40 trucks. All of these diesel emission projects have directly affected the residents of communities in North Charleston who live, work and play in the areas adjacent to these Port activities.

Due to this demonstrated effectiveness, DERA funding should be sustained, and if at all possible, expanded so that more communities can benefit from reduced diesel emissions. Projects that occur in EJ and overburdened communities should also be prioritized to receive this very beneficial funding.

Recommendation No. 13: EPA should fund community driven programs that make it possible for communities to organize internally, collaborate with other stakeholders and obtain expert assistance in order to address air toxics issues, particularly in disproportionately impacted communities.

Background Material in Support of Recommendation

Communities that are detrimentally affected by air pollution should be provided with the capacity to identify and help develop strategies that achieve significant air toxics reductions. Empowering communities will almost certainly entail identifying and engaging community and

[28] *Id.* Executive Summary.

EJ organizations that work with local communities. It is not unusual for these organizations to be under resourced and therefore to require funding that allows them to address the very specific issue of air toxics emissions, concentrations and exposures. These funds would allow local organizations to reach out to residents, and groups that work with them, and create safe spaces where communities can have internal discussions about air toxics. These discussions should be designed to result in the identification of air toxic issues and ultimately to the creation of effective air toxic reduction strategies. Funding should also be available that makes it possible for communities to hire experts that they trust and who can help residents understand air toxics in general and local air toxics issues in particular, and therefore make community discussions more effective. These types of resources will also enable communities to interact with other stakeholders such as private businesses and facilities that emit air toxics in a manner that can be cooperative, but at the same time places all stakeholders on a more even footing when it comes to engaging difficult issues. Using resources in a way that creates interactions between empowered communities and other stakeholders is a process that maximizes the chances of building trust between varied stakeholders, which will in turn increase the chances of identifying and developing workable solutions to air quality issues.

Recommendation No. 14: EPA should provide grant funding options for tribes that support tribal air toxics programs and projects.

Background Material in Support of Recommendation

Past experience with the EPA DERA and air toxics grants have shown that providing options that recognize the grant application capacity challenges that many tribes face can be critical to funding needed for air toxics and diesel emissions reduction projects. Requests for Proposals ("RFPs") and/or Requests for Applications ("RFAs") that include a tribal funding set-aside or individual tribal-only RFPs give tribes the opportunity to submit applications to a similar competitive pool, rather than competing against applications from larger state agencies and universities where grant resources are likely greater. RFPs/RFAs that offer a range of project complexity options where applications from capacity-building to implementation can be considered, provide significantly more opportunities for tribes. "Entry-level" projects that include problem assessments or community partnership building and expand to more implementation-oriented projects like a marine fleet engine retrofit program provide the best options for tribes to compete for funding. Additionally, due to lack of grant writing resource capacity, reducing the complexity of grant RFP/RFA requirements can provide tribes with more opportunities to submit applications for funding projects that address air toxics and diesel emissions reduction concerns. Finally, funding for tribes that supports tribal air toxics programs and projects should be above and beyond regional allocations for tribal Clean Air Act 103 and 105 grants, and Tribal General Assistance Program funding.

Topic: Data Gaps

Recommendation No. 15: EPA should form a workgroup to identify data gaps and limitations of the NEI, including gaps for hazardous air pollutants ("HAPs") and determine potential solutions to fill those gaps. The workgroup would be under the purview of the CAAAC and would include representatives from a broad group of experts and stakeholders from state, local and tribal governments, non-governmental organizations, industry and the EPA.

Background Material in Support of Recommendation

The NEI is a comprehensive and detailed estimate of air emissions of both Criteria and Hazardous air pollutants from all air emissions sources. The NEI is prepared every three years by the EPA based primarily upon emission estimates and emission model inputs provided by state, local and tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA. EPA uses the NEI, along with monitoring data, modeling and other tools such as NATA to assess risk from HAPs, target compliance and enforcement efforts, and measure progress under the Clean Air Act, and in particular under the Integrated Urban Air Toxics Strategy.[29] As EPA stated in the 2014 NEI Plan:

> The NEI is created to provide EPA, federal and state decision makers, the U.S. public, and other countries the U.S.'s best and most complete estimates of criteria air pollutants (CAPs) and hazardous air pollutant (HAP) emissions.[30]

Also:

> As was the case for the 2011 NEI, the 2014 NEI data will be the foundation for key EPA regulatory and other analysis.[31]

Many state, local and tribal governments also use the NEI for similar purposes as the EPA.

