



United States Department of State

*Bureau of Oceans and International
Environmental and Scientific Affairs*

Washington, D.C. 20520

September 1, 2006

Dr. Maged Younes
Head,
Chemicals Branch DTIE
United Nations Environment Programme
11-13 Chemin de Anémones
CH-1219 Châtelaine, Geneva, Switzerland
Email: mercury@unepchemicals.ch

Dear Dr. Younes,

In reference to your letter dated July 1, 2006, regarding progress on implementation of mercury partnerships pursuant to the Governing Council Decision 23/9, we are submitting the attached report on U.S. activity and contributions to the partnerships.

Since GC Decision 23/9 in 2005, five partnerships have been initiated, including global partnerships for mercury reduction in the chlor-alkali sector, products, coal-fired utilities, artisanal and small-scale gold mining, and mercury air transport and fate research. Although less than two years have passed since the GC decision on partnerships, much progress has been made on these partnerships and a number of additional activities have been planned. The U.S. has taken a leading role in coordinating and developing the partnerships and has provided significant financial contributions to the partnerships. In addition to staff time, in-kind support, and technical expertise, the United States has provided approximately \$4.7 million in support of the UNEP Mercury Programme and Partnerships. At least \$1.7 million has been directed specifically to partnerships.

We look forward to additional work on partnerships and progress in mercury reductions.

Sincerely,

John E. Thompson
Division Director
Office of Environmental Policy

Global Partnership for Mercury Reduction in the Chlor-Alkali Sector

Goals and Objectives of the Partnership

This Partnership makes information available on public policy and industry experiences for improving the environmental performance of mercury cell chlor-alkali facilities, and makes available operational information on non-mercury cell technologies. The Partnership promotes the reduction or elimination of global mercury releases in the chlor-alkali sector through the adoption of best management practices or through conversion to non-mercury cell technology. Work under this partnership also improves the availability of public information regarding the global consumption of mercury used in and released by the chlor-alkali production process.

The Work and Progress of the Partnership

On May 25 of 2005, an informal consultation was held in Portland, Maine, involving participants from Argentina, Brazil, Burkina Faso, Canada, China, the European Commission, India, Mexico, and the United States, as well as industry and non-governmental stakeholders to discuss ideas for the Partnership. A number of actions were developed for the partnership following the consultation, including:

Russian Pilot Demonstration Project. The United States, the Russian Chlorine Association, RusChlor, Volgograd “Caustic” Facility, the Russian Cleaner Production and Sustainable Development Center (RNCPC), the Volgograd Regional Environmental Authority (Rostekhnadzor), Canada, Norway, and the World Chlorine Council (WCC) worked through the Partnership to develop and implement technical projects to reduce use and release of mercury. Activities completed to date include: (1) Conducted a workshop in Volgograd with the participation of experts from EuroChlor, RusChlor, RNCPC, donor-countries and all three Russian chlor-alkali facilities to share experiences and best practices; (2) Completed a technical exchange visit of six Russian experts to representative chlor-alkali facilities in Germany, Spain, and Italy; (3) Completed Cleaner Production Training at Volgograd “Caustic”; (4) Volgograd “Caustic” developed an “Action Plan for 2006-2010” to reduce uses and releases of mercury; and (5) Volgograd “Caustic” implemented three cleaner production projects resulting in reductions of approximately 150 kg of mercury releases per year.

The Partnership expects to have measurable reductions of both mercury consumption and releases, measured in tons per year. Within one year, Volgograd “Caustic” plans to achieve a 20-25 percent reduction in mercury use and releases, and it has already achieved a reduction of 150 kilograms per year of mercury releases just months after inception of the project. For each facility which chooses to work with the Partnership to implement best practices, a reduction of at least one ton of mercury consumption and releases can be expected within a 1-3 year period.

Mercury Stewardship Workshop. The United States, the World Chlorine Council, the Chlorine Institute, Clorosur, Eurochlor, ANIQ, Mexichem, the Research Foundation for Health and Environmental Effects, UNEP Chemicals, and the UNEP Regional Office for Latin America and the Caribbean conducted a mercury stewardship workshop in Veracruz, Mexico. The

workshop shared methods and guidelines for calculating mercury releases and consumption, shared best practices for reducing releases, and encouraged adoption of best management practices to facilitate reductions in consumption. Following the workshop, the Partnership provided the Mexican facilities with a technology mentor for six months in order to help identify process improvements. The facilities are now considering demonstration projects at their facilities. The Partnership is currently scoping other mercury reduction projects in the chlor-alkali sector.

