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OFFICE OF THE ASSISTANT SECRETARY OF INTERNATIONAL ORGANIZATIONS

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To: US Representative at the Mercury Negotiations
From: Office of the Assistant Secretary of International Organizations
Subject: Mercury Working Group, UNEP Governing Council

You are currently attending the United Nations Environment Programme (UNEP) Governing Council meeting. As part of the negotiations, you will participate in the *Working Group to Review and Assess Measures to Address the Global Issue of Mercury*.

This working group consists of government representatives and nongovernmental organizations (NGOs). It was created in response to growing international concern about the impacts of mercury on the global population and environment.

This is the first meeting since UNEP released the *International Mercury Assessment*. The mandate of this working group is to decide whether the scientific information in this new report provides sufficient evidence for international action on mercury. Today's discussions include the form and scope for international action on mercury. The negotiation's outcome will likely affect which parties are willing to go forward with formal global negotiations to regulate mercury.

The attached briefing package provides the United States of America's views on mercury.[1] The Department of State urges you to review the scientific information presented in the *Assessment* closely, alongside this document, which interprets the report. It is critical that we act as an international environmental leader in these negotiations. Atmospheric emissions reductions are our clear priority. The US is willing to provide support to other countries, in order to enable mercury emissions reductions; however, we can only do so if countries express willingness to take action, including through negotiating an internationally binding mercury treaty. All action should be based on the principle of cost-benefit analysis; future negotiations should target the largest mercury emissions sources as a first priority.

[1] Note: Portions of this document were closely adapted from actual US agency reports and information sources, including US reports to the UNEP mercury negotiations. However, this is a fictionalized document and does not represent the actual views of the United States of America.

United States Position Paper
UNEP Governing Council Informal Working Group on Mercury

This position paper outlines the key US positions on the four issues the working group discussions will address: the form of global mercury action, transboundary atmospheric mercury emissions, mercury demand, and mercury use in artisanal and small-scale gold mining.

Issue 1: Form of future action

Issue 1: Mandate and Institutional Form of Action

Mercury pollution is a global problem requiring a global response. This conclusion is supported by the information in the *International Mercury Assessment*, as well as our own research by the US EPA and independent scientists. This information clearly proves that atmospheric mercury emissions are able to transport long distances, and that there are significant health impacts associated with methylmercury (MeHg). Scientific support for this position includes:

- **MeHg causes human health impacts at low-dose exposures.** Three studies have examined MeHg impacts at low doses to the offspring of exposed pregnant women. These studies took place in the Faroe Islands, New Zealand, and the Seychelles, respectively. **Based on an independent, US EPA led review, we believe that the Faroe Islands study is the most reliable. The US EPA accepts that there is a positive association between MeHg exposure and cognitive developmental effects in children, including deficits in memory, attention, language and fine motor skills.** The US EPA used the Faroe Islands study to set a reference dose (RfD) for MeHg at no more than 0.0001 mg/kg-day. Supporting evidence from the New Zealand study provides assurance that this is the appropriate strategy to protect public health. According to the US EPA, the Seychelles study, which found little evidence of impairment related to in utero methylmercury exposure, is less methodologically reliable (1).

- **A large number of women and newborns are exposed to high levels of MeHg.** The US EPA estimates that ~7% of US women of child-bearing age are exposed to MeHg at a level capable of causing adverse effects in the developing fetus, and that ~1% are exposed to 3 to 4 times that level (2).

- **Mercury can cause cardiovascular impacts on the general population.** Increasing evidence suggests that mercury can affect the cardiovascular system, increasing the incidence of heart attacks. The US EPA recently conducted an independent scientific workshop to review the evidence; experts estimated the likelihood of a relationship between MeHg and heart attacks is between 45-80%.

- **Mercury is common in US fish, and deposition from international sources could increase the problem.** The EPA completed the "National Study of Chemical Residues in Lake Fish Tissue" in November, 2009. Mercury was

detected in all piscivorous (fish that eat fish) samples, and 48.8% of these samples exceeded the EPA's 0.3 µg/g MeHg criterion for freshwater fish, estuarine fish, and shellfish. This water quality criterion was set at a level to protect consumers of fish and shellfish among the general population (3, 4).

- **Domestic action is not sufficient to address US mercury contamination.** The US has significantly reduced its domestic mercury emissions over the past several decades. A pending decision under the *Clean Air Act* will require that mercury emissions from power plants will have to be reduced by 91%. Clearly, the US has taken action. **However, given that elemental mercury (Hg(0)) can transport long distances, other countries must also take action to ensure further decreases in US deposition.** This is particularly the case since emissions in Asia are increasing rather than decreasing (see Figure 10 in the *International Mercury Assessment*). International cooperation should aim to reverse this trend as quickly as possible.