[29] See also, 2011 NEI v. 2, Technical Support Document, p. 6 August 2015, http://www3.epa.gov/ttn/chief/net/2011nei/nei2011v2_tsd_14aug2015.pdf ("While the NAAQS program is the basis on which EPA collects CAP emissions from the state, local, and tribal (S/L/T) air agencies, it does not require collection of HAP emissions. For this reason, the HAP reporting requirements are voluntary. Nevertheless, the HAP emissions are an essential part of the NEI program. These emissions estimates allow EPA to assess progress in meeting HAP reduction goals described in the Clean Air Act amendments of 1990. These reductions seek to reduce the negative impacts to people of HAP emissions in the environment, and the NEI allows EPA to assess how much emissions have been reduced since 1990.").

[30] 2014 NEI Plan. (2014). Retrieved November 9, 2015, from http://www3.epa.gov/ttn/chief/net/2014nei_files/2014_nei_plan.pdf , Page 1.

[31] *Id.* at page 6.

Many of EPA's findings in the Report[32] rely on the NEI, yet EPA acknowledges its limitations and data gaps:

> Only some regulated industrial sources are required to submit air toxics inventory information, and states are not required to submit data to the Agency on their air toxic emissions, making the quality and completeness of those data vary significantly by region and source.[33]

In Chapter 6 of the Report, entitled "Research to Address Data Gaps," EPA reports on progress in estimating emissions from area and mobile sources, but ultimately concludes in Chapter 7 that, "the current systems for reporting emissions of air toxics do not provide a comprehensive picture."[34]

The Workgroup agrees that the NEI has significant limitations and data gaps that should be addressed to improve the NEI as the "foundation" for important EPA policy decisions. In our review of state programs, it became clear that the level of air toxics emissions reporting from state to state varies. Some states like California have extensive air toxic emissions reporting rules for HAP sources while others, like Indiana and Idaho, do not. While some sources must report HAP emissions under specific rules, such as the National Emission Standards for Hazardous Air Pollutants ("NESHAPS"), or pursuant to Title V permits, there is no across-the-board requirement for HAP sources or state, local and tribal governments to report HAP emissions to the EPA and gaps remain. Some states provide an extensive inventory to the EPA, supplying emissions of both "point"[35] sources and, in conjunction with EPA, estimates for "nonpoint" aggregate sources based on Census, business and Department of Energy data. Others may provide a minimal inventory of point sources based on Toxics Release Inventory ("TRI") data. Still others may provide no data.[36] EPA will augment state, local and tribal data as necessary and estimate emissions for state, local and tribal governments that do not. TRI is a significant source of data for the NEI, yet it does not apply to all stationary sources or all HAPs emitted by stationary sources. Sources can report to TRI in ranges as well, rather than reporting actual emissions. In addition, emission factors used to estimate emissions in the absence of actual data, need to be expanded and improved. For example, some states reported to the Workgroup that they need metals speciation factors and factors for non-road engines at port/rail yards.

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[32] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress

[33] *Id.* at page 3-2.

[34] *Id.* at page 7-1.

[35] Or "stationary."

[36] For example, the 2008 NEI did not include submissions from Utah, South Dakota, Indiana, Georgia, Connecticut, or Alaska from point sources. *See 2008 NEI v. 3, Technical Support Document Draft, September 2013, p. 14* (*http://www3.epa.gov/ttn/chief/net/2008neiv3/2008_neiv3_tsd_draft.pdf*)

The Workgroup debated the merits of a national HAP emissions reporting rule to address HAP data gaps, but did not reach consensus. Some members identified the options of the EPA tying Section 105 grants to submission of HAP emissions data and of creating incentives for sources to voluntarily report HAP emissions. There were also concerns raised about the lag time of the NEI, because although the NEI is supposed to be updated every three years, the reality is that it is updated on a much less frequent basis. The quality of data and lag time of the NEI were two areas that the Workgroup members agreed needed greater focus and were areas for improvement. The Workgroup agreed that making specific recommendations to EPA to improve the NEI for HAPs was beyond the scope of the Workgroup charge, but further study on this topic would allow a full exploration of the issues and potential methods for filling those gaps. A workgroup devoted to identifying the data gaps and limitations of the NEI could also bring together a broad group of experts and stakeholders from state, local and tribal governments, non-governmental organizations, industry and the EPA to provide perspectives and ideas.

