

**National EPA- Tribal Science Council
Addressing Tribal Traditional Lifeways in EPA's Risk Assessment
Policies and Procedures Workshop
January 25-27, 2005
Reno/Sparks, Nevada**

Workshop Summary

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Introduction

Workshop Background

The National EPA-Tribal Science Council's (TSC's) "*Addressing Tribal Traditional Lifeways in EPA's Risk Assessment Policies and Procedures*" workshop developed out of discussions relating to the priority tribal science issues identified by the TSC tribal representatives during its September 2002 meeting held in Washington, DC. During this meeting, the TSC tribal representatives identified Tribal Traditional Lifeways as the top science priority. Specifically, the group identified the short-term goal of integrating Tribal Traditional Lifeways into EPA's current risk assessment process and the long-term goal of developing a new risk paradigm for EPA's consideration—a paradigm focusing on human and ecological health and well-being. The TSC acknowledged that both goals were important and only differed in the length of time needed to address the issue.

In 2003, the TSC held two events to further refine the thinking on these topics—a meeting in Albuquerque, NM, in February, with invited speakers working in the area of tribal risk assessment, and a more general workshop focused on the topic of Health & Well Being that was held in Reno, NV in May. As a result of these events, a workshop proposal was developed by TSC members to primarily focus on the shorter-term objective of incorporating Tribal Traditional Lifeways into EPA's risk assessment process.

After some deliberation about the timing of the workshop, the group decided in 2004 to hold the workshop in early 2005 and to gather additional input from tribal representatives and risk practitioners on the scope of the workshop. In the summer of 2004, members of the TSC workshop planning group reached out to individuals working in Indian Country and received feedback that helped further shape the agenda. Since then, the TSC workshop planning group met regularly to refine the agenda, identify working group members to assist in the development of recommendations from the workshop, and spread the word about the event. The TSC had intended the workshop to be a starting point to generate ideas for further consideration by tribes and EPA on the topic of risk assessment and Tribal Traditional Lifeways.

Workshop Purpose, Goals, and Objectives

As described in the workshop announcement, the TSC identified short- and long-term goals for changing EPA's decision making to better address Tribal Traditional Lifeways. The workshop was designed to begin dialogue on the long-term goal of integrating Tribal Traditional Lifeways into EPA decision making and the short-term goal of developing recommendations for incorporating Tribal Traditional Lifeways into EPA's current risk assessment policies and practices. The goal of the workshop was to develop draft language that provides long-term and short-term recommendations/issues to EPA for incorporating Tribal Traditional Lifeways into EPA decisions. The workshop objectives were:

Long-term objectives:

- Discuss a new concept for assessing the health of tribal communities that begins with preserving Tribal Traditional Lifeways, which is wholly different than EPA's current approach.
- Develop recommendations for implementing this new approach as an alternative to the current risk assessment process.

Short-term objectives:

- Examine the risk assessment process to identify where Tribal Traditional Lifeways can be incorporated into EPA's existing approach.
- Develop recommendations for incorporating Tribal Traditional Lifeways into EPA's current risk assessment policies and practices.

Workshop Format

As described in the workshop announcement, the workshop format consisted of alternating intensive discussion by a Recommendations Development Workgroup of invited tribal and EPA risk assessment practitioners and policy analysts, and open dialogue among all workshop participants. The Recommendations Development Workgroup was tasked with developing a draft set of recommendations/issues from the workshop. All participants were offered the opportunity at various points in the workshop to join a broader discussions on the topics.

Risk Assessment Training

Workshop participants were offered the opportunity to participate in a half-day training session on January 24, 2005, the day before the workshop. The training was presented by Dennis Utterback and Danielle Tillman of EPA's Office of Research and Development and provided an overview of EPA's risk assessment process. The training was intended to provide workshop participants with the basic scientific understanding of risk assessment terminology and processes and was not intended to be tribally focused. The training materials are available on the Science and American Indians website located at: <http://www.epa.gov/osp/tribes/sciinf/key.htm#risk>. During the training session, participants identified a number of questions and concerns regarding EPA's current risk assessment process as it relates to tribes and Tribal Traditional Lifeways and are listed in Appendix 5.

January 25, 2005 (Day One)

Invocation and Welcome by Pyramid Lake Paiute Tribe

Charlotte Harry, tribal elder of the Pyramid Lake Paiute Tribe, provided the invocation at the start of the workshop. Ms. Harry was introduced by Dan Mosley, Environmental Specialist for the Pyramid Lake Paiute Tribe. Following the invocation, Gerry Emm, Environmental Director of the Pyramid Lake Paiute Tribe, welcomed participants to the workshop on behalf of the tribe.

After lunch, Norman Harry, Tribal Chairman for the Pyramid Paiute Tribe, provided welcoming remarks to workshop participants, thanking members of the Pyramid Lake Paiute Tribe for their efforts in co-hosting the workshop and thanking participants for their involvement. He spoke of the tribe's own efforts in trying to end the burning of munitions from the nearby Sierra Army Depot and the need for tribes to develop alliances with local governments and others to develop relationships and educate others on the issues and the need for change.

Opening of Workshop and Welcome by TSC Co-chairs

Dave Nelson, Tribal Co-chair for the TSC, gave brief opening remarks, informing participants of the TSC's activities regarding risk assessment and Tribal Traditional Lifeways. During his opening remarks, he remarked on his own experience as a tribal member working with EPA and observed the need for tribes to work together with EPA in trying to better incorporate Tribal Traditional Lifeways into the Agency's current risk paradigm. Roland Hemmett, Agency Co-chair for the TSC, then provided his opening remarks, thanking the Pyramid Lake Paiute Tribe for co-hosting the event, expressing appreciation to EPA ORD for their financial support, and offering special thanks to John Persell (Minnesota Chippewa Tribe) and Patricia Cirone (US EPA Region 10) for serving as co-chairs for the workshop.

Introductions of Recommendations Development Workgroup

The workshop facilitator, David Carrillo, from the National Center for Cultural Healing then introduced the members of the Recommendations Development Workshop, from here forward referred to as the "Workgroup." (For a list of the Recommendations Development Workshop members that attended the workshop, please see Appendix 3.) Following these introductions, Mr. Carrillo noted that several workshop participants had asked questions of how the Workgroup had been selected to participate in the workshop. Mr. Carrillo explained that the TSC had undergone a lengthy process to identify and invite practitioners in the field of risk assessment that were either tribal members or those who had experience working with tribes on risk assessments. He noted that not all of those invited to participate in the Workgroup had been able to attend.

Review of Workshop Goals, Agenda, and Format

Mr. Carrillo reviewed the purpose and objectives of the workshop, as identified in the workshop agenda. (A copy of the workshop agenda is included as Appendix 1.) Members of the National EPA-

Tribal Science Council attending the workshop were then introduced. Finally, with input from workshop participants, Mr. Carrillo identified and established ground rules for the workshop, which included:

- Each public participant would have three minutes to speak.
- There would be no interruptions when people are speaking.
- Participants were to be considerate of everyone's opinion.
- Comments and remarks were to be kept short and sweet.
- Questions regarding clarification of the risk assessment process were to be held until a break and then directed toward an appropriate Workgroup member.
- Assurances were to be made that everyone could be heard.
- The use of acronyms was to be kept to a minimum.
- Courteous language was to be used so as not to offend anyone.
- A parking lot was to be established for issues not directly related to the workshop goals and objectives.
- There was to be recognition that just because something has not been done before, it doesn't mean that it can't be done.
- There was to be recognition that the workshop did not represent government-to-government consultation with tribes.