In addition, by 2007 the Partnership expects improved regional estimates of mercury consumption in the sector on a global scale thanks to a voluntary offer by chlorine industry associations to assist with the data collection. Combined with facility-specific baseline studies done with facilities working with the Partnership, this information will provide comparable and more complete data on global consumption and releases in the sector.

Resources Needed to Execute the Partnership

The Chlor-alkali Partnership was initiated with financial contributions from the United States, Canada, and Norway. The World Chlorine Council and the U.S. Chlorine Institute contributed in-kind support. UNEP Chemicals provided travel funding for participants from developing countries to attend the initial Partnership consultation.

The Partnership has benefited to date from the strong support of industry associations, the effort and contribution of ACAP member countries in the Russia demonstration project, and from the WCC in helping to coordinate the workshop and select a facility mentor in Mexico. In order to implement best practices, technical exchange must be combined with prioritization of actual process changes, in some cases requiring modest investments in equipment or tools. While these investments pay for themselves over time in terms of efficiency and other benefits, they nonetheless require some capital. The Partnership has ongoing financial needs for technical assistance work.

The United States has contributed at least \$345,000 directly towards efforts relating to the Chlor-Alkali Partnership.

Looking Towards the Future

Industry-to-industry exchanges are a valuable way to encourage process changes and bring about mercury reductions in the sector. The Partnership faces an ongoing challenge in raising enough funding to implement process changes and best practices identified through the technical exchange. The Partnership will also potentially look into issues related to conversion to non-mercury technology.

Additionally, the Partnership would benefit from improved coordination between interest in the partnerships and technical capabilities in industry, government or financial institutions, so that multiple projects could be addressed simultaneously.

Both the facility mentor model and the cleaner production audit/training model have proven to be successful and efficient (in terms of cost and time) ways to achieve a list of facility-specific

mercury reduction options. This model should be expanded to all mercury-cell facilities expected to be in operation for more than three years. The models are likely to be useful to other mercury-consuming industrial processes. The Partnership would benefit significantly from involvement by public and private financial institutions which might provide information on low-cost financing for modest process improvements and for plant conversions, and assist with the calculation of pay-back periods. Energy efficiency financing is an interesting concept here, given that non-mercury-cell facilities now being built are much more energy efficient than mercury-cell facilities.

Partnership for Mercury Reduction in Products

Goals and Objectives of the Partnership

This Partnership enhances country-specific knowledge of mercury use and emissions and transfers of mercury, and uses this knowledge to identify measures for reducing releases from the manufacture, use, and disposal of mercury-containing products. This Partnership identifies and implements successful approaches for reducing or eliminating mercury in products where there are effective substitutes. Another Partnership goal is providing technical assistance to assess and understand individual country markets for products containing mercury, including the quantities used, the quantities of mercury released associated with the manufacturing, use, and disposal of these mercury-containing products, and how to identify opportunities for achieving additional mercury reductions.

Work under this partnership includes examining and prioritizing efforts to reduce or eliminate mercury use in products through the exchange of information and expertise, transfer and application of best management practices, development and improvement of mercury use and emission inventories, provision of technical assistance, public awareness improvement, improved characterization of the amount of mercury used in products nationally and globally, and development of pilot projects.

The Work and Progress of the Partnership

On May 25 of 2005, an informal consultation was held in Portland, Maine for all interested parties to discuss ideas for the Partnership. The consultations were attended by participants from the United States, Argentina, Brazil, Burkina Faso, Canada, China, India, Mexico, the European Commission, the North American Commission for Environmental Cooperation (CEC), NGOs, and U.S. industry. Electronics manufacturers and manufacturers of medical supplies have also been engaged in discussions with the United States to help implement Partnership activities in developing countries. Since the 2005 meeting, the Partnership has developed a number of specific projects to pursue mercury reductions in products around the globe. The Partnership has ongoing work in the following areas:

CEC Americas Workshop. In February of 2006, the United States partnered with the Governments of Canada and Mexico and the North American Commission for Environmental Cooperation (CEC) through the CEC Mercury Task Force to fund and host a capacity-building workshop on reducing mercury use in products where there are effective substitutes in the Americas. Funding for the workshop and travel for country representatives from Argentina, Brazil, Chile, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Peru, Panama, Trinidad and Tobago, and some U.S. state governments, academia, and environmental non-governmental organizations in North America was provided by the U.S. contribution to UNEP for mercury partnerships and the CEC. The workshop was successful in sharing information on tools and best practices for reducing mercury use in products and in

identifying developing country needs in the Americas. The workshop also served to elicit interest in the UNEP Partnerships and provided a basis for future partnership activities.