A more robust NEI, particularly when paired with an enhanced NATA, will help state, local and tribal governments and communities to build on their capacity to address air toxics risks at the regional and local levels.

Recommendation No. 16: EPA should enhance NATA as a risk assessment and screening tool by issuing it on a three-year cycle using the most recent NEI, adding tools that can identify hotspots. Since EPA currently classifies diesel exhaust as likely to cause human cancer, future NATAs should attempt to estimate cancer risk associated with diesel exhaust. EPA should examine the feasibility and methodology for adding ingestion risks from mercury and other persistent, bio-accumulative toxics.

Background Material in Support of Recommendation

The Report[37] relies heavily on the 2005 NATA to describe the state of air toxics nationally. The NATA is described in the Report as follows:

> The EPA's NATA is a comprehensive evaluation of air toxics (177 HAPS and diesel particulate) in the U.S. NATA provides estimates of the risk of cancer and other serious health effects from breathing air toxics. The EPA, state, tribal and local air agencies and others use NATA to identify and prioritize air toxic emission source types and locations that are of greatest potential concern in terms of contributing to population risk. Assessments include estimates of cancer and non-cancer health effects based on chronic exposure from outdoor sources, including assessments of non-cancer effects for diesel PM. Assessments provide a snapshot of the outdoor air

[37] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress

quality and the risks to human health that would result if air toxics emissions levels remain unchanged (U.S. EPA, 2011c).[38]

Yet EPA acknowledges that NATA ha uncertainties and limitations, and that its risk estimates:

- Apply to broader geographic areas (such as nationwide, states, core-based statistical areas (CBSA) or counties, not specific locations.
- Do not reflect exposure and risk from all pollutants. Only inhalation exposures are included (and therefore do not include risks from mercury, dioxin and other pollutants with ingestion and other pathways of exposure).
- Reflect only compounds released into the outdoor air and their chemical transformations.
- Do not fully capture variation in background ambient air concentrations.
- Might systematically underestimate or overestimate ambient air concentrations for some compounds.
- Are based on default, or simplifying assumptions where data are missing or of poor quality.
- Might not accurately capture sources that have periodic emissions.

Most importantly, the 2005 NATA represents a snap shot of conditions in 2005 and, as such, does not reflect current conditions.[39] EPA also states that, as a result of these limitations, NATA is not appropriate for use in identifying suspected "hot spots" of air toxics.

The Workgroup acknowledges these uses of NATA and its limitations and uncertainties. The Workgroup recommends that NATA be enhanced to become an even better tool for state, local and tribal agencies and communities to identify, assess and address health risks from air toxics, especially at the local level.

Specifically, the Workgroup recommends the following enhancements to NATA:

- The NATA should be issued on a three-year cycle using the most recent NEI to ensure more up-to-date assessments.
- Additional tools should be developed and paired with NATA that can assess risk on a more refined level than the county level (i.e., "hot spots").

An enhanced NATA would provide state, local and tribal governments and communities with a better tool to assess and prioritize air toxics risks, focus resources on the areas of most risk and greatest vulnerability, and help state, local and tribal governments and communities continue to build on the capacity they have developed through the various programs of the Urban Air Toxics Strategy.

[38] *Id.* at 3 – 16.

[39] *Id.*

Recommendation No. 17: EPA should support programs and projects that address air toxics data gaps in Indian country and Alaska Native Villages.