EPA's Science Policy Council (SPC) Overview

Kerry Dearfield, Senior Scientist for Science Policy, Office of the Science Advisor, U.S. EPA, provided an overview of EPA's Science Policy Council (SPC) and provided an introduction to the Agency's current examination of its risk assessment practices. Participants were also provided with a one-page overview of the SPC, a copy of which can be found in Appendix 8. During his presentation, Dr. Dearfield highlighted the recent publication, in March 2004, of EPA's *Office of the Science Advisor Staff Paper: Risk Assessment Principles and Practices*, which consisted of a cross-Agency review by EPA of its current risk assessment policies and practices and serves as a vehicle for opening a broad dialogue among EPA staff, EPA managers, and external parties about the practice of risk assessment at EPA. Copies for the staff paper were provided to workshop participants and can be found online at: <http://www.epa.gov/osa/ratf-final.pdf>. In addition, Dr. Dearfield also highlighted EPA's *Exposure Factors Handbook* (<http://www.epa.gov/ordntmt/ORD/WebPubs/exposure/>), which provides default exposure factors data for the Agency. He noted that the Agency is also developing a draft *Child-Specific Exposure Factors Handbook*, which is not currently available for distribution. Later in the workshop discussion, when asked what additional resources were available from the Agency for understanding the basics of risk assessment, Dr. Dearfield recommended EPA's *Risk Characterization Handbook* (<http://www.epa.gov/osa/spc/htm/chandbk.pdf>) as a good resource for understanding the basics of risk assessment.

Following Dr. Dearfield's presentation, a participant wished to know the difference between the staff paper and EPA's risk assessment guidelines. Dr. Dearfield responded that the staff paper is not an official EPA policy document, its intent is to explain specific risk practices undertaken by the Agency,

where as the risk assessment guidelines represent EPA policy determining how risk assessments are to be conducted by the Agency.

EPA's Indian Program Policy Council (IPPC) Overview

Carol Jorgensen, Director, American Indian Environmental Office (AIEO), U.S. EPA, provided a overview of EPA's Indian Program Policy Council, briefly highlighting its formation and structure. Participants were also provided with a one-page overview of the IPPC, a copy of which can be found in Appendix 9. During her presentation, Ms. Jorgensen identified a number of key issues on which the IPPC is currently focusing its efforts, including: (1) examining EPA's tribal strategic plan to better understand how EPA's tribal program has developed and to set a new agenda for the program, (2) developing guidance for Agency tribal consultation, (3) developing training and educational opportunities, most notably created a version of the Agency's *Working Effectively with Tribal Governments* training course (<http://www.epa.gov/indian/resource/intro.htm>) on CD-ROM and developing a companion training booklet for the CD, (3) examining direct implementation of tribal cooperative agreements, (4) assisting the Agency with the development of the tribal portal, and finally (5) better educating EPA leadership on Tribal Traditional Lifeways as they relate to EPA policy.

Discussion of Long-Term Objectives

The initial discussion session of the workshop was designed to focus on the issue of long-term objectives for developing a new approach for assessing the health of tribal communities. The discussion was open to both the Workgroup and the public workshop participants and was lead by workshop co-chairs John Persell and Pat Cirone.

Overview of Tribal Traditional Lifeways

John Persell initiated the discussion by providing an overview of Tribal Traditional Lifeways, as they pertain to risk assessment methodologies. Mr. Persell began by discussing the difficulties inherent in defining the term "Tribal Traditional Lifeways," observing that in the past "Tribal Traditional Lifeways" were often defined as "subsistence" lifeways, but that the connotations of "subsistence," namely of just "getting by" in a cultural context were deemed to be inadequate to accurately describe the issue.

Mr. Persell went on to explain that the TSC has identified two tracks for incorporating Tribal Traditional Lifeways into risk assessment processes. The first, a long-term approach, would potentially consist of a new concept for assessing that health of tribal communities, one that is different from EPA's current risk assessment paradigm and one that begins with the preservation of Tribal Traditional Lifeways as its core and focus. The second, a short-term approach that would look at ways to better incorporate Tribal Traditional Lifeways into EPA's current risk assessment policies and procedures. Acknowledging that EPA's current risk assessment paradigm is not protective of tribes and tribal resources, Mr. Persell asked that workshop participants spend the morning workshop session brainstorming long-term recommendations/ideas for alternatives to EPA's current risk assessment paradigm.

Tribal Traditional Lifeways Long-Term Suggestions

During the course of the resulting discussion, a number of long-term recommendations/ideas were identified by various participants, which included:

- *Precautionary Principle* - A number of individuals suggested that the Precautionary Principle be considered as a basis for possible alternative approaches to the current risk assessment paradigm for protecting human health and the environment. John Persell noted that Western science often generates a certain level of doubt and uncertainty. It was noted that a number of nations, states, and municipalities are already moving to adopt the Precautionary Principle. A participant, who serves on the Tribal Pesticide Program Council, cautioned that an approach based on the precautionary principle might not be universally applicable. She noted that, in the case of pesticide registration, risks posed by pesticides are often not fully understood until the pesticide has been released into the environment, at which point environmental contamination has already occurred.
- *Universal “Risk” Model* - A participant recommended that whatever the alternative “risk” paradigm would look like, a universal model was needed that could be used by tribes to evaluate their risk.
- *Cross-Media Approach* - Several participants indicated that the approach should not be “Program-specific” (i.e., focused on particular media—water, soil, air).
- *Focus on Risk Prevention and the Protection of Future Generations* - A number of participants indicated that the approach should be focused on risk prevention and on protecting the next seven generations and beyond; that protection should be geared toward protection of human health and the environment in perpetuity.
- *Focus on a More Health-driven Process* - Several participants asked that alternatives to a risk-driven process be considered. They observed that the current risk assessment paradigm focuses solely on hazard and risk assessment. They noted that a more health-driven process should be pursued, one that avoids looking at maximum risk and exposure levels and one that is focused on prevention rather than on cleanup efforts after contamination has occurred. A participant suggested that a safety/health-driven process (rather than the current risk/hazard-driven process) is particularly crucial in relation to Reservation lands, as tribes and tribal lifeways are tied to tribal lands, and, therefore, precaution and protection are crucial elements.
- *A “Zero” Contamination Policy* - A participant noted that an inherent concern in discussing risk standards and setting exposure levels, given either the current risk assessment approaches or more long-term precautionary-based approaches, remains that many tribal members are insistent that there is no allowable contamination level other than “zero” contamination; their philosophy and beliefs will not allow them to agree to any level of “acceptable” contamination. The participant noted that this creates problems, particularly given EPA’s current risk assessment approach, and, as a result, can stall cleanup efforts.
- *A “Right to Be Exposed” vs. a “Right to Pollute”* - A Workgroup member noted that in pursuing a more long-term approach, consideration of the limitations of the current environmental statutes are needed, as current statutes are based on setting and regulating to a minimum, permissible contamination level. It was noted that this focus on the “right to pollute”

vs. the “right to be exposed” gets to the heart of the trust responsibility to tribes and should be re-examined. Following this comment, there was some discussion over the feasibility of changing current EPA statutes. A second Workgroup member noted that everyone is looking to statutory change in the long run, but that in the short-term, it is necessary to work with the current Agency policy to pursue equal cultural representation for tribes.

- *A Universal Approach* - A participant suggested that a universal approach be developed that could be fully integrated into EPA and other agencies’ programs, as environmental contamination occurs on and off reservations, and developing a “tribal initiative” for “tribal areas” would not necessarily be protective for tribes as a whole.
- *Unique Tribal Standards* - Other participants indicated that tribal populations are smaller in number than the general population and face the possibility of cultural loss and even extinction in the face of environmental hazards. As a result, it was recommended that different standards and a different definition of “population” are needed.
- *Cumulative Site Impacts* - A participant suggested that consideration of cumulative site impacts (e.g., the grouping of a number of uranium mining sites impacting a tribe or tribe’s land) is needed.
- *Quantifiable and Non-quantifiable Cultural Impacts* - Several participants indicated that both quantifiable and non-quantifiable (e.g., loss of ceremony and culture of a tribe when contaminated river water—and/or the perception of this contamination—impacts a tribe’s ability to participate in sweat lodges) must be included in any long-term approach. A participant recommended that not only should quantifiable and non-quantifiable impacts be included, but they should be given equal weight. In a related discussion, a participant noted that the current scientific standards utilized by the Agency require quantifiable threshold exposure levels to determine risk. He questioned whether probes and monitors will be allowed by tribal communities in ceremonial areas.
- *Tribal Resources and Technical Abilities for Risk Assessment and Management* - A participant asked that tribal resources and technical abilities be considered, noting that a number of tribes have limited technical and financial resources to assess and manage risks, while often having to contend with large tracts of land, cross-media contamination, and long- and short-term exposures.
- *Risk Communication Needed* - A participant indicated that increased education and outreach involving risk communication is needed. The participant noted that an improved risk assessment model for tribes is needed, but tribes also need education and outreach involving how the science and public health information that results relates back to a tribe.