Health Care Pilot Projects. Beginning in August of 2006, the United States will work with China's State Environmental Protection Administration (SEPA), China's Health Ministry, and the Beijing City Government under the Partnership on healthcare projects at two hospitals in Beijing, China. Through a bilateral agreement and funding support from the United States, the United States and China will initiate work to significantly reduce mercury containing products where there are effective substitutes and waste throughout these hospitals in one year. The United States hopes that SEPA will use the pilot to create a similar training program for hospitals throughout the country at the end of 2007.

Since mid-2006, the United States and UNEP have been working through the Partnership to launch a hospitals pilot program in the City of Buenos Aires, Argentina, building upon current efforts by the City of Buenos Aires and Healthcare Without Harm. The pilot, which will begin in the fall of 2006, will include training for all 33 city-run hospitals, and complete mercury elimination for two hospitals.

Through the CEC, the United States is working to fund a partnership healthcare project in Mexico aimed at reducing mercury use and wastes from hospitals in Mexico. This project, slated for the fall of 2006, will involve both Mexico's health agency (Salud) and environment agency (SEMARNAT).

The United States is discussing potential health care projects, similar to those developed under the Partnership in Mexico and Argentina, with officials in other Central and South American countries, and with regional organizations such as the Pan-American Health Organization. Experience gained in the reduction or elimination of mercury in hospitals as a result of the Partnership activities in Mexico and Argentina will provide a sound foundation for additional partnership activities with other countries in the region.

For all of the hospital pilot projects, the overarching goal is to reduce mercury where there are effective substitutes and report the pounds of mercury eliminated per hospital pilot project under the Partnership. Prior to the start of each project, a facility assessment will establish a baseline number of pounds of mercury-containing products used, and a mercury use reduction goal for the elimination of pounds of mercury-containing products will be established.

Burkina Faso Mercury Life Cycle Assessment. The United States has partnered with Burkina Faso and UNEP to conduct an initial mercury life cycle assessment for products as a first step in that country's efforts to characterize and reduce mercury use where there are effective substitutes. The assessment will begin shortly and will include a mercury use inventory as well as the identification of country needs and priorities. The assessment is expected to be completed and an assessment report issued in June 2007. Once completed, the Government of Burkina Faso will determine what steps should be taken, if needed, to promote the reduction and substitution of mercury in products where there are effective substitutes. It is hoped that this assessment of mercury in products may be useful and relevant to other countries in the West African region.

Mercury Products and Emissions Inventories. The United States is establishing a cooperative agreement with the United Nations Institute for Training and Research (UNITAR) to support training and capacity-building programs which encourage sound environmental management and sustainable development. The agreement is expected to be completed in September of 2006 and, in particular, will enable UNITAR to assist in the implementation of Partnership activities.

UNITAR will be assisting three countries through the Partnership in the Latin American and Caribbean Regions with the development of mercury product inventories and ultimately Pollutant Release and Transfer Registries (PRTR) for mercury. The intention is to develop a comprehensive inventory of mercury-based products in a large country in South America and issue an inventory report that is available to the public by December of 2007. By December 2008, the Partnership plans to support the development of a national mercury releases inventory in a large country in South America that will track and report all major releases of mercury from point sources in that country. We expect this work to result in 20% of the point sources reporting mercury releases in that country by 2007, and 100% by 2008.

Pollutant Release and Transfer Registries are important tools that can assist countries in identifying emissions and transfers of mercury and this knowledge of mercury emission patterns and their magnitude can serve as a sound basis for identifying measures for reducing mercury emissions. The Partnership expects to train 15 countries on mercury use in products and successful strategies and tools to reduce and eliminate mercury use in products in 2006. Canada has expressed its interest in being a lead partner in PRTR efforts and the Mexican Government has expressed interest in updating their mercury products inventory.

The United States will be working with UNITAR to explore other possible Partnership activities, with an initial focus on South Africa.

