

- Panel 2—Governmental or Third Party Models 11 a.m.—12 p.m.
- Craig Pirrong, Bauer College of Business, University of Houston
- Obie O'Brien, Director of Government & Regulatory Affairs, Apache Corporation
- Representative from Energy Information Administration
- Representative from National Association of Securities Dealers
- Lunch 12—1:30 p.m.
- Panel 3—Industry Responses to the Morning's Discussion 1:30—3 p.m.
- Gerald Ballinger, President, Public Energy Authority of Kentucky (representing APGA)
- Arthur Corbin, President, Coalition for Energy Market Integrity and Transparency (EMIT)(Also, President & General Manager of the Municipal Gas Authority of Georgia)
- Al Musur, Director, Energy and Utility Programs for Abott Labs (also, Chair of the Industrial Energy Consumers of America (IECA))
- Thomas Skains, Chair of American Gas Association's (AGA) Board Task Force on Gas Price Index Reform (Also President & CEO, Piedmont Natural Gas)
- Representative from Natural Gas Supply Association
- Representative from INGAA
- Break 3—3:15 p.m.
- Panel 4—Financial Houses' and Other's Responses to the Morning's Discussion 3:15—4:30 p.m.
- Laurie Ferber, Managing Director, U.S. Power Trading, Goldman Sachs
- Randall Dodd, Derivatives Study Center
- Representative from Fitch Ratings
- Representative from SILCAP, LLC

Close 4:30 p.m.

[FR Doc. 03-8975 Filed 4-10-03; 8:45 am]

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## ENVIRONMENTAL PROTECTION AGENCY

[FRL-7481-5]

### Science Advisory Board; Request for Nominations for Experts for a Panel on Multimedia, Multipathway, and Multireceptor Risk Assessment (3MRA) Modeling System

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** The Environmental Protection Agency Science Advisory Board (SAB) is announcing the formation of a new panel regarding the Multimedia,

Multipathway, and Multireceptor Risk Assessment (3MRA) Modeling System and soliciting nominations for membership on this panel.

**DATES:** Nominations should be submitted no later than May 2, 2003.

**ADDRESSES:** Nominations should be submitted in electronic format through the Form for Nominating Individuals to Panels of the EPA Science Advisory Board provided on the SAB Web site. The form can be found at [http://www.epa.gov/sab/sab\\_panel\\_form.htm](http://www.epa.gov/sab/sab_panel_form.htm). To be considered, all nominations must include the information required on that form. Anyone who is unable to submit nominations via this form may contact Ms. Kathleen White, Designated Federal Officer (DFO), as indicated below.

**FOR FURTHER INFORMATION CONTACT:** Any member of the public wishing further information regarding this Request for Nominations may contact Ms. Kathleen White, (DFO), U.S. EPA Science Advisory Board (1400A), by telephone/voice mail at (202) 564-4559, by fax at (202) 501-0582; or via e-mail at [white.kathleen@epa.gov](mailto:white.kathleen@epa.gov).

**SUPPLEMENTARY INFORMATION:**

1. *Summary:* The Environmental Protection Agency (EPA) Science Advisory Board (SAB) is announcing the formation of a new Panel to review the technical validity of the Multimedia, Multipathway, and Multireceptor Risk Assessment (3MRA) Modeling System for setting national risk-based regulations on the waste program. The SAB is soliciting nominations to establish the members of the new Panel.

This Panel is being formed to provide advice to the Agency, as part of the EPA SAB's mission, established by 42 U.S.C. 4365, to provide independent scientific and technical advice, consultation, and recommendations to the EPA Administrator on the technical bases for EPA decision making. The Board is a chartered Federal Advisory Committee, which reports directly to the Administrator.

2. *Background:* There have been substantial efforts by Federal and State organizations and the private sector to develop risk assessment tools that include the evaluation of contaminants in different media and the integration of exposures across pathways to help establish an integrated risk-based assessment.

In December 1995, EPA's Office of Solid Waste proposed to amend existing regulations for disposal of listed hazardous wastes under the Resource Conservation and Recovery Act (RCRA). The December 1995 proposal (60 FR 6634, December 21, 1995) outlined the

Hazardous Waste Identification Rule (HWIR) that was designed to establish constituent-specific exit levels for low risk solid wastes that are currently captured in the RCRA subtitle C hazardous waste system. Under this proposal, waste generators of listed wastes that could meet the new concentration-based criteria defined by the HWIR methodology would no longer be subject to the hazardous waste management system specified under subtitle C of RCRA. This would have established a risk-based "floor" for low risk hazardous wastes that would encourage pollution prevention, waste minimization, and the development of innovative waste treatment technologies.