During the discussion, a number of participants expressed frustration over the current risk assessment paradigm. A representative from the Navajo EPA noted that in the early 1990s, he participated in an effort to revise EPA’s current Hazard Ranking System (HRS), which he noted is primarily geared toward urban settings in the U.S. rather than toward tribes located in rural settings. The participant expressed frustration that while changes to the HRS ranking criteria were made as a result, they were few. Another participant expressed concern over the need to have more participation by tribes in the

current Superfund risk assessment process, noting that if tribes are not involved in/are not able to have their concerns considered in the site assessment process, the outcomes are recorded in a legally binding Record of Decision that then becomes very difficult for tribes to have changed in the future. Another participant noted that, while a long-term approach to development of a better risk paradigm is needed, there are a number of sites, particularly a large number of sites impacting Native Villages in Alaska, which are in need of cleanup now and that an improved risk model to aid these sites is currently needed. Finally, another participant asked that EPA consider additional risk assessment regulations and guidelines in regard to indoor air quality issues.

Discussion of Short-Term Objectives

Overview of Agenda and Format for Discussions

David Carrillo provided an overview of the agenda and format for the afternoon discussion on EPA's current risk assessment process. The workshop was to move from a more open format with full public participation to a "fish bowl" format, whereby discussion was to focus around Workgroup members, with opportunities provided for public input and questions from workshop participants at regular intervals. Workshop participants would also have the opportunity at any time in the process to submit questions and comments on note cards that would then be provided to the Workgroup for comment and discussion. (A summary of the comments provided via note card is included as Appendix 6.)

Overview of EPA's Human Health and Ecological Risk Assessment Process and Discussion

The goal of this workshop session was to generate short-term recommendations for improving EPA's current risk assessment policies and procedures. Pat Cirone lead the session. She explained that the discussion was not to be Program- or media-specific in nature, but to focus on the risk assessment process as a whole, with discussion proceeding by the various "steps" in the risk assessment process, as identified in the workshop agenda (i.e., planning and problem formulation, profiles of exposure and analysis/risk analysis, and risk characterization). During her initial presentation, Ms. Cirone outlined both a (1) human health risk assessment structure and (2) an ecological risk assessment structure to help explain the risk assessment model. (Copies of both structures can be found in Appendix 7.)

The discussion began by focusing on the planning and problem formulation phase in the risk assessment process, with workgroup members providing comments regarding problems with the current risk assessments as well as suggestions for possible improvements. A number of suggestions were made for improving tribal input and involvement into the planning and problem formulation phase of the risk assessment process, which included:

- *Early and Frequent Consultation with Tribes and Tribal Elders* - Workgroup members made the following suggestions:
 - ▶ EPA should consult with tribes, particularly in respect to potential historical observations regarding environmental impacts and change.
 - ▶ EPA and tribes should enter into a formal agreement prior to the planning and problem formulation phase to generate a two-way conversation regarding the issues involved

and provide an opportunity for the tribes involved to identify their unique questions and concerns.

- ▶ EPA and tribes should hold up-front discussions to determine how information generated during the risk assessment will be used. A number of concerns were expressed over the need for protecting tribal data and information, in light of Freedom of Information Act (FOIA) requirements. A recommendation was made that educational tools be developed to help inform tribes of how best to provide adequate data to allow risk assessors to develop informed decisions while allowing tribes to provide this data in a non-sensitive manner.
- ▶ Tribes should be allowed to enter into a co-decision making process if tribal lands may be impacted.
- *Ensuring that Appropriate Resources are Available to Tribes to Participate in the Planning and Problem Formulation Phase* - A suggestion was made that EPA remain conscious of the need to ensure that tribes possess the appropriate resources to participate in planning and problem formulation.

During the discussion, the Workgroup observed that two basic distinctions exist regarding risk assessments: (1) those that occur on a national-level (e.g., pesticide registration and water quality standards), and (2) site-specific risk assessment (e.g., site cleanup). It was noted that acceptable processes need to be developed for both situations. There was general agreement that for both national- and site-specific risk assessments, more holistic risk models are needed that incorporate tribal concerns and are protective of the most susceptible populations. There was also general agreement that developing tribally relevant national-level (when compared to site-specific) risk assessment policies and procedures would prove more problematic, as developing national-level tribal risk scenario and national-level tribal default exposure values would be difficult.

This led to a brief discussion on how tribes could best provide input into the development of tribal risk and exposure scenarios. John Persell noted that EPA uses the *Federal Register* as a consultation mechanism. However, several participants noted that this was not an appropriate means to seek input and consult with tribes. Mr. Persell noted that EPA will need to proceed with making decisions on the risk assessment process, either with or without tribal input, and, therefore, recommended that decisions be made regarding appropriate means for tribes to solicit input.

During the discussion, Workgroup members noted that a number of efforts are already underway to expand the risk assessment process and develop risk models that are more focused on tribal concerns. Such efforts included:

- *EPA's Exposure Factors Handbook* - EPA's Exposure Factors Handbook provides a summary of the available statistical data on various factors used in assessing human exposure and serves a guide for risk assessors. Suggestions were made that "tribal" exposure factor data that are more representative of Tribal Traditional Lifeways be included. During the course of the conversation, a suggestion was made that a separate "tribal" exposure factors handbook be

developed. Fred Corey cautioned against development of a separate handbook, observing that mainstream exposure factors should be the goal, focusing on the protection of all vulnerable populations.

- *Cumulative Risk Assessment* - Mike Callahan noted that EPA is increasingly looking to use cumulative risk assessment, which might provide a better fit for Tribal Traditional Lifeways than the conventional risk assessment paradigm. He noted that cumulative risk assessment is not normally used for national-level issues, but could be a good fit for changes to site-specific, population-based risk assessment processes.
- *Tribal LifeLine Model*- EPA's Office of Pollution, Pesticides, and Toxic Substances (OPPTS) is developing a software package for estimating exposures and includes exposure scenarios for tribal communities involving pesticide exposures.
- *TASWER Native American Exposure Risk Assessment* (www.taswer.org) - The Tribal Association for Solid Waste and Emergency Response (TASWER) is developing a training tool/model that incorporates tribal exposure scenarios into a risk assessment model.

Following this discussion, Michele Dineyahze, who works for EPA Region 9 and is a TSC representative, noted that the discussion was good, but represents an uphill battle for EPA. She expressed concerns over whether such long-term goals of developing policy that is more structured toward the precautionary principle would be feasible. She suggested that the group focus on very program-specific issues. Fred Corey, a representative of Forum on State and Tribal Toxics Action (FOSTTA) - Tribal Affairs Project (TAP), noted that in FOSTTA's efforts to examine EPA's current risk assessment policies and practices with respect to chemical risk assessment, FOSTTA has identified various areas where the current risk assessment process is not adequate in addressing tribal needs and concerns, notably with respect to unique tribal exposure scenarios. He observed that short-term recommendations are needed to change the current policies and procedures and that these changes are feasible at this time and likely to be accepted by the Agency. He noted that he appreciates the need for a long-term shift in the current risk assessment paradigm, but encouraged that there are things that can be done to affect needed changes today and encouraged participants to take advantage of the opportunity to provide recommendations to EPA's leadership on the issue.

Comments Regarding Workshop Objectives, Output and Format

During the first day of the workshop, several workgroup members and workshop participants expressed questions and concerns regarding the workshop objectives, output, and format. These comments and concerns are summarized below.

Tribal Consultation

Some participants were confused as to whether the workshop was intended to represent a tribal consultation process. A number of participants expressed concern that if the process was to consist of tribal consultation, that they had not been properly informed and that they did not have proper authority from their Tribal Council or governing body to make formal recommendations to EPA. In addition, they were concerned that their participation in the process would be construed as their tribe's support for

any recommendations or products that emerged from the workshop. A number of participants asked that EPA enter into government-to-government consultation with their individual tribes to develop recommendations for improving EPA's risk assessment policies and procedures. A recommendation was made that EPA send representatives out to all tribes in Indian Country to explain the issues, any draft documents developed by the Workgroup, and answer questions raised by tribes. Others asked that the meeting summary and products be provided to the workshop participants for review, comment, and approval prior to distribution to the public.