Background Material in Support of Recommendation

Populations on reservations and in Alaska Native Villages encompass both rural and urban communities. Sources of concern include point, area and mobile sources, and ambient and indoor air quality. Many tribes have identified diesel emissions from on-road transportation (trucks, cars and buses), marine, rail, construction and mining equipment, and generators as a major air toxics concern. Air toxics emissions from oil and gas development, improperly contained coal rail and truck transport, and industrial point sources are also of concern. Deposition of mercury and its methylation in waterways has resulted in fish toxicity warnings on tribal lands and threaten traditional lifeways.

Continued resources are needed to build and maintain capacity to evaluate and address air toxics and risk for tribes and Alaska Native Villages. Existing EPA-supported organizations provide much-needed resources, such as the monitoring resources provided through the U.S. EPA Tribal Air Monitoring Support Center ("TAMS") in Las Vegas NV, and the training resources provided through the Institute for Tribal Environmental Programs ("ITEP") at Northern Arizona University. TAMS operates an equipment loan program that includes air toxics equipment for monitoring ambient and indoor air quality.

Tribes and Alaska Native Villages have identified needs for monitoring equipment, technical assistance preparing standard operating procedures and quality assurance project plans, training to operate monitoring equipment, data analysis and interpretation, source identification, risk assessment, risk communication, collaborative, community-based projects, and cumulative impacts assessments.

Recommendation No. 18: EPA should continue, support and collaborate with programs to gather indoor, outdoor and personal monitoring data. Among other uses, such data should be used to enhance ambient and human exposure modeling to better characterize both the individual and the synergistic risk of personal, indoor, and ambient exposure to air toxics and inform strategies to address air toxics that are most harmful.

Background Material in Support of Recommendation

These monitoring programs would build upon urban air toxics studies already undertaken by EPA, the Health Effects Institute and state, local and tribal governments, many of which are highlighted in Appendix C of the Report, such as the EPA Office of Research and Development, Detroit Exposure and Aerosol Research Study (DEARS); the Health Effects Institute, Air Toxics

Hot Spots Studies; and the Texas Commission on Environmental Quality, Houston Exposure to Air Toxics Study (HEATS).[40]

According to the EPA, Americans spend 90% of their time indoors, where there are often 2-5x higher concentrations of certain pollutants than outdoors. As noted in the "Report", additional studies characterize personal exposure, develop biological markers to characterize personal exposure which are needed and to document their potential association with cancer, respiratory diseases and neurodegenerative disorders, especially in areas with elevated emissions of air toxics. The findings from the combination of indoor, outdoor and personal monitoring data can be used to engage overly burdened communities and other stakeholders in dialogues to promote better risk communication and influence personal and policy decisions about indoor environmental health.

Recommendation No. 19: EPA should support robust community monitoring and citizen science projects that provide quality data and guidance on how to use the data to assess air toxics and inform effective strategies to address air toxics.

Background Material in Support of Recommendation

Community monitoring and citizen science projects that generate and use good quality data provide valuable information from which to make informed decisions about addressing and reducing air toxics in communities. A credible air monitoring study follows a quality assurance process that determines if data collected and reported is of high quality (unbiased and precise) and acceptable for its intended use.[41] EPA programs, such as the Air Sensor Toolbox for Citizen Scientists,[42] that provide information and guidance for communities on quality assurance guidelines, sampling methodologies, calibration and validation approaches, measurement method options, data interpretation guidelines, education and outreach, and low cost sensor performance should be expanded to include community resources for developing effective approaches to addressing air toxics issues.[43] EPA air toxics programs such as the Community-Scale Ambient

[40] The National Air Toxics Program: The Second Integrated Urban Air Toxics Report to Congress. (2014, August 21). Retrieved November 9, 2015, from http://www2.epa.gov/urban-air-toxics/second-integrated-urban-air-toxics-report-congress

[41] Williams, R. (2015). *Overview of quality assurance for citizen science* [PowerPoint slides]. Retrieved November 10, 2015, from http://www2.epa.gov/air-research/overview-quality-assurance-citizen-science.

[42] Air Sensor Toolbox for Citizen Scientists. (2015, October 27). Retrieved November 9, 2015, from http://www2.epa.gov/air-research/air-sensor-toolbox-citizen-scientists

[43] *Id.*

Air Toxics Monitoring Grants[44] and the School Air Toxics Monitoring Studies[45] are examples of community monitoring project opportunities that should continue.