In May and June of 1995, EPA's Science Advisory Board (SAB) reviewed the proposed HWIR methodology for calculating exit concentrations and in May 1996 published its findings in Review of a Methodology for Establishing Human Health and Ecologically Based Exit Criteria for the Hazardous Waste Identification Rule (HWIR) (EPA-SAB-EC-96-002), available at <http://www.epa.gov/sab/pdf/ec96002.pdf>. In addition to this review, EPA's Office of Research and Development (ORD), and numerous industrial and environmental stakeholders, also reviewed the proposed methodology. While the SAB concluded that the methodology "lacks the scientific defensibility for its intended regulatory use," the SAB also made the following recommendations that, when addressed, should provide an adequate scientific basis for establishing a risk-based methodology applicable at the national level for the waste program:

(a) Develop a true multi-pathway risk assessment in which a receptor receives a contaminant from a source via all pathways concurrently, is exposed to the contaminant via different routes, and accounts for the dose corresponding to each route in an integrated way;

(b) Maintain mass balance;

(c) Conduct substantial validation of the methodology and its elements, against actual data derived from either the laboratory or field, prior to implementation of the model;

(d) Conduct a systematic examination of parameters to ensure a consistent and uniform application of the proposed approach, and further, the full suite of uncertainties to be addressed for the final methodology;

(e) Discard the proposed screening procedure for selecting the initial subset of chemicals for ecological analysis and instead require that a minimum data set

be satisfied before ecologically based exit criteria are calculated;

(f) Seek the substantive participation, input, and peer review by Agency scientists and outside peer review groups as necessary, to evaluate the individual components of the methodology in much greater detail; and,

(g) Reorganize and rewrite the documentation for both clarity and ease of use.

As a result of the methodology reviews, the Office of Solid Waste (OSW) collaborated with the Office of Research and Development (ORD) to develop and document a sound science foundation, supporting data for an assessment, and related software technology for an integrated, multimedia modeling system (entitled 3MRA) following the recommendations of the SAB and other reviewers. This effort was initiated with the peer review of an integrated research and development plan (ORD/OSW Integrated Research and Development Plan for the Hazardous Waste Identification Rule (HWIR), 1998 available at: <http://www.epa.gov/epaoswer/hazwaste/id/hwirwste/risk.htm>), that describes the assessment methodology, the technical bases for the integrated multimedia modeling system, and quality controls to be followed during the developmental process. The Multimedia, Multipathway, and Multireceptor Risk Assessment (3MRA) modeling system represents a collection of science-based models and databases that have been integrated into a software infrastructure that is based on the FRAMES (Framework for Risk Analysis in Multimedia Environmental Systems) concept, which provides a computer-based environment for linking environmental models and databases and managing the large amounts of information within the system, including the visualization of outputs. This integrated multimedia modeling system provides national-level estimates of human and ecological risks resulting from long-term (chronic) chemical release from land-based waste management units. Over 45 experts participated in the peer review process of the underlying science within the 3MRA modeling system.

The EPA plans to use the modeling system to help inform managers on a variety of decisions in the waste program, such as setting concentration-based exit criteria for wastes in the hazardous waste management regulations, or deciding whether technology-based standards are protective of human health and the environment.

3. Proposed Charge to the Panel: The EPA is asking the SAB to focus its review in the following four areas: assessment methodology, 3MRA modeling system, modeling system evaluation, and modeling system documentation. Charge questions related to those areas are identified in the relevant section below.

#### Assessment Methodology

The 3MRA assessment methodology presents a strategy for estimating national distributions of human and ecological risks resulting from long-term (chronic) chemical release from land-based waste management units. The national distribution is constructed by performing "site-based" assessments at a statistically significant number of randomly sampled hazardous waste site locations across the U.S. In the assessment methodology, a pollutant is released from a waste management unit to the various media (air, water, soil) according to its chemical properties and characteristics of the unit. The pollutant is transported through the media and exchanged between media via system linkages. Receptors are exposed concurrently to the pollutant via multiple pathways/routes resulting in an integrated dose.

The methodology describes a tiered approach for populating data files for each site evaluation. The approach is referred to as "site-based" because the assignment of data values for the site being simulated occurs according to a tiered protocol. Data values are filled first with data at a site level; when site data are not available, a statistically sampled value from a geographically relevant regional distribution of values are used; and lacking a representative regional distribution for the variable, a value from a national distribution is assigned.