In response to these concerns, Ella Mulford, who works for EPA AIEO and is a representative for the TSC, explained that the workshop was never intended to consist of a government-to-government tribal consultative process. Rather, the goal of the workshop was to bring together tribal representatives with experience with risk assessment to better understand how risk assessment impacts tribes and to begin a discussion of and begin developing recommendations for how best to improve the process. John Persell noted that, while not a government-to-government tribal consultative process, those participating in the workshop, as tribal governmental staff, have the responsibility of bringing the outcomes and issues identified during the course of the workshop to their collective tribal leadership to educate and seek council from this leadership.

Objectives

Several participants noted that the workshop discussion of long-term vs. short-term objectives (i.e., development of a possible long-term precautionary principle approach vs. making short-term changes to EPA's current risk assessment paradigm) proved to be very confusing. One participant observed that discussion of changes to the current risk assessment process was fine, but that they felt that there was general agreement that the current risk assessment paradigm was not working for tribes and that alternate options to the risk assessment paradigm were not being given adequate time for discussion.

John Persell responded by explaining that the intent of the morning discussion was to spark discussion over ideas of how to look beyond the current risk assessment paradigm to better ways of doing things. However, he explained that the focus of the majority of the workshop was on trying to make the existing risk assessment paradigm as protective as possible, as other methodologies and tools are not currently available. He observed that while he does not accept the current EPA risk assessment process as being protective for tribes and personally would like to see a more precautionary approach undertaken, given the political reality that exists today, he indicated that this is not feasible, even if some tribes and other governmental entities have and are moving to adopt such an approach. He apologized if anyone felt disillusioned by the process, but asked that everyone focus on the opportunity at hand.

Product Development

Some people expressed concern about the idea that the product that was being developed as a result of the workshop would be put forward as policy recommendations, partly because some participants felt ill-prepared to provide such recommendations and partly because participants felt that a more robust consultation process was needed as described above. Pat Cirone noted that the focus of the workshop

was to bring together the Workgroup, composed of experts with experience in tribal risk assessment, to begin developing recommendations on how to incorporate Tribal Traditional Lifeways into EPA's risk assessment policies and procedures. Rollie Hemmett provided additional clarification on the TSC's proposed approach for vetting the draft document, which included distributing the document to tribes to provide an opportunity to provide comments, returning the revised document to the workshop Workgroup for review and comment, and then providing the document to EPA's Tribal Operations Committee and Tribal Caucus for final review. Mr. Hemmett noted that additional time had been scheduled into the agenda on the final day of the workshop for discussion and comment on this review process.

Workshop Format

Several Workgroup and workshop participants expressed frustration over the format and flow of the workshop, especially the afternoon discussions that centered on the Workgroup and involved workshop participants intermittently. Mike Callahan also observed that trying to discuss the risk assessment process in a step-wise manner (i.e., planning and problem formulation, profiles of exposure and analysis/risk analysis, and risk characterization) was proving to be a clumsy approach. In addition, Barbara Harper noted that much of the discussion centered around two different questions: (1) how EPA is currently conducting risk assessment/how this risk assessment process can be improved and (2) how EPA makes decisions. She observed that much of the discussion on risk assessment is getting mixed up within risk management/decision making and the desire for risk assessment to fix the problems with Agency decision making, noting that this is not the focus of the workshop.

At the end of the day, tribal representatives agreed to meet that evening to discuss how they would like to move forward with the remainder of the workshop.

January 26, 2005 (Day Two)

Recap from Post-Workshop Meeting of Tribal Representatives

At the start of the workshop on January 25, 2005, Shawna Larson provided a brief recap of the discussion that occurred among the tribal representatives the previous night, highlighting a number of issues and concerns that were raised, which included:

- Tribes were excited to hear that a consultation process will occur;
- Examination of tribal examples is needed to see what other tribes are doing regarding risk assessment;
- Participants were more comfortable with developing “ideas” rather than setting “recommendations”;
- Participants would like an opportunity to meet with their tribal leadership following the workshop to discuss the workshop outcomes;
- Tribal sovereignty is important and at the forefront of this issue;
- Difference should be recognized;
- A definition and mechanism for developing a “tribally driven process” is needed;
- Additional education for tribes on risk assessment is needed;
- Additional education to EPA on Tribal Traditional Lifeways is needed;
- A list of what tribes can do to address the issue right now is needed;
- The environment should be viewed as a whole (i.e., land, water, future generations);
- Science and Traditional Tribal Lifeways need to both be recognized as forms of science;
- Tribes need to have their concerns validated—through telling of stories;
- It should be recognized that not all EPA technologies work in all villages;
- Concerns were expressed regarding the election of tribal representatives to the workshop Workgroup and those that were then told that they could not speak;
- It was felt that there was a disconnect between the people who came to learn about risk assessment and the “experts”;
- It was felt that the process was not tribally driven; it was seen as a top-down approach;
- The *Federal Register* should not be used as a government-to-government consultative approach;
- The outcome of such a workshop cannot be predicted;
- People did not trust the fish bowl format/process;
- Cultural and spiritual aspects are not quantifiable;
- It was noted that no matter how much people wish to get a certain product out of a meeting and no matter how great the sense of urgency, this effort requires a series of meetings. Consensus on the issue will not occur after one meeting.
- A gap exists between the Workgroup members, who have the authority to provide recommendations at the workshop, and the general participants, many of whom felt that they did not have the capacity or authority to make recommendations at the workshop.

Continued Discussion of Workshop Process and Format

Following the report out, there was additional discussion regarding the workshop process and format. Participants expressed concern that the tribal representatives be provided an opportunity to work with their tribal governments to develop recommendations on the issue. A number of participants indicated that the fish bowl format/process was exclusionary and did not allow for a collective method for providing products and solutions to the issues discussed. A number of suggestions for improving the process were offered, which included: (1) that EPA send liaisons to visit with all tribes on the issue using existing Agency-tribal connections (e.g., Nevada Department of Environmental Protection's tribal liaison staff) and (2) that additional meetings and forums are needed to discuss the issues. Various participants indicated that seeking input by tribes on such issues requires time and patience and that a forum for tribes is needed to allow tribes to meet and share their stories.

Several participants encouraged involvement in the workshop process, noting that the workshop offered an opportunity to tribes to brainstorm ideas for improving the current risk assessment process and that the outcomes would not be "set in stone." A participant observed that most everyone involved share common concerns for the issues at hand and that participants should not feel that their participation will damage tribal sovereignty or tribal authority, as more formal consultation with tribes on the issue is planned. The participant went on to note that the groups that are working on the issues have been established for a number of years and, while the Agency may not realistically be able to reach out to every member of every tribe, for those tribal representatives that can participate in the process, they should meet the unknown with confidence.

In response to the earlier discussion on tribal consultation, Cisney Havatone, TSC tribal representative from the Hualapai Tribe, observed that the TSC and RTOCs provide good opportunities for tribal coordination. The TSC is composed of both tribal and EPA representatives from each EPA Region that contain federally recognized tribes. Tribes with concerns, issues, or recommendations can work with the TSC tribal representative in their Region to make their issues known. (To locate the TSC representatives in your Region, please go to: <http://www.epa.gov/osp/tribes/tribal/who.htm>) In addition, EPA's RTOCs provide an opportunity for tribal input and involvement. (For a list of Tribal Caucus representatives, please go to: <http://www.epa.gov/indian/tribalopps.htm>).

At the conclusion of this discussion, the facilitator asked the group to remember that everyone in the room possessed the shared commitment to leave a legacy of less pollution. He recognized that the workshop product, which previously had been described as development of "recommendations" for EPA was better characterized as an "issues" document and cautioned that even if all participants were not on the same page regarding all the issues, it was important for the group to focus on moving the issues forward.

In an effort to clarify earlier statements that were made that had indicated that the workshop, its goals, objectives, and format had not been directed by the tribal representatives of the TSC, the facilitator clarified that the concept, format, goals, and objectives of the workshop had been driven by the tribal

representatives of the TSC. All TSC members had been invited and provided various opportunities to participate in the planning process of the workshop, and it had been the responsibility of the TSC members to participate and become involved in the planning process.