Recommendation No. 20: EPA should support the evaluation of portable and personal environmental monitors ("PEMs") for air toxics and other pollutants to ensure high quality data.

Background Material in Support of Recommendation

Continuous portable monitors and personal environmental monitors ("PEMs") have become increasingly accessible in recent years. A typical regulatory monitor, though producing data of known value and high reliability, is stationary and cannot be easily relocated, requires highly trained staff support, and is expensive to purchase and operate (e.g. more than $20,000 each). Portable monitors and PEMs are more inexpensive to purchase (e.g. $100 to $5,000 each), are highly portable, easy to operate and often mobile; require little or no training and cost less to operate. However, where a typical regulatory monitor can operate for ten or more years before needing replacement, the service lifetime of a low-cost monitor is not expected to exceed one or two years.[46]

Understanding the strengths and limitations of an air sensor is important if that sensor is to collect information that is useful for a specific purpose.[47] As more and more portable monitors and PEMs are used for environmental monitoring, EPA's support for the development of sensors that produce high quality data is critical. Identifying which sensors can be used for which types of applications (e.g. education and information, hotspot identification and characterization, supplemental monitoring, or personal exposure)[48] and making that information readily accessible to the public will assist in informing for optimal decision-making on air toxics project development and implementation.

Most of EPA's focus on portable and PEM equipment and data quality evaluations is directed toward criteria pollutant monitors, and more effort is needed to support the development of quality air toxics sensors. The Workgroup would recommend that EPA prioritize air toxics sensor evaluation work alongside criteria pollutant PEM evaluation work as soon as possible. Additionally, we recommend the development of an EPA certification program for portable and PEM equipment to support the collecting of good quality data.

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[44] Air Toxics - Community Scale Air Toxics Ambient Monitoring (CSATAM) Projects. (2015, August 28). Retrieved November 9, 2015, from http://www3.epa.gov/ttnamti1/local.html

[45] School Air Toxics Monitoring Initiative. (2015, August 28). Retrieved November 9, 2015, from http://www3.epa.gov/ttnamti1/airtoxschool.html

[46] Williams, R., and Kaufman, A. (2015). *Air quality monitoring and sensor technologies* [PowerPoint slides].

[47] Williams, R., and Kilaru, V. (2014). Air Sensor Guidebook. EPA 600/R-14/159. p. 5. Retrieved November 10, 2015, from http://www2.epa.gov/air-research/air-sensor-toolbox-citizen-scientists-resources.

[48] *Id.*

Topic: Best Practices

Recommendation No. 21: EPA should develop a sustainable platform from which best practices related to air toxics can be continually highlighted and shared between all stakeholders, including communities, industries, federal, state, tribal and local governments, environmental groups, academia, etc.

Background Material in Support of Recommendation
These best practices should also be shared a regional and national meetings of environmental profession organizations (i.e., Environmental Council of the States ("ECOS"), National Association of Clean Air Agencies ("NACAA"), National Tribal Air Association ("NTAA"), Association of Air Pollution Control Agencies ("AAPCA")).

Best practices to include collaborative problem solving/partnership efforts in reducing air toxics, risk communication, community capacity and leadership building, communication of multi-pollutant co-benefits and public health impacts.

Highlighting best or promising practices will help other communities and their partners address air toxics issues and save them the trouble and resources of reinventing the wheel.

Topic: Recognition Programs

Recommendation No. 22: EPA should develop a recognition program for businesses, modeled after Energy Star ("Community Star") who exemplify the principles (i.e., empathy and caring) of being a "good neighbor" and having a strong commitment to the community, particularly regarding the reduction of air toxics and other toxic pollutants.

Background Material in Support of Recommendation
This recognition program could consist of a tiered system ranging from a "beginner's" level of commitment, such as community outreach, to a "superstar" status, indicating proactive, impressive and multifaceted community involvement. EPA and state, local and tribal governments should identify incentives to encourage businesses to incorporate community involvement in their business strategies and central to their company's culture.