Mercury in Schools Case Study. The United States is conducting discussions with the Philippines to create a Partnership activity on mercury in schools, specifically a case study on the March, 2006, mercury spill and cleanup at a school in Manila. Lessons learned from this spill could then be provided to other countries and serve as an educational tool on this issue. This Partnership activity would allow interested parties to share and benefit from best practice information and experiences with the prevention, management and mitigation of mercury risks in schools.

Resources Needed to Execute the Partnership

The United States has contributed at least \$575,000 directly towards efforts relating to the Products Partnership.

Looking Towards the Future

The Products Partnership will continue to encourage and benefit from global support for this effort and more involvement from countries and stakeholders who are experienced in addressing

mercury pollution. The Partnership has made significant progress in a short amount of time, and it is important for UNEP to promote and advertise the work and successes of the Partnership, as well as the availability of small grants for activities under this and other mercury partnerships to facilitate national, regional, and global reductions in the use and release of mercury.

One practical way to promote the Partnership work would be to develop more fully the UNEP mercury clearinghouse and capacity-building function as discussed in UNEP's workplan by creating and maintaining separate web pages for each mercury partnership. The information developed under each partnership (e.g., workshop presentations, reports, inventories, etc) could then serve as an educational and capacity-building tool for interested countries and stakeholders, which may not have had the opportunity to participate in that partnership activity. Another practical step is a direct link from the partnership page to the UNEP mercury small grants information.

One challenge faced by the United States in this Partnership is the ability to mobilize funding quickly when there is no existing agreement between the United States Government and an international organization or country.

Global Partnership for Mercury Management in Artisanal and Small-Scale Gold Mining

Goals and Objectives of the Partnership

This Partnership reduces the human health and environmental impacts associated with the use of mercury in artisanal gold mining and refining by working with mining communities and small-scale gold producers to develop and implement options, suited to local circumstances, to reduce mercury use and exposure. This Partnership supports existing international efforts in this area, in particular the UNIDO Global Mercury Project.

Work under this partnership promotes: cleaner artisanal mining practices and technologies, such as recapture for reuse or use of low- or non-mercury technologies as appropriate to the community; improving data on mercury use and emissions in the sector collected through mercury reduction projects; and improving access to information at the local level through community outreach programs and through the development and dissemination of information on mercury health risks and occupational exposure risk management options in a variety of media.

The Work and Progress of the Partnership

On June 15 of 2005, an informal consultation was co-sponsored by the United States, the World Bank's Communities and Small-Scale Mining (CASM) Program, and UNEP to discuss ideas for the Partnership. The consultation took place in Washington, DC and was attended by participants from Brazil, Burkina Faso, Canada, Ghana, Nigeria, Peru, South Africa, Switzerland, Tanzania, the European Commission, NGOs, technical and research institutes, and industry.

The Partnership has increased understanding of this extremely complicated topic among policymakers and has taken steps to improve the quantification of mercury use and emissions in this sector, which may rival coal combustion as the largest source of mercury emissions globally. Several organizations have pledged their support to the Partnership. Following the informal consultation, the Partnership initiated broad discussions with the United Nations Development Program, the United Nations Industrial Development Organization, industry, NGOs, and other stakeholders and identified a number of areas for partnership work.

Brazil Partnership Efforts. The Partnership engaged with the Government of Brazil and other stakeholders on a project to reduce mercury emissions from gold refining shops in the Amazon. In September of 2006, the Partnership will field a mission to the Amazon to verify baselines, take speciated measurements, and develop options for locally-manufactured appropriate technology solutions for the capture of mercury vapors in the gold shops. UNEP will provide travel funding for a pro-bono mercury monitoring expert from the United States for this mission.

Senegal Partnership Efforts. Also in September of 2006, the Partnership plans to conduct an initial assessment mission to a large gold-producing region in Senegal in order to get baseline data and a detailed program plan for a project to train community-based NGOs and health

workers on appropriate technologies for mercury capture and reuse, and safe mercury management techniques. Partners in this project include the United States' Argonne National Laboratory, the Blacksmith Institute, local NGOs, and the Senegal Ministry of Environment and Protection of Nature. The Partnership hopes to regionalize this project through the Basel Convention Regional Center for Francophone Africa to other African countries facing similar risks in the mining sector. Other partners whom have expressed such interest include the Burkina Faso Ministry of Environment.