Introduction of Workshop Participants

During the previous discussion of workshop process and format, a number of participants noted that they would feel more comfortable and that the discussion would be more productive if the workshop participants were provided an opportunity to introduce themselves. As a result, participant introductions were made. A list of workshop participants can be found in Appendix 2.

Issues and Ideas for Improving EPA's Risk Assessment Policies and Procedures

Following a brief break, the workshop reconvened to focus discussion on identifying issues and ideas for improving EPA's current risk assessment policies and procedures. Prior to the discussion, Pat Cirone provided a diagram of an aquatic fate and transport model depicting several possible pathways for dioxin. (A copy of the overhead can be found in Appendix 7.) The diagram was provided to the group as a potential starting point for the discussion. Workgroup members were then provided an opportunity to individually discuss their experiences and efforts with regard to risk assessment and share their ideas and recommendations for improving the process.

Fred Corey began the workgroup panel discussion, highlighting various experiences working with tribal risk assessment. Working as an environmental chemist on cleanup efforts at a Superfund site, he reported that he was often frustrated that tribal concerns and uses were not considered in cleanup decisions. Serving on FOSTTA, he stated that he has come to recognize a lack of consideration of tribal exposures in EPA OPPTS risk models, which focus mainly on exposures to the general population.

Mr. Corey offered two suggestions for improving the current risk assessment process. First, he recommended providing opportunities for both tribal and EPA risk assessment experts to sit down together and discuss tribal exposures and concerns. From his experiences with FOSTTA, he observed that EPA risk assessment staff is receptive to new ideas and dedicated to developing risk models that are the most appropriate and protective possible. Second, he observed that current Agency risk models need to be improved to better include more sensitive populations. He indicated that developing tribally specific models does not necessarily require the development of individual models for each tribe in Indian Country, rather he suggested that EcoRegion-based models could potentially be used. He reported that Barbara Harper is involved in developing EcoRegion-based scenarios that reflect unique regional resource bases. While specific usage patterns and usage rates could differ among tribes in a region, the regional-based scenarios could be adjusted for site-specific issues and represent a better baseline than existing suburban population default models.

Violet Yeaton spoke of her experiences relating to an EPA study of the impacts of contamination of traditional foods in Cook Inlet, AK. Community members were concerned over the potential health

impacts from eating traditional foods, given that chemical contaminants had been found in the inlet. A risk assessment conducted by EPA was unable to identify conclusive health impacts given the data that had been collected.

Dan Kusnierz spoke of his experience working with the Penobscot Nation on a variety of risk assessment issues. He spoke of the importance of the Penobscot River to the tribe and discussed the tribe's concerns regarding contamination of the river by local pulp and paper mills. He noted that contamination of the river has impacted tribal lifestyles and land/resource use practices (including fish consumption, basket making, etc.), not only as a result of actual contamination but also as a result of the perception and fears by tribal members of this contamination. During his remarks, Mr. Kusnierz observed (1) the need for the development of unique tribal exposure scenarios for tribes in a given region when conducting risk assessments, and (2) the need for exposure scenarios to account for historical consumption rates and patterns that would allow tribes to sustain tribal traditional health and cultural practices.

Following Mr. Kusnierz's remarks, the facilitator opened the discussion up to the full group. Shawna Larson returned to the discussion of the Cook Inlet study. She clarified that the Cook Inlet study was undertaken to examine the health impacts of hydrocarbon contaminants on tribal health. She observed that in this and other cases, tribes have a misconception that they will be able to use risk assessment data to identify and prove the source of health impacts in their community. She noted that tribes are often disappointed by the risk assessment process when clear health impacts cannot be demonstrated. She also observed that the Cook Inlet study demonstrated the communication breakdown that can occur in such instances, as the tribe was not consulted during the planning and development of the risk assessment, particularly in regard to the sampling protocol to determine where and when to sample and what parts of the fish to sample.

During the open discussion, Rita Schoeny responded to a participant question regarding whether risk assessment was the only assessment method available. She stated that the choice to use a given risk assessment methodology depends upon the outcome one wishes to accomplish and is also highly dependent upon the legal statute that governs a given situation. She noted that several environmental statutes are entirely risk-based and dependent solely upon health and ecological impacts. However, many others require decision makers to factor in additional decision factors, including economic and technical feasibility. In addition, she noted that when making risk management decisions, it is often necessary to demonstrate the economic benefit and value of pursuing a given management option, necessitating the valuation of tribal resources.

Expanding upon this discussion, Carol Jorgensen stated that the impacts for cultural loss, in addition to human health considerations and economic impacts, need to be considered when making risk management decisions. As an example, Mr. Kusnierz observed that a biological opinion paper developed by the U.S. Fish and Wildlife Service (USFWS) for bald eagles nesting along the Penobscot River was a good example, demonstrating the cultural divide that often occurs between tribal- and non-

tribal governments when making decisions impacting natural resources. He reported that a risk assessment conducted by USFWS concluded that the population of eagles in the entire Northern States Recovery Region (comprising 24 states) would not be jeopardized if the eagles on the Reservation were removed and, therefore, allowed the “taking” to occur. However, Mr. Kusnierz noted that the cultural impact to the tribe from the loss of the eagle community on their Reservation was never considered in either the risk assessment nor risk management decision processes. He noted that it is the population within the Reservation to which the tribe has close cultural connections and not the eagles elsewhere in the country.

Furthering the discussion, Ella Mulford observed that one of the major reasons that risk assessment does not work well in Indian Country is that there is a disconnect in the way that tribal and non-tribal communities value the environment and their resources. She questioned whether risk assessments must always be couched in terms of economics and financial valuation of resources. Rita Schoeny responded that risk assessment is not centered around financial valuation, rather risk assessments take a structured approach to identifying and weighing human health and ecological impacts. She noted that risk assessments do not represent benefit assessments; however, she explained that risk benefit analysis and valuation do come into play in the decision making process, because Agency decisions are often evaluated and approved by Office of Management and Budget (OMB), which does factor in economic comparisons. Ms. Schoeny emphasized the need to utilize the current tools accepted by the decision makers and make them as useful and protective as possible in the near term.

Rollie Hemmett echoed Ms. Schoeny’s comments, explaining that whenever EPA issues policy statements, guidance, or regulations, each must first be approved by OMB, and, therefore, one must be cognizant of and must utilize the current system and structure, noting that there are a number of forces acting when such decisions are made, and that efforts must currently focus on doing the best that one can under the existing system and structure.

Mike Callahan then provided a brief discussion of the history and evolution of the EPA risk assessment process since the 1970s. He observed that the Agency continues to recognize the limitations of the risk assessment paradigm and as a result is moving toward initiatives like cumulative risk assessment and a focus on how to better include vulnerable populations into existing risk assessment frameworks. Regarding the issue of qualitative risk information, Mr. Callahan remarked that efforts should be made to provide such qualitative information to decision makers for their consideration. Decision makers need to know the answers to the following questions when making their decisions: What is dangerous? Who will be harmed? and What to do first? What is fair? He noted that while risk assessment does not always work well and that he hopes to see a better process developed, it is often the best tool that is now available for the Agency to use to help answer the above questions.

Elizabeth Resek then shared her experience working with EPA OPPTS, which conducts national-level risk assessments for the registration of pesticides. She said that OPPTS is supportive of long-term tribal efforts for risk assessment, such as Traditional Tribal Lifeways. OPPTS is also addressing tribal risk on a short-term basis with the Tribal LifeLine project, which focuses on development of a model that will incorporate tribal exposure scenarios and lifestyles. Until now, tribes have been “invisible” in OPPTS’ current risk assessment models because risk assessment has been done using information on the “general population.” In addition to EPA using this tool, tribes will be able to use it themselves, allowing them to input the kinds of parameters that they feel are reasonable and reflective of their lifestyles.