For these reasons, the United States believes that **a legally binding international agreement is the appropriate global response** to the information presented in the *International Mercury Assessment*. Reductions in atmospheric emissions and the global use of mercury in products, processes and ASGM should all be included in the scope, as discussed below.

Issues 2 - 4: Scope of Future Action

Issue 2: Reducing atmospheric emissions

From the US perspective, atmospheric mercury emissions are the key issue in today's discussion on actions to limit global mercury pollution. This is a priority for the US as models have indicated that only ~20% of the mercury depositing in the US environment comes from domestic anthropogenic sources (5). In another modeling study, the contribution of Asian anthropogenic emissions to US deposition was estimated between 14-25% of US deposition (6, 7). Though these model analyses are uncertain, it is clear that other countries contribute greatly to US mercury pollution.

The United States believes that targeting the largest mercury sources is the best approach from a cost-benefit perspective. Thus, the negotiations should focus on current emissions from **large emitters (countries)** and **large sectors,** and action should be **legally binding**.

- ***Large Emitters:*** The US has already taken action under the *Clean Air Act* to limit 91% of atmospheric mercury emissions from coal combustion. However, atmospheric mercury emissions are growing in Asia and currently represent nearly two-thirds of all anthropogenic emissions. This suggests that China and India are a key players. Ideally, the treaty would include binding emissions reductions for large emitters, ensuring other states take on targets nearly as stringent as US regulations. In some cases, emissions inventories are incomplete,

meaning further data will need to be gathered. However, action should not be delayed. Cost-effective strategies and technologies for reducing mercury emissions are commercially available and in use in many countries.

- ***Large sectors:*** While the risk to human health and the environment is clear, we should seek an agreement that works for US industry, particularly the energy industry. About 50% of all mercury emissions in the US are from coal-based power plants, making power plants the largest emissions sector in the US. Reducing emissions from coal combustion has clear, positive returns. The EPA estimates the value of improvements to health from the *Clean Air Act* mercury regulation $59 billion to $140 billion in 2016. This means that for every dollar the US spends to reduce pollution from power plants, there is $5 to $13 in health benefits (8). Still, if the US is taking action, other countries should act as well.

The United States should push for atmospheric emissions reductions at this meeting. This issue presents an ideal opportunity for the US to demonstrate environmental leadership, as we can agree to large cuts consistent with our proposed regulations. **The treaty should require national emissions inventories and proposed timetables and targets for all major emitters as part of further negotiations.** The technology to control toxic air pollution is well developed, widely available, and already being used by some power plants in the United States. Actions should focus on mercury specific control technology, as this will reduce elemental mercury (Hg(0)), which cycles globally. If other countries seek differentiated timetables and targets, delays should be kept to a minimum.

Issue 3: Reducing Demand for Mercury in Products and Processes

The United States' priority for these negotiations is atmospheric emissions reductions. We support reductions of mercury from only those products and processes that contribute most to atmospheric emissions.

Products

- Demand for mercury used in products and processes contributes only a small percentage (~10-20%) to anthropogenic mercury emissions each year (see Figures 5 & 6 in the *Assessment*).
- At the same time, there are significant uncertainties in emissions from these sources, particularly for waste incineration of products (see Figure 6 & 7 in the *Assessment*).
- For this reason, strict reductions in mercury-based products may not lessen the global mercury burden, given their relatively small contribution to emissions. Consider the scientific evidence closely, and listen to other countries on this issue, before deciding what options the US should commit to. Be sure to consider the principle of cost-benefit analysis; the largest emissions sources should be prioritized.

If products are included in the scope, future action could take one of two forms:

1) A broad ban on mercury-containing products with a list of exceptions, or
2) **An explicit list of banned mercury-containing products.**

The US prefers the second approach, as it would be easier to implement in the US compared with a ban. The banned products should be based on a cost-benefit approach, given the availability of alternatives.

Processes

For processes, the US prefers to focus on those processes that have large associated mercury emissions to the atmosphere, primarily, chloralkali production and VCM. The USA advocates for a cost-benefit approach to targeting mercury reductions from all sources.

- Mercury should be eliminated from chloralkali production, a substantial emissions source. Developed countries have moved to control these chloralkali emissions through voluntary phase-outs.

- The USA still has four chlor alkali plants that use mercury processes; two of these plants have announced plans to transition away from mercury and two others should be addressed through strengthened pollution regulation through the EPA in 2011 (9). Mercury use in chlor-alkali production was initially regulated in 2003.

Other negotiators will need to convince us with significant evidence that mercury use in products and processes place humans and the environment at risk and that the costs involved in targeting these sources merit the benefits. In some cases, for example with chlor alkali production, the evidence suggests this is the case; in other situations, for example dental amalgams, the evidence is less clear. Considering products and processes on a case by case basis seems a viable approach.