The Partnership expects to have measurable improvements in mercury consumption and releases in Brazil and Senegal by mid-2007 or earlier, as an initial improvement in areas where continued adoption of best practices throughout the mining and refining communities and other communities in these regions will magnify results over time. By measuring baseline and post-project ambient air mercury levels at projects' mining and refining sites, and by estimating the amounts of replenishment mercury used annually by miners at these sites both pre- and post-project, the Partnership will show cumulative tons per year of mercury consumption and release reductions.

The Partnership has also had discussions with the Ministry of Environment in Mongolia and its NGO partners about their proposal for mercury management in their rapidly-growing artisanal mining sector.

The Partnership is working closely with the CASM Program, a network of small-scale miners, NGOs, and professionals working with and in the sector. In order to reach those stakeholders who use CASM's impressive array of services but who may not be aware of solutions to the mercury issue, the Partnership expects to have a mercury internet page on the CASM website by the end of 2006, with links to UNIDO, UNEP and other resources.

Resources Needed to Execute the Partnership

The United States has contributed at least \$180,000 directly towards efforts relating to the Mining Partnership.

The Mining Partnership would benefit from the participation or funding from other industrialized countries home to large industrial mining companies because the artisanal operations often are co-located with industrial mining sites. Additionally, the Partnership seeks funding for the expected work in Mongolia for mercury management in their artisanal mining sector.

Looking Towards the Future

The Mining Partnership will continue to encourage and benefit from global support for this effort and more involvement from countries and stakeholders who are experienced in addressing mercury pollution. The Partnership has made significant progress in a small amount of time, and it is important for UNEP to promote and advertise the work and successes of the Partnership, as well as the availability of small grants for activities under this and other mercury partnerships to facilitate national, regional, and global reductions in the use and release of mercury.

One practical way to promote the Partnership work would be to develop more fully the UNEP mercury clearinghouse and capacity-building function (as discussed in UNEP's workplan) by creating and maintaining separate web pages for each mercury partnership. The information developed under each partnership (e.g., workshop presentations, reports, inventories, etc) could then serve as an educational and capacity-building tool for interested countries and stakeholders, which may not have had the opportunity to participate in that partnership activity. Another practical step is a direct link from the partnership page to the UNEP mercury small grants information.

Greater involvement by additional governments and industry partners could provide important support to this partnership.

Partnership for Reduction of Mercury Emissions from Coal Fired Utilities

Goals and Objectives of the Partnership

This Partnership aims to improve the understanding of mercury as a pollutant of concern from the coal fired power (utility) sector and provides information on control strategies and options. The coal fired power sector is among the largest anthropogenic contributors to worldwide mercury emissions leading to mercury deposition domestically, regionally and globally. With growing economies, increasing energy demands, and strong reliance on coal as an energy source in much of the world, global mercury emissions from the power sector are likely to increase.

The growing recognition that coal combustion is a major source of “conventional” air pollution has led to increased interest and action in developing countries to address utility emissions. Supporting these country efforts will improve the overall environmental performance of the power sector, as well as accelerate and enhance the level of mercury control achieved.

Opportunities to address the coal fired power sector are illustrated by EPA’s Clean Air Mercury Rule (CAMR). When fully implemented, this rule, together with a rule to control conventional pollutants, will reduce electric utility mercury emissions in the US by nearly 70 percent from 1999 levels. It uses a market-based cap-and-trade program that caps utility mercury emissions in phases ensuring that mercury reduction requirements are achieved and sustained.

The cap-and-trade system creates incentives for continued development and testing of promising mercury control technologies that are efficient and effective. In addition, by making mercury emissions a tradable commodity, the system provides a strong motivation for some utilities to make early emission reductions and for continuous improvements in control technologies. This approach to mercury control could be highly effective in developed countries.

The Work and Progress of the Partnership

Cooperative efforts under this Partnership have focused mainly on China and India, both of which have large and expanding coal fired power sectors. These efforts have built on existing cooperative work in the area of environment science and technology between the United States and these countries.

Much has been learned in recent years about the effectiveness and cost of various control options and the extent to which coal type and compositional characteristics affect emissions of multiple pollutants, including mercury. This information promotes the understanding that taking a multi-pollutant approach to controlling emissions from the power sector will allow for increased effectiveness of control for conventional pollutants and mercury at the same time.