The 3MRA methodology was designed specifically to include Monte Carlo simulation methods to address both uncertainty and variability in the risk outputs. Statistical distributions for many modeling parameters were developed and upon implementation provide a statistical measure of variability and uncertainty, *i.e.*, the range and distribution of potential exposures and risks occurring at a site. When applied to the sites in a national assessment, the result is a statistical measure of variability and uncertainty, and national distributions of risks. The sites currently in the database are randomly selected from sites across the United States to represent the national variability in waste management scenarios and locations. The methodology for selecting the sites

allows for measures of protection to be calculated at the site level and aggregated over all the sites to develop the national distribution of risks.

*Charge Question 1:* While the EPA had the assessment methodology peer reviewed prior to the development of the 3MRA modeling system, does the SAB have any additional comments about the methodology as implemented?

#### 3MRA Modeling System

To implement the 3MRA methodology, the EPA chose to develop a comprehensive software-based modeling system, which facilitates the consistent use of sound-science models through a framework that controls model sequencing, facilitates data exchange, and provides data analysis and results visualization tools. Following modern Object Oriented software design and development principles and honoring the use of legacy models (*i.e.*, fate and transport models that have a long history of use at the EPA), the EPA has constructed a modern modeling system that facilitates the consistent and reproducible application of the 3MRA modules and databases to problems requiring a national-scale assessment of site-based risks. The 3MRA modeling system is underpinned by a software infrastructure named FRAMES. FRAMES provides a computer-based environment for linking and applying environmental models and managing the large amounts of information within the system.

The 3MRA modeling system consists of: (a) 17 science-based modules that estimate chemical fate, transport, exposure, and risk; (b) 7 system processors that select data for model execution; manage information transfer within the system; "roll-up" site-based results into distributions of risk at the national level; and provide a visualization of the system outputs; and (c) multiple databases that (currently) contain the data for waste managements sites across the country as well as regional and national distributions of data values, (d) a software infrastructure (framework) based on FRAMES.

The 3MRA system was designed to provide flexibility in producing distributions of hazards or risks at sites that may manage exempted waste because the final regulatory decision framework for defining chemical-specific exit levels has not been formulated. The system is designed to allow the evaluation of human health impacts to the general population or selected subpopulations and the impact of varying the measures of protection at different probability levels. The system

has similar capabilities with respect to evaluating the impacts on ecological systems.

*Charge Question 2a:* Does the 3MRA modeling system provide a tool for performing national risk assessments that facilitates consistent use of the science and provides a mechanism for reproducing results?

*Charge Question 2b:* Does the 3MRA modeling system provide decision-makers sufficient flexibility for understanding the impacts on potential chemical exemption levels by allowing varying measures of protection based on the number of receptors and/or number of sites protected, types of human and ecological receptors, and distance?

*Charge Question 2c:* Does the 3MRA modeling system provide appropriate information for setting national risk-based regulations for the waste program?

### Modeling System Evaluation

In response to the SAB recommendation that substantial evaluation of the modeling system is essential to building confidence in the system, the EPA focused significant efforts to ensure the scientific integrity of the 3MRA system and its results during system development and post-development. The EPA designed and implemented rigorous quality assurance and quality control procedures for software development, data collection, verification testing, and peer review on the scientific components of the system.

The EPA implemented specific steps to build a level of confidence in the system to ensure that the system will present a reasonable estimate of nationwide risk for a national-level assessment.

First, the overall technical approach and each science-based module included in 3MRA have been peer reviewed. Teams of peer reviewers (at least three per module) provided critical feedback about the science-based modules. All told, over 45 independent experts reviewed the science modules to ensure that the theoretical concepts describing the processes within release, fate, transport, uptake, exposure, and risk components were adequate representations of the processes to be evaluated.

Second, all software components and databases underwent a series of tests to verify that the software and data were performing properly. At the heart of this protocol is the requirement that each component of the modeling system include a designed and peer reviewed test plan that is executed by both the model developer and a completely independent modeler (*i.e.*, someone

who did not participate in the original model development). These procedures, test plans, test packages, and test results are fully documented and available to the public.