Later in the workshop, Ms. Resek clarified that the Tribal LifeLine model is not yet complete and that the Agency continues to work with willing tribes to better incorporate tribal exposure scenarios. Ms. Resek noted that a major obstacle in completing Tribal LifeLine is EPA’s ability to access tribal data; however EPA continues to work with tribes to seek their permission to use the data, being careful not to include any identifiers that show where the data came from. In a related discussion, Ms. Resek noted that while the Agency is cognizant of developing a scientific model that is understandable and user-friendly, not all tribes will possess the resources and expertise to run the models and will need assistance in using them. In a related discussion on the use of models and tools for improving the risk assessment process for tribes, Fred Corey suggested that geographic information system (GIS) software could be utilized when new chemical data becomes available to identify whether the chemical could impact tribal lands. EPA could utilize this data to determine whether additional screening level data on a chemical are needed.

Susan Hanson then shared her experiences working with the risk assessment process at NPL Superfund and RCRA sites. She highlighted her efforts with regard to risk assessment activities related to the Eastern Michaud Flats Superfund site. The site is located within and adjacent to the exterior boundaries of the Fort Hall Indian Reservation, impacting the Shoshone Bannock Tribe’s membership and non-members living on the Reservation and within surrounding communities. She reported that while the tribe was able to participate in the assessment process at the site, in the end, the tribe did not agree fundamentally or scientifically with the Record of Decision (ROD) for the site. She reported that the tribe was successful in opening the ROD and having some additional risk assessments conducted. She reported that the tribe was also successful in having the polluting entities at the Superfund sites fund supplemental environmental health projects to help the tribe answer some of their health concerns. Regarding the issue of valuation of cultural resources, she noted that the Shoshone Bannock Tribe is currently attempting to address the issues in regard to mitigation of environmental impacts from the Superfund sites.

Jason White reported on a variety of risk assessment activities undertaken by the Cherokee Nation Environmental Programs. He noted that the Cherokee Nation has the capability to develop much of its own environmental data and documentation, which allows the tribe to better prioritize its cleanup efforts and determine its own cleanup levels. This access and control over data along with the tribe’s use of tribal exposure scenarios enables the tribe to better communicate to EPA the specific impacts to tribal

lifeways and culture from various contaminant impacts. Following these remarks, Mr. Callahan noted that by the Cherokee Nation conducting its own risk assessment and developing its own data, the tribe is better able to keep tribal information within a tribe and keep it from being publicly accessible. Additionally, Mr. Callahan asked whether the results of a tribally managed risk assessment had ever been successful in spurring the EPA or other regulator to reassess a site. Mr. White reported that a good example of this occurred the when Minnesota Chippewa Tribe, through increased involvement in the risk assessment process, was successful in having an impacted site that had been de-listed from the NPL re-listed. He added that the Cherokee Nation has been successful in using tribal risk assessment data to seek out remedy changes from EPA.

Following Mr. White's remarks, the facilitator opened the discussion for public comment. Syed Rizvi of TASWER took the opportunity to provide an overview of an initiative being undertaken by TASWER to develop a risk assessment model that will serve as a training tool for tribes on risk assessment and will allow tribes to incorporate more tribally relevant exposure pathways. The model is currently under development and has not yet been site tested. Once completed, TASWER anticipates offering training for tribes on utilization of the model.

Rita Schoeny then shared information on the risk assessment and risk management processes as they relate to health impacts from mercury exposure. She reported that EPA has undertaken a series of national-level mercury risk assessments since the early 1990s. She reported that the issue of mercury contamination and its human health and ecological impacts is a complex one, with local, national, and international implications.

During the discussion, Mr. Corey noted that a number of tribes are working to restore their natural resources and ensure more sustainable resource use. In doing so, many tribes intend to not only continue but to increase their use of natural resources and traditional food sources. He cautioned that when developing exposure models to predict mercury and other contaminant impacts, modelers need to recognize and account for increased resource usage.

Also during the discussion, Ms. Schoeny reported that a number of opportunities now exist to present information on tribal exposure factors and tribal considerations to have them included in the ongoing changes to EPA policy, notably with regard to EPA's ongoing efforts to develop and vet the proposed regulations to reduce mercury emissions in the power industry, which are due to become final in March 2005. Violet Yeaton questioned the feasibility of impacting the proposed mercury rule change at this late date. Ms. Schoeny noted that input prior to the rule promulgation would not be possible, but that it had been vetted for public comment twice before; she noted that the rule promulgation would not be the end of this issue at the Agency.

Referring back to the previous discussion on tribal exposure models, Shawna Larson stated that she was in agreement that developing tribal exposure models and including cultural indicators can be empowering for tribes, allowing them to begin developing their own exposure data. However, she

stated that she didn't agree that the spiritual and cultural aspects of a tribe's lifestyle can be quantified. She went on to question why the standards of the current risk assessment process could not be lowered, such that they are more protective. Rita Schoeny observed that the current "acceptable" risk levels have been developed based on epidemiological and animal studies and according to prescribed scientific standards, with the goal of being protective to human health and the environment. She noted that developing "acceptable" risk levels was often dependent on wide ranging data and study results, and often proved to be more art than science. Mike Callahan noted that to best provide good stewardship of resources, EPA must develop a general "acceptable" level of risk, then target places where the lower risk levels are needed, so as to not force everyone to use resources to clean up to very low levels unnecessarily.

Referring back to the previous discussion involving potential opportunities for tribes to provide input into the tribal exposure factors, Amina Wilkens, a workshop participant working for EPA's National Center for Environmental Assessment (NCEA), suggested that there could be an opportunity for tribes to include more tribally relevant exposure data into EPA's risk assessment procedures through input into an ongoing revision of EPA's *Exposure Factors Handbook*. She noted that this would represent a short-term method to better incorporate tribal concerns into EPA's risk assessment process. She also noted that EPA, NCEA has developed the Example Exposure Scenarios document to help illustrate how data in the *Exposure Factors Handbook* may be applied for estimating exposures. The Example Exposure Scenarios document represents another opportunity for tribal input to improve EPA's risk assessment policies and procedures.

Barbara Harper then shared with the group some of her own experiences and expertise working as a toxicologist and risk assessor. She reported that she began her 30-year career in risk assessment in the field of community- and public-health, which provided a good basis for examining the big picture of health impacts, both on the level of individual human health and community-wide health impacts. She observed that a number of health indicators used in the public health arena and in social impact assessments can have direct applicability for tribal risk assessment. She also touched on some of her experience in working on risk assessment issues at the Hanford site, first working with Batelle National Lab and then in working directly with the tribes. Given tribes' often limited resources, Ms. Harper suggested that tribes could best impact site-specific risk assessment issues through a combination of three aspects: (1) data collection, (2) model development, and (3) policy influence.

Currently, Ms. Harper is working to develop tribal exposure scenarios. Under an EPA ORD Science to Achieve Results grant, she is working to develop EcoRegion-based models, which are not tribal- or site-specific, but which provide a better starting point for predicting risk than is currently supplied by national-level, suburban-based risk models. Efforts are underway to describe traditional use and traditional (cultural) lifeways patterns for use in risk assessment, with the aim of restoring and protecting tribal resources and lifestyles. Rather than developing fish consumption surveys to identify current suppressed resource use and consumption levels, researchers are looking at current subsistence and treaty information (as well as anthropological, environmental archeological, and historical information) to

identify traditional (cultural) consumption patterns. She noted that treaties were intended to protect traditional resource use and, therefore, serve as a good measure for resource restoration goals and for accommodating the resurgence of interest by tribes in traditional foods. In developing these exposure scenarios, Ms. Harper emphasized the need for gathering peer reviewed data that meets strict rules of evidence and are well documented.