Asia Pacific Partnership. The Asia Pacific Partnership on Clean Development and Climate is a broad program that includes Australia, China, India, Japan, South Korea and the United States. The Partnership focuses on voluntary practical measures to build local capacity, and remove

barriers to and create new investment opportunities for the introduction of cleaner, more efficient technologies. A major focus of the Partnership is improving the energy efficiency and environmental performance of coal-fired power generation in Partner countries. Progress made under this umbrella Partnership will reduce greenhouse gas emissions and emissions of conventional air pollutants and mercury.

A key element of the Partnership is the strong role of the private sector as active partners. As an important first step in support of the Partnership goals, a major U.S. power company, American Electric Power (AEP), will sponsor a one week site visit at several U.S. power plants for 40-50 experts directly involved in operations of the power sector in APP countries. The visit will highlight APP country experiences in efficiency improvements and multi-pollutant emissions reductions from coal fired power plants. The visit will also include the examination of integrated gasification combined-cycle (IGCC) facilities to exchange information on environmental benefits (including mercury emission reductions) and other aspects of this technology.

Partnership Efforts with China. In November of 2005, the United States partnered with China, Canada, and Japan to hold a workshop in Beijing, China on the measurement and control of mercury from coal fired power plants. The workshop agenda and participation was planned jointly by the sponsors and included experts from both the environment and energy sectors.

The workshop was attended by experts from China's Federal and Provincial Governments, academic, and other research institutions. The workshop increased awareness of the magnitude of mercury emissions from the coal fired power sector, examined the limited data currently available on the level of mercury exposure in China, and provided information on control approaches at this critical time when China is in the process of planning and constructing major new coal fired power plants. Information exchanged at such workshops supports the integration of environmental considerations in plant design and operation.

In order to broaden participation and highlight the regional and global impact of mercury emissions from the power sector, participants from Russia, South Korea and South Africa also attended the workshop. Additionally, the workshop brought together researchers from the Chinese academic and research communities in order to examine further the potential role of mercury as a pollutant of concern as well as the level of mercury reductions that can be achieved by well designed multi-pollutant control approaches.

The United States is planning a follow-on workshop in China in the spring of 2007 to focus on multi-pollutant (NO_x, SO_x, PM, and mercury) control of coal fired power plants. The purpose is to provide more in depth, up-to-date information on ways to control several pollutants simultaneously using existing technology. This workshop is being developed in close collaboration with the Chinese Government and is designed to further assist China as it evaluates the most cost effective approach to control multiple pollutants from its coal fired utilities. A report on the workshop will be placed on the UNEP web site so that others can benefit from the presentations.

Partnership Efforts with India. Through a Bilateral agreement between the United States and India, the United States is providing India with information and other support to increase the effectiveness of pollution controls on coal fired power plants. Indian coal has relatively low sulfur content but a high ash content. As such, Indian air pollution control efforts for coal fired power plants have had a significant focus on control of particulate emissions. Proposed NO_x emission standards are also being considered by the Central Pollution Control Board (CPCB). Because control of particulate emissions has the effect of reducing emissions of particulate bound mercury, cooperation between the United States and India has focused on two primary efforts: (1) sharing expertise on the use of low cost approaches to improve the performance of electrostatic precipitator (ESP) performance, thus achieving greater particulate control in Indian power plants (with co-benefit mercury capture); and (2) training and technology transfer of a mercury monitoring technology that can be used to assist the government of India and power plant operators determine stack emissions, including evaluating co-benefit mercury capture achievable through efforts to control particulate matter.

In December of 2005, a team of U.S. experts provided seminars on the application of control technologies for mercury and other pollutants and a training seminar on low-cost approaches to improving ESP performance, again hosted by the National Thermal Power Corporation. In July 2006, a U.S. expert conducted training on the use of mercury stack emissions testing equipment in Mumbai, and transferred a set of the equipment to the National Environmental Engineering Research Institute.

Resources Needed to Execute the Partnership

The United States has contributed at least \$255,000 directly towards efforts relating to the Coal Combustion Partnership.