Third, a comprehensive data collection approach was developed to parameterize the modeling system in accordance with the site-based approach described in the assessment methodology. This data collection plan described the general collection methodology for the major types of data (for example, facility location, land use, soil characteristics, receptor locations), including quality assurance and quality control procedures and references for data sources. Fourth, the 3MRA modeling system has undergone a comparison analysis with EPA's Total Risk Integrated Methodology (TRIM) that is currently under development. The objective of the model comparison effort was to increase confidence that the 3MRA modeling system produces estimates consistent with other multimedia models.

While complete validation of a modeling approach would be the ultimate proof for a multimedia system like the 3MRA, the EPA did not find a multimedia data set to compare with the system's predictive outputs. In addition, the model comparison study was conducted using an actual industrial site where environmental monitoring data for mercury representing the relationship between contaminant source and environmental concentrations were available (albeit an incomplete set of observational data). Finally, a formal program focusing on sensitivity and uncertainty analysis for high-order modeling systems has been initiated at ORD. The early focus of this program is the investigation of parameter sensitivities and system uncertainties within the 3MRA modeling system. A supercomputer has been configured to allow exhaustive experimentation with the 3MRA system in Monte Carlo mode. Initial results of these efforts have been documented.

*Charge Question 3a:* Is the software development and verification testing approach implemented for the 3MRA modeling system sufficient to ensure confidence that the modeling results reflect the modeling system design?

*Charge Question 3b:* Given the thorough evaluations that EPA has implemented using the available data resources and technologies, while also recognizing the real world limitations that apply to validating the 3MRA modeling system, have we reasonably demonstrated through methodology design, peer review, quality control, sensitivity analyses, and model

comparison, that the 3MRA modeling system will produce scientifically sound results of high utility and acceptance with respect to multimedia regulatory applications?

### 3MRA Modeling System Documentation

In response to significant comments regarding the lack of clarity and transparency associated with documentation of the earlier modeling system the EPA has devoted significant time and resources to correcting this limitation. The 3MRA represents a comprehensive risk assessment capability and as such integrates the science from all contributing disciplines. Documentation is necessarily voluminous. In preparing the current documentation our intent is to provide different levels of presentation depending on the intended audience. The EPA has prepared a significant number of reports and documents at various levels of technical complexity that describe the 3MRA modeling system and the related HWIR application.

The review documents consist of a four volume set of documents, providing a comprehensive overview of the 3MRA modeling system. These documents are intended to be the primary means by which the general public would become familiar with the 3MRA system and are also intended to provide the level of information necessary for a risk assessor to make an informed decision regarding the applicability of the 3MRA modeling system to specific risk assessment problems.

*Charge Question 4:* Has the EPA made substantive progress, relative to 1995, in designing and preparing documentation for the 3MRA modeling system? Does the SAB have additional suggestions for improving the presentation of the comprehensive set of materials related to this modeling system?

*4. Development Plan Document Available:* For the purpose of enough understanding about the 3MRA modeling system to nominate candidates, the reader may find the ORD/OSW Integrated Research and Development Plan for the Hazardous Waste Identification Rule (HWIR), 1998 helpful. This document introduces the policy and technical issues shaping the development of the 3MRA modeling system. This document is available at: <http://www.epa.gov/epaoswer/hazwaste/id/hwirwste/risk.htm>.

*5. SAB Request for Nominations:* Any interested person or organization may nominate qualified individuals for Membership on the Subcommittee.

Individuals should have expertise in one or more of the following areas:

- (a) Integrated Software Technology for Multimedia Modeling
- (b) Sensitivity and Uncertainty Analyses for Higher Order Environmental Models
- (c) Quality Assurance and Model Evaluation
- (d) Integrated Multimedia Fate and Transport Modeling—air focus
- (e) Integrated Multimedia Fate and Transport Modeling—surface water focus
- (f) Integrated Multimedia Fate and Transport Modeling—groundwater focus
- (g) Integrated Multimedia Fate and Transport Modeling—food chain focus
- (h) Integrated Modeling for Human and Ecological Risk Assessments
- (i) National Probabilistic Risk Assessment using Monte Carlo-based Methods
- (j) Properties of Chemicals and Environmental Media
- (k) Nation-wide Risk Assessments
- (l) Human toxicology
- (m) Ecological toxicology
- (n) Risk Communication
- (o) Familiarity with hazardous waste regulations and remediation technologies.

6. *Process and Deadline for Submitting Nominations:* Any interested person or organization may nominate qualified individuals to add expertise in the above areas for the Panel.