However, we may need to agree to include *all* products processes using mercury in the scope of future negotiations in order to convince others actors to agree to emissions reductions. Examine existing scientific evidence in the *Assessment* before committing to this topic.

Issue 4: Artisanal and small-scale gold mining (ASGM)

The US is concerned about mercury use in ASGM to the extent that it contributes to global, atmospheric emissions and harms human health. The US supports measures to reduce associated mercury emissions.

- ***Emissions:*** ASGM is the second-largest source of global, anthropogenic mercury emissions, comprising up to 20 to 30% of these emissions, although this figure is highly uncertain.

- ***Impacts:*** Health and environmental risks to workers and children from ASGM are significant. The US is willing to provide assistance to developing countries to managing these issues.

- ***Actions:*** Evidence suggests that environmental and health impacts are a large contributor to the global mercury problem, and therefore, actions must be taken. Banning mercury use in ASGM will be challenging for developing countries. We would support global bans on the most environmentally damaging practices in AGSM, such as open burning without mercury capture technologies. The US supports technology transfer and training for mercury capture devices. ASGM efforts through the UNEP Global Mercury Partnership should be expanded while an international mercury treaty is negotiated.

This ASGM issue will likely prove contentious, so it will be important to be strategic in how you present the scientific information on ASGM, recognizing the United States' limited role in the issue. Because this issue does not concern the United States as much as developing countries, it may be advantageous to let other negotiators take the lead here.

To date, the USA has taken the following actions on ASGM:

- The US passed the *Mercury Export Ban Act* in 2008, which included provisions on both mercury exports and long-term mercury management and storage. This law will reduce supplies of mercury for ASGM from US sources.

- The EPA has provided expertise to assist developing countries in identifying best management practices to reduce occupational exposure, emissions and mercury use in ASGM.

A note about financial and technical assistance: Although our financial resources are not unlimited, providing financial and technical support to developing countries to reduce mercury emissions is possible for the United States. In the past, the United States has offered millions of dollars to UNEP's mercury program. Further, the US has worked bilaterally with both China and India on mercury assessments and sector specific emissions reductions. The US is willing to continue to provide technical and financial support to countries that show willingness to act. **However, we will only provide financial assistance contingent on a commitment to binding, international action to reduce atmospheric mercury emissions.**

United States Position Paper: Summary of Positions on Key Issues

Issue 1: Mandate and Institutional Form of Action

Option 1.1: There is sufficient evidence that mercury us a global problem with significant risks. Initiate formal international negotiations for a new legally binding mercury convention. **This is your preference.**

Option 1.2: There is a need for more evidence that mercury is a global problem with significant risks. Enhance voluntary measures. **This is unacceptable.**

Issue 2: Reducing Atmospheric Emissions – **This is the most important issue.**

Option 2.1: There is sufficient information that atmospheric emissions are a large source of mercury. This issue should be included in the scope. Future negotiations could include requiring national emissions inventories and proposed timetables and targets for all major emitters. **This is your strong preference, and this issue is the most important to you.**

Option 2.2: There is insufficient information that atmospheric emissions are a large source of mercury. This issue should be excluded from the scope. Future negotiations could gather information on emissions inventories to all media before taking action. **This is unacceptable; there is already sufficient evidence for action.**

Issue 3: Reducing Demand for Mercury: Products and Processes

Option 3.1: There is sufficient evidence that demand for mercury used in products and processes significantly contributes to the global mercury problem. All products and processes should be included in the scope of future negotiations. **This is acceptable; however, the US seeks evidence that mercury releases are a major global concern from *all* products and processes.**

Option 3.2: Demand for mercury used in some products and processes contributes significantly to emissions and mercury releases, while other mercury uses do not. The parties should draft a list for inclusion in the scope of future negotiations. **The US believes drafting a list based on a cost-benefit approach and the availability of alternatives in the best option.**

Option 3.3: There is insufficient evidence that demand for mercury used in products and processes significantly contributes to the global mercury problem. All products and processes should be excluded from the scope of future negotiations. **Although this is acceptable, it is not the United States' preference; action on chlor alkali emissions should be a priority.**

Issue 4: Artisanal and Small-Scale Gold Mining (ASGM)

Option 4.1: There is sufficient evidence that mercury use in ASGM is a significant part of the global mercury problem. ASGM should be *included* within the scope of future negotiations, with potential actions including requiring countries to submit national action plans on ASGM with timetables to phase out the usage. **This is your preference.**

Option 4.2: There is insufficient evidence that mercury use in ASGM is a significant part of the global mercury problem or that ASGM is a tractable problem. ASGM should be *excluded* from the scope of future negotiations while financial and technical support are provided to conduct further assessments on ASGM. **This is your second choice; ASGM is an important source of atmospheric emissions and health effects.**

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