Looking Towards the Future

The Partnership will continue to encourage and benefit from global support for this effort and more involvement from countries and stakeholders who are experienced in addressing mercury pollution. A number of useful perspectives have emerged from this Partnership's activities to date and will be useful to consider when moving forward. Growing recognition of the contribution coal fired power plants make to national and regional air pollution has led to increased efforts on the part of many developing countries to improve the environmental performance of this sector. Partnership efforts present an opportunity to assist these countries in developing cost-effective multi-pollutant approaches to control power sector emissions. Additionally, because the energy sector is important to economic development, the involvement of both energy and environment Ministries in Partnership efforts is important to support the integration of environmental considerations in plant design and operation.

New technologies for the cost-effective control of mercury are emerging. Information sharing on the effectiveness and cost of these technologies should occur on a timely basis so that

opportunities for future mercury reductions can be considered. The proper operation and establishment of best practices are also important factors in ensuring multi-pollutant emission reductions are achieved.

While all current control approaches can result in the reduction of mercury emissions, the opportunity for mercury control is greatest in countries with “high sulfur” coal. Coal washing has multiple benefits but more data are needed on its effectiveness in mercury removal.

Global Partnership for Mercury Air Transport and Fate Research

Goals and Objectives of the Partnership

This Partnership plans to accelerate the development of atmospheric mercury research and enhance communication and information sharing between scientists and policymakers. Work under this partnership will include: the establishment and recognition of regional air transport and fate collaborative research projects and programs; coordination and conduct of research on national, regional, and global scales; development of related data sets and tools; and coordination and training among organizations and countries to achieve methods and modeling harmonization.

The Work and Progress of the Partnership

Italy, Japan, Canada, China, and the United States are the current members of the Partnership. As a first step in developing this Partnership, a discussion paper entitled “Global Partnership for Mercury Air Transport and Fate Research” was prepared by the United States and posted on the UNEP web site in October of 2005. At the beginning of 2006, Italy agreed to become the Partnership lead, and under its guidance the partners developed an outline regarding the contributions of the various countries to the Partnership.

In August of 2005, under the UNEP framework, the United States and Italy undertook a joint trip to China to explore with Chinese scientists and policymakers a joint mercury modeling and monitoring project in Suzhou, China. The Partnership project focuses on providing the Chinese with the capability of collecting and analyzing data in Suzhou in order to characterize mercury levels in the atmosphere and attribute contributions of various local sources to those levels. The Partnership expects to train Chinese scientists on the operation of ambient air quality monitoring equipment. The training and consultation will be undertaken in coordination with collaborative measurement programs being conducted by Italy in partnership with others in that city. A non-technical summary of the project plan (and later progress reports) will be placed on the UNEP web site as a model collaborative research program. References to the availability of the published results will be provided on the website as the project progresses.

As a further contribution to the work the Partnership is doing in Suzhou, the United States plans to collect additional data on atmospheric speciated mercury concentrations (together with particulate matter and other pollutants) for two more years at the National Oceanic and Atmospheric Administration’s (NOAA) high altitude laboratory at Mauna Loa, Hawaii. These data will contribute to the communication and information sharing goal of the Partnership between scientists and policymakers and can be used to better understand the transformation and fate of globally cycling mercury by providing support for a long-term record of various mercury species. The United States will share these data in a timely fashion and post a notice of data availability on the UNEP web site.

In August of 2006, within the framework of the 8th International Conference on Mercury as a Global Pollutant, the United States assisted Italy in conducting a half-day Partnership meeting in cooperation with Japan and Canada to exchange information among participating and potential

partners, facilitate plans for the Partnership, and further discuss structuring the document outlining the contributions of the various countries to the Partnership. This document will be submitted in a report to UNEP in advance of the next UNEP Governing Council meeting in February 2007.

Resources Needed to Execute the Partnership

The United States has contributed approximately \$375,000 directly towards efforts relating to the Fate and Transport Partnership. We expect that a portion of this will be leveraged in working with the Italians, Chinese, and others on the mercury monitoring project in Suzhou, China. The partnership will benefit from the results of research funded by other partners or additional participants.

Looking Towards the Future

One practical way to promote the Partnership work would be to develop more fully the UNEP mercury clearinghouse and capacity-building function (as discussed in UNEP's workplan) by creating and maintaining separate web pages for each mercury partnership. The information developed under each partnership (e.g., workshop presentations, reports, inventories, etc) could then serve as an educational and capacity-building tool for interested countries and stakeholders, which may not have had the opportunity to participate in that partnership activity. Another practical step is a direct link from the partnership page to the UNEP mercury small grants information.