

Technical Alternatives for the Long Term Management of Mercury: An Overview  
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Abstract:

As noted in the objectives for this conference, the long-term management of excess mercury is a major challenge to environmental risk managers. Such excess mercury results in part from an imbalance, whether now or in the future, between supply and demand. Several potential alternatives have been identified for managing, or retiring, this excess mercury. Through a contract with the U.S. Environmental Protection Agency's Office of Research and Development, SAIC has developed a methodology that can be used to evaluate, prioritize, and select alternatives in a systematic manner. This methodology identifies criteria for such an evaluation, such as environmental performance, catastrophic risks, need for regulatory changes, implementation considerations, and cost. A system to ascribe weightings, or the importance of one criteria over another, is proposed with the assistance of a commercial software package. Finally, a total of 11 alternatives for the storage and treatment/ disposal of elemental mercury are evaluated according to these criteria. Preliminary results are presented to show how the alternatives compare to one another when evaluated using this methodology. The methodology is designed to be flexible to allow for differences in criteria importance, the addition of other alternatives, and the substitution of better information (both qualitative and quantitative) as it is developed in the future.