Recommendation No. 23: EPA should develop a recognition program for state/local or tribal governments who value community engagement and whose innovative efforts are making a difference in the communities they serve, particularly related to air toxics issues.

Background Material in Support of Recommendation
The community, the business and the state, local and tribal governments all benefit from their collaboration. Enhancing these partnerships will build trust and relationships necessary to collaborative problem solving and addressing remaining air toxic challenges.

Topic: Next Steps

Recommendation No. 24: EPA should – by or before April 2016 – create a standing independent committee that reports to the CAAAC consisting of members representing community groups, industry, state/local/tribal governments that evaluates and reviews the progress and shares information – at least annually – on the programs and processes related to urban air toxics.

Background Material in Support of Recommendation

The Clean Air Act required the EPA to submit two reports to Congress describing actions they have taken to reduce public health risks from urban air toxics. The first report was issued in 2000, and a final report was issued in August 2014. There are no other requirements for the EPA to provide feedback to Congress, nor the general public, on the progress made by the Agency in reducing urban air toxics. To ensure that the efforts to reduce urban air toxics, as well as the recommendations brought forth by this Workgroup are sufficiently tracked, the outcomes communicated to the public, and that some level of accountability is provided, we would recommend that the Urban Air Toxics Workgroup become its own standing subcommittee as a part of the full CAAAC. The Urban Air Toxics Committee would be responsible for 1) monitoring and reporting out the progress to the full CAAAC as to how the recommendations from this Workgroup are being implemented at the Spring/Fall CAAAC in-person meetings, 2) working with EPA personnel to produce an annual report, shared with the full CAAAC, that provides on a national scale specific communities of concern that continue to experience elevated health risks due to air toxics, and 3) communicating these results to the general public, the National Environmental Justice Advisory Council ("NEJAC") and other pertinent Federal Advisory Councils under the Federal Advisory Council Act ("FACA"). This report should further identify these communities of concern by combining both the social demographic data, national air toxics data and, where possible, data collected from citizen scientists.

Some workgroup members felt that the current subcommittee on *Permits, New Source Reviews and Toxics* subcommittee could serve this function, while others felt that a new subcommittee was needed to prioritize this work.

Recommendation No. 25: EPA should conduct a systematic review – using the criteria provided in the body of this report – to evaluate the effectiveness of federal programs that specifically address urban air toxics – by or before January 2017.

Background Material in Support of Recommendation

Resources are a key concern and program effectiveness is important. To our knowledge, there has been no systematic review of the impact of how federal, state, local tribal governments, industry programs, initiatives have reduced urban air toxics. Unfortunately, there was not adequate time nor resources for this Workgroup to thoroughly evaluate these programs. A 2009

report from CAAAC, entitled, "A vision and Guiding Principles for the National Air Program[49] specifically suggests that the Agency,

> [i]mprove performance measurement activities to support results-based management and accountability…attention to performance measurement varies widely throughout the National Air Program. Improved accountability mechanisms are needed to demonstrate that investments in air quality are achieving desired results…[50]

Efforts are needed to improve the quality and consistency of performance measurement activity at EPA, and to better coordinate performance measurement among federal, state, local and tribal partners.

We suggest that the CAAAC should decide – by Spring 2016 – how a review of the National Air Toxics Program should be conducted. We offer the following proposed structure for evaluation:

A. Frequency: Every 3 or 5 years

B. Responsibility: Office of Air, Community Air Toxics Program, shared responsibility with States/Local/Tribal partners (EPA combines all the information)

C. Possible Inputs:
- Data and information from EPA regions
- Evaluation of air, community Grants (EJ Small Grants, P2, Collaborative Problem Solving)
- NATA/NEI data
- Citizen data

D. The questions/framework that can be used for this evaluation could include some of the following questions:
1. Is this is a federal/state/local/tribal/industry program?
2. How does the program advance technical knowledge and methodologies for measuring, assessing and reporting air toxics and risk?
3. How does the program result in measurable pollution and risk reduction?
4. Is the program sustainable in the long term?
5. Does program build community capacity to undertake actions to reduce risk?
6. Does the program develop the professional capacity of local, state or federal employees to respond to air toxics emissions and risks?
7. Does the program target sensitive and vulnerable [EJ] communities?
8. Is the Funding source(s) - federal, state, local, private, NGO?