Jamie Donatuto shared her experiences in working as an environmental specialist for the Swinomish Tribe. She highlighted her efforts in working on an EPA study of bioaccumulative toxics in shellfish in multiple local sites and identified several important study components as they relate to tribes. These included:

- The desire by the Swinomish Tribe to include tribal cultural aspects to the risk assessment process in an effort to demonstrate that their potential impacts and risks are greater than those of the general population. By including cultural components within the risk assessment framework, it was hoped that tribal exposures will gain increased weight. She noted that tribal treaty rights and tribal sovereignty guarantee tribes protection from such exposures.
- Each exposure model is context specific, and there are ways to include cultural impacts and risks in a general way to allow each tribe to use models for their own specific uses.
- Qualitative data should carry the same weight as quantitative data and should be allowed to be brought into risk assessment and given equal weight. While there are many cultural practices that cannot be quantified, this knowledge and information should be brought into the risk assessment and risk management practices in an equitable way.
- Increased community-based participatory research for risk assessment is needed. Ms. Donatuto conceded that a number of tribes do not possess sufficient resources to do their own research. However, for tribes that do have this opportunity, equitable agreements regarding data ownership and tribal capacity are needed. She also observed that data access and ownership is often problematic regarding FOIA concerns. While recognizing the need to work within the framework of the existing risk assessment framework and within the parameters of FOIA, she suggested that tribes could be educated on the various options for working within these structures.
- Additional education for tribes on risk assessment is needed.

During her remarks, Ms. Donatuto discussed with the group a tribal fish consumption survey that she was involved in to highlight the importance of a number of key factors when working with tribes, which included: (1) being context-specific for the tribe, (2) developing true participatory research, (3) encouraging data ownership, (4) building toward the larger picture of community health, (5) providing an opportunity for qualitative data to be included, and (6) allowing for the assertion of treaty rights and tribal sovereignty. She highlighted several aspects of the survey process, including: (1) pursuing oral interviews/conversations with survey participants that allowed tribal members to be present to answer questions and explain the survey rather than relying on a written survey format, and (2) engaging in an

education and vetting process for the survey before the Tribal Council, tribal cultural resource committee, and tribal elders.

Following Ms. Donatuto's remarks, Barbara Harper re-emphasized several points that had been raised, including the need to ensure the validity of ethnographic data (i.e., that data collection was systematic and repeatable and that the resulting data is "good data") and that when collecting data, anecdotal tribal information should not be dismissed. In addition, Ms. Harper recommended that training on risk ethics and informed consent (highlighting the advantages and possible disadvantages of data collection) be developed.

The discussion was then opened up to the workshop participants to ask questions. A participant observed that exposure scenarios need to be reflective of tribal lifestyles and consumption patterns. He noted that a number of tribes living subsistence lifestyles consume large quantities of a variety of fish species, which can complicate the development of accurate exposure scenarios, and that, for many tribes, fish advisories restricting or eliminating fish consumption are not a viable risk management solution. Ms. Harper responded, agreeing that under many circumstances, tribes cannot give up their lifestyle practices in response to fish advisory warnings, adding that efforts are underway to change the thinking of risk managers to focus on the development of cleanup levels that will allow tribes to safely pursue their traditional lifestyles.

In response to a participant question regarding what the United States and EPA are doing to address global-level contaminants, Rita Schoeny noted that EPA and other U.S. federal agencies are working with the United Nations Environmental Program (UNEP) to (1) set up regional awareness-building workshops about global-level contaminants in countries with developing economies and (2) present a concept paper on global-level contaminants following the awareness-building workshops.

Lori McKinnon, member of the Yurok Tribe and Vice Chair of the Tribal Pesticide Program Council (TPPC), spoke of her experience in working with the TPPC to examine the pesticide registration process and determine opportunities to better account for tribal lifestyles and concerns within the process and to also better incorporate ecological factors.

Ms. McKinnon identified a number of areas where tribal concerns are not adequately taken into account during the pesticide registration/re-registration process, which included: (1) the need to incorporate tribal foods and resources into the risk assessment process, and (2) the fact that tribes do not have influence over off-Reservation pesticide use that impacts tribal lands and resources. In addition, she highlighted several pesticide issues that are currently impacting her tribe, which included:

- Efforts by tribal basket weavers and others to identify an adequate risk assessment methodology to link health impacts to pesticide exposures. Ms. McKinnon noted that, in most cases, plants that have been treated with pesticides cannot be distinguished from non-treated plants and health impacts from low-level, chronic exposure can be difficult to distinguish from flu-like symptoms.

- Within risk assessment models, the Yurok Tribe is not large enough to register as a population impact or “cancer cluster,” and, therefore, the tribe is trying to identify other environmental indicators to demonstrate environmental impact.
- Some repatriated tribal artifacts and ceremonial items have been shown to be impacted by chemical contaminants, and tribal members are currently looking at ways of quantifying the risk posed by the contaminants and determine safe levels and practices for handling and using the repatriated items.
- Members of the Yurok Tribe wish to return to a more traditional diet and are looking at ways to compare the risks posed by consuming traditional versus nontraditional food items. Ms. McKinnon observed that some tribal members are not sure that they wish to pursue testing of food items if there is the potential that a food advisory will result.

Dana Davoli spoke of her experiences working as a risk assessor with EPA on one of the first tribal fish consumption studies done in the U.S. This study was funded by EPA and conducted by the Columbia River Intertribal Fish Commission for four tribes in the Columbia River Basin—the Umatilla, the Yakama, the Nez Perce, and the Warm Springs. Although a technical panel provided input on survey design, training of surveyors, and data analysis, the panel and tribes recognized the importance of having the tribes conduct the survey, analyze the results, and maintain ownership of the tribal data.

Ms. Davoli also emphasized the importance of early tribal involvement in EPA’s risk assessments and of ensuring that the tribes are involved in every step in the site evaluation process (e.g., the Superfund program), including the development of legal agreements, project design, problem formulation, study design, data/samples collection, etc.

Regarding previous discussions and debate over the potential use of quantitative vs. qualitative data within the assessment processes, Ms. Davoli expressed some concern over how qualitative data can be incorporated into the risk assessment process, given the current legal framework. In response, Ms. Harper agreed that more discussion is needed as to how best to incorporate qualitative data inputs into the risk assessment process, as risk assessments are constrained by certain laws and mandates. Barbara Harper offered that a wealth of cultural, social, and welfare indicators currently exist and are in use in the public health community. She suggested that such indicators could be adapted and used in association with risk assessment. In addition, she reported that in her work at the Hanford site, she reviewed a number of regulations [e.g., the National Environmental Policy Act (NEPA) and environmental justice regulations] and determined that a case can be made that these regulations and statutes mandate the protection of social and cultural welfare.

Mehrdad Khatibi in speaking of his work with the Institute for Tribal Environmental Professionals, emphasized the need for continued education and risk communication for tribes. He observed that a disconnect exists between data collection efforts and how this data is utilized to understand human health, ecological, and community impacts. He stressed that additional education and training is important to enable tribal members to better understand risk associated with exposures and impacts.

He suggested that in the short term, EPA should support and develop educational and risk assessment tools to allow tribes to better utilize environmental and risk data to reduce their exposures and impacts.

Following the afternoon's discussion, a summary of the issues and ideas offered by the workshop participants was developed. This draft summary list was provided to the workshop participants for review and discussion the following morning. A copy of the draft list is included as Appendix 4.

January 27, 2005 (Day Three)

Opening Announcements

At the start of the meeting, a decision was made that due to the weather forecast, the workshop would end in the morning.

Review and Discussion of Draft Ideas List from Discussion on Day Two, Jan. 26th

As noted previously, the ideas and recommendations offered by the workshop participants during the discussion on the previous day (January 26th) were summarized in a draft list during the previous evening. A copy of the draft list is included as Appendix 4. This list was provided to the workshop participants for their review and discussion. Pat Cirone led the group in the discussion of the draft document. Highlights from this discussion are provided below.

Ms. Cirone began the discussion by suggesting a modification to the human health risk assessment structure (see Appendix 7) by adding tribal traditional knowledge as an input to risk assessment on equal footing with scientific data. She added that tribal traditional knowledge needs to be protected as culturally sensitive information, drawing an umbrella over tribal traditional knowledge to graphically illustrate the need to protect this information. In addition, she added several categories of risk assessment to the diagram, including: social, economic, cumulative, cultural, and worker risk.

Ms. Cirone identified several overarching issues that should be considered. She noted that tribes should be involved in both risk assessment and risk management processes and that they should be involved in the early planning stages of each process. She observed the importance of including any resolutions or decision that tribes come to on these issues (i.e., on the issue of fish consumption rates) included into the administrative record. She noted that because tribes might not be able to attend all public meetings on an issue, having their positions formalized in the administrative record is important. She observed the need to have traditional ecological knowledge become a part of the risk assessment process, stressing the importance of developing a method that tribes are comfortable with for protecting their intellectual and cultural property rights. Finally, she emphasized that the definition of risk should be expanded to include such aspects as human health, ecological, social, economic, cultural, and worker risk assessment.