Nominations should be submitted in electronic format through the Form for Nominating Individuals to Panels of the EPA Science Advisory Board provided on the SAB Web site. The form can be found at [http://www.epa.gov/sab/sab\\_panel\\_form.htm](http://www.epa.gov/sab/sab_panel_form.htm). To be considered, all nominations must include the information required on that form.

Anyone who is unable to submit nominations using this form may contact Ms. Kathleen White at the mailing address in the section above entitled, **FOR FURTHER INFORMATION CONTACT**. Nominations should be submitted in time to arrive no later than May 2, 2003. Any questions concerning either this process or any other aspects of the notice should be directed to Ms. White.

The EPA Science Advisory Board will acknowledge receipt of the nomination and inform nominators of the panel selected. From the nominees identified by respondents to this **Federal Register** notice (termed the "Widecast"), SAB Staff will develop a smaller subset (known as the "Short List") for more detailed consideration. Criteria used by

the SAB Staff in developing this Short List are given at the end of the following paragraph. The Short List will be posted on the SAB Web site at: <http://www.epa.gov/sab>, and will include, for each candidate, the nominee's name and their biosketch. Public comments will be accepted for 21 calendar days on the Short List. During this comment period, the public will be requested to provide information, analysis or other documentation on nominees that the SAB Staff should consider in evaluating candidates for Panel.

For the EPA SAB, a balanced review panel (*i.e.*, committee, subcommittee, or panel) is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the charge. Public responses to the Short List candidates will be considered in the selection of the panel, along with information provided by candidates and information gathered by EPA SAB Staff independently on the background of each candidate (*e.g.*, financial disclosure information and computer searches to evaluate a nominee's prior involvement with the topic under review). Specific criteria to be used in evaluating an individual subcommittee member include: (a) Scientific and/or technical expertise, knowledge, and experience (primary factors); (b) absence of financial conflicts of interest; (c) scientific credibility and impartiality; (d) availability and willingness to serve; and (e) ability to work constructively and effectively in committees.

Short List candidates will also be required to fill-out the "Confidential Financial Disclosure Form for Special Government Employees Serving on Federal Advisory Committees at the U.S. Environmental Protection Agency" (EPA Form 3110-48). This confidential form, which is submitted by EPA SAB Members and Consultants, allows Government officials to determine whether there is a statutory conflict between that person's public responsibilities (which includes membership on an EPA Federal advisory committee) and private interests and activities, or the appearance of a lack of impartiality, as defined by Federal regulation. The blank form may be viewed and downloaded from the following URL address: (<http://www.epa.gov/sab/pdf/epaform3110-48.pdf>). Subcommittee members will likely be asked to attend two public face-to-face meetings and several public conference call meetings

over the anticipated course of the review. The face-to-face meetings are likely to be in the July, August, September timeframe.

Dated: April 4, 2003.

**Vanessa T. Vu,**  
Director, EPA Science Advisory Board Staff Office.

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**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6639-3]

### Environmental Impact Statements and Regulations; Availability of EPA Comments

Availability of EPA comments prepared pursuant to the Environmental Review Process (ERP), under section 309 of the Clean Air Act and section 102(2)(c) of the National Environmental Policy Act as amended. Requests for copies of EPA comments can be directed to the Office of Federal Activities at (202) 564-7167. An explanation of the ratings assigned to draft environmental impact statements (EISs) was published in FR dated April 04, 2003 (68 FR 16511).

#### Final EISs

ERP No. F-FHW-E40791-SC James E. Clyburn Connector Project, Construction of a Two-Lane Rural Roadway Northeast of Orangeburg and Southwest of Sumter, Funding and US Army COE Section 404 Permit Issuance, Calhoun, Sumter and Clarendon Counties, SC.

*Summary:* EPA appreciates the responses to our comments regarding the draft EIS. However, EPA still has environmental concerns regarding wetland and agricultural land impacts, traffic noise and the adequacy of mitigation for these impacts.

ERP No. F-FHW-K40251-CA Butte 70/149/99/191 Highway Improvement Project, Update State Route 149 to Four-Lane Expressway from 70 North of Oroville to Route 99 South of Chico, Funding, Right-of-Way Acquisition, and U.S. Army Section 404 Permit Issuance, Butte County, CA.

*Summary:* EPA has continuing environmental concerns regarding the potential cumulative impacts to vernal pools and the listed species they support. EPA recommends that FHWA prepare a more thorough cumulative impacts analysis in the future for transportation projects in the Sacramento-Chico corridor.

ERP No. F-FTA-K54026-NV Las Vegas Resort Corridor Transportation