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[49] A Vision and Guiding Principles for the National Air Program A Report of the Clean Air Act Advisory Committee. (2009, February 1). Retrieved November 9, 2015, from http://www2.epa.gov/sites/production/files/2014-10/documents/caaacvgfinal_02-09.pdf

[50] *Id.*

9. Are achievements measurable and/or replicable in other programs or communities?
10. Do we need a 'national measure' or should we look at explored 'state measures' developed collaboratively that can really measure progress? (Data limitations, support a more holistic approach, spur collaboration between local/community groups, multiple stakeholders, develop collective measures that will look at cumulative impacts, etc.)
11. Have/Can the health benefits of the program be quantified?
12. Was any type of cumulative impacts and risk assessment conducted as part of this program?
13. Have broad based partnerships been established?
14. Has there been targeted outreach to communities and how was that measured?
15. What behaviors/practices changed as a result of the program in the community?
16. Was an EJ analysis conducted to understand the current impact of the work and identify needs and/or overburdened areas?
17. Has the knowledge gained been transferable to other communities, programs, etc.? (How and has that been documented?)
18. What criteria has been developed to identify hot spots and once they are identified, how is the response elevated?
19. Are there specific programs that evaluate mobile source concentrations?
20. What data is being used to produce an assessment?

Providing the structure and context for a systematic evaluation will allow the EPA to assess the programs that are most impactful, and the programs that are not as effective so both financial and human capacity can be maximized.

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Appendix 1:

Criteria Used by Workgroup to Develop Recommendations

Prior to developing Recommendations, the Workgroup identified the following criteria that were used to inform their discussions/deliberations.

1. Legal Authority
    a. Can EPA implement under current regulatory authority?
    b. Recommendation does not require state legislative action?
    c. Does this require additional appropriations?
2. Does this require a low, medium, high amount of time to implementation?
3. Fits within the scope of charge(s)
    a. Will this require a high, medium or low amount of resources?
4. Will this recommendation reduce the disproportionate impacts on communities most burdened by air toxics, and vulnerable populations?
5. Who controls implementation?
6. Does this recommendation reduce urban air toxins?
7. What is the accountability or how do we track progress/implementation of for the recommendations?
8. Wil the recommendation have an impact on the knowledge (risk communication, training, capacity building, and citizen science) of stakeholders vs. other recommendations?
9. Does the recommendation support technological advances (personal monitoring, EJ Screen, better databases, emergency response air toxics models, etc.) that can help identify and resolve issues in a more cost effective manner?
10. Does this recommendation have more substantive impact on communities most burdened by air toxics than others?
    a. What does substantive mean? (number of people impacted, the acuteness of impact, health burden, etc.)
11. Is this a voluntary or mandatory program? (should a distinction be made)

Appendix 2:

List of Workgroup Members

Name	Organization
Myra Reece Co-Chair	SC Department of Health and Environmental Control
Jalonne White-Newsome Co-Chair	WE ACT for Environmental Justice
Mark Bohan	Printing Industries of America
Howard Feldman	American Petroleum Institute
Vince Hellwig	Michigan Department of Environmental Quality
Thomas Huynh	Philadelphia Air Management Services
Gary Jones	Printing Industries of America
Chris Kaiser	Rio Tinto Kennecott Utah Copper
Robert Kaufman	Koch Industries
Melanie Marty	Cal EPA
Mark Miller	UCSF
Robert Morehouse	Air Permitting Forum
Vickie Patton	Environmental Defense Fund
John Paul	Local Government Consultant
Julie Simpson	Nez Perce Tribe
Patricia Strabbing	Fiat Chrysler Automobiles, LLC
Kathryn Watson	Earth Charter Indiana
Elena Craft	Environmental Defense Fund
Nicky Sheats	Thomas Edison State College
Jason Walker	Northwestern Band of the Shoshone Nation
EPA Support	
Bill Harnett	US EPA
Chebryll Edwards	US EPA
Marva King	US EPA
Margaret Zawacki	US EPA