Barbara Harper asked that the draft position paper being developed begin with a review of EPA's Indian Policy, land use directive, treaty and trust responsibilities, and EPA Strategic Plan Goal # 5.3 (Anticipate Future Environmental Issues - Pilot Futures Analysis for a Few Key Environmental Issues). She suggested that doing so would lend more weight to the issues, possibly turning them into a future performance measure by the agency, which would, in turn, lead to increased funding and support. She also recommended that the group consider identifying a dispute resolution process for these issues, in the event that EPA decides not follow through with some of the suggestions presented.

Rita Schoeny emphasized that the group should continue to ensure SPC involvement in the issue through continued briefings, as such information exchange on the issues opens a dialog with EPA leadership.

Additional ideas and recommendations for revisions and inclusions to the draft list that were identified included:

- Additional education on the risk assessment process is needed by tribes.
- The more long-term alternatives to risk assessment that had been identified during the January 25th discussion (e.g., precautionary principle) should be included.
- Environmental indicators should be included.
- Additional clarification is needed regarding the “Tribal Land Use” topic. Tribes often use off-Reservation public land for traditional and cultural practices, and these aspects need to be included within this topic.
- Under “Exposure Scenarios,” identify specific exposure scenarios (i.e., basket weaving, religious practices, medicinal plants) to strengthen this suggestion.
- Consider developing a separate workshop to discuss long-term approaches to developing alternatives to risk assessment.
- The term “tribe” needs to be defined. A clear definition is needed as to who will be involved—will this include only tribal councils and tribal governments or will tribal communities also be participating.
- Guidance is needed for where and how to include tribal traditional knowledge into the risk assessment process (i.e., in identifying appropriate sampling sites and sampling periods).
- EPA AIEO’s tribal consultative process should be incorporated into the “Collaboration/Communication” section.
- The scope of the issue should be enlarged to include both: (1) current events (e.g., global climate change and its impacts on weather patterns and land scape—erosion and permafrost melt) and (2) global contaminants and impacts (e.g., the impacts of fossil fuel extraction on tribal communities).
- The topics identified should be categorized by those ideas that can be undertaken right now and those that would require regulatory/policy/statutory changes first.
- It should be acknowledged that both qualitative and quantitative approaches to risk assessment exist and that debate on these issues is healthy.
- Indoor air quality concerns need to be included in the risk assessment process.
- Tribes should be allowed to create their own environmental standards.
- Additional research is needed (i.e., further studies and materials development).
- Under “Valuation/Quantification,” the term “decision makers” needs to be defined—will this include the U.S. government or tribal governments as decision makers? In addition, it should be clarified that some tribes feel that placing a value upon its cultural and environmental resources is not appropriate.
- It should be specified that tribal populations are unique entities and often comprised of small populations. Therefore, environmental and cultural impacts effecting one person can have a large impact to the tribe as a whole. (This concept should be included as a model parameter.)

Also, it needs to be acknowledged that tribes are tied to their lands and that as environmental impacts occur, they are not able to simply move away from contamination sources.

- Recognition is needed that impacts affecting tribal culture and diet can greatly impact tribal health (e.g., fish advisories can lead to the adoption of a more “Western” diet, which can then greatly impact tribal health).
- The “Issues” section under the “Sources of Contamination” topic needs to be better defined and elaborated on.
- It should be noted that many tribes do not accept monetary valuation of their resources. Valuation metrics that do not involve the concepts of “Western economies” are needed.
- Collaboration is needed to ensure that data developed by tribes is considered valid and is accepted under EPA’s laboratory standards.
- Additional focus on data quality assurance (QA) standards is needed to ensure that the data developed and provided is valid and will be accepted by the Agency. It was noted that decisions are only as good as the available data and that it is very common for data to be rejected by the Agency if it has not undergone appropriate QA. It was strongly recommended that tribes seek out a QA plan before undertaking a project to ensure that the manner in which the data is samples, collected, preserved, transported, etc. is done in accordance with EPA QA standards.
- A recommendation was made that when tribes develop their sampling and analysis plans, they consider ranking their “anecdotal” information as high as their qualitative data in the section on ranking data from outside sources.
- Additional focus on long-term risks (i.e., the impact of landfill failure on the environment) is needed.
- A recommendation was made that a disclaimer be added to the document indicating that every tribe is an independent, sovereign nation that makes its own decision based upon its values. The person making the recommendation did not want a few tribes to develop risk policies and procedures for all of Indian Country.

Discussion of Next Steps

Roland Hemmett lead the group in a discussion to define how to proceed with issue, given the outcomes of the workshop. Specifically, he asked the group to focus on determining:

- How to organize the ideas and issues identified,
- What types of follow-on educational and training opportunities were needed,
- How the Agency could best communicate with Indian Country to seek input on the issues, and
- What type of process should be established for reviewing, editing, vetting, and approving a document to provide to EPA.

Coordination and Outreach

Carol Jorgensen noted that EPA has an existing framework for communicating and coordinating with tribes, which includes: AIEO, the TSC, the Tribal Operations Committee (TOC), the Regional TOCs, and the Tribal Caucus of the TOC. Shawna Larson indicated that EPA should make an effort to contact all tribes (via U.S. mail and/or phone call), noting that EPA has established extensive

communication with tribes on the Indian General Assistance Program (IGAP) and, therefore, should be able to do similar communication on this issue. Dan Kusnierz noted that it is important to rely on additional methods for communication in addition to a mass mailing to tribal governments. He suggested that the group use the existing RTOC and TSC framework. A participant suggested that the group also consider identifying and utilizing centralized tribal contacts in each Region to coordinate the outreach and communication on the issue. It was noted that OPPTS, in its coordination with tribes, has utilized a variety of processes, which the group might like to consider, including: focus groups with tribes in coordination with Regional meetings, and the development of information letters signed by both the EPA and tribal leadership on an initiative to demonstrate ownership and foster buy-in. During the discussion, a participant noted that the group needs to develop coordination protocols, with care that they are not termed “consultative.”

Review of Meeting Summary and Draft Issues Document

Following the workshop, the group agreed that two products would be developed: a workshop summary recapping the workshop discussion; and a draft document summarizing the topics, issues, and ideas on how best to change risk policy and procedures to better incorporate Traditional Tribal Lifeways.

Participants asked for assurances that their comments made during the course of the workshop be accurately reflected in the workshop summary. In addition, tribal representatives asked that they have a more extensive opportunity to work with their tribal leadership to review and provide recommendations on the second product, the draft document that would summarize the topics, issues, and ideas. To fulfill these requests, the following "next steps" process was presented:

- SRA will develop a draft workshop summary document.
- The draft workshop summary document (and participant list) will be distributed (via mail and e-mail) to all workshop participants for review and comment. All comments will be provided to SRA for review and incorporation.
- The second product, the draft document that would summarize the topics, issues, and ideas, would be developed and distributed to the workshop participants. Participants will have 90 days to respond with comments. [In subsequent conversations, the tribal representatives of the workshop planning committee agreed to a more extensive document development and review process. Specifically, the tribal representatives of the National EPA-Tribal Science Council would use the comments and ideas from tribal participants at the workshop, and additional input from the risk practitioners to form the basis of a draft document that they would develop and mail directly to the tribes and through the RTOCs for their input. The process would provide tribes several months to submit their comments and input, much longer than the 90 days originally requested.]

Conclusion

At the conclusion of the meeting, a participant reiterated that additional training in risk assessment for tribes is needed to allow them to make appropriate and sound decisions on changing EPA's current risk assessment paradigm. Violet Yeaton thanked EPA and the TSC for providing a forum for tribes and Agency representatives to come together to discuss the issue, citing it as a learning experience. Barbara Harper expressed regret that participants had missed a great opportunity to hear more information from people with a wealth of experience working with the issues. Roland Hemmett closed the workshop by encouraging participants to recognize that there are a lot of shared concerns and goals among those at the workshop, and the goal of everyone is to find common ground on the issues.