

# **Honoring the Department of Energy's Commitment to the American Indian Tribal Government Policy through Tribal input to the Disposal of Greater-Than-Class-C Low-Level Radioactive Waste Environmental Impact Statement --10205**

Arnold Edelman\*, Albert Petrusek\*, Richard Arnold\*\*

\*U.S. Department of Energy, Washington, DC 20585

\*\*Nevada Test Site, Las Vegas, Nevada 89041

## **ABSTRACT**

The Department of Energy (DOE) is committed to early and meaningful consultation with Tribal Nations on a government-to-government basis to ensure that tribal rights, values and interests are identified, considered and protected. This commitment is pursuant to DOE's American Indian and Alaska Natives Tribal Government Policy (DOE Order 144.1) [1]. The purpose of this paper is to discuss how the Office of Environmental Management is, through the development of the Greater Than-Class-C (GTCC) Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA), both fulfilling the spirit and intent of DOE's tribal policy by early and meaningful consultation with Tribal Nations and incorporating tribal views directly into the Draft GTCC EIS. Through a series of meetings with participating Tribal Nations, DOE invited interest from tribes to develop Narrative text for inclusion in the GTCC EIS. Using week long workshops, DOE encouraged tribes to develop their written perspectives on the environmental resource areas and other areas of tribal interest. These workshops were held at the Nevada Test Site (NTS), Los Alamos National Laboratory (LANL), and Hanford Site. Each of the tribes brought their unique perspectives and concerns to the table and worked together to develop their Narrative text.

## **INTRODUCTION**

The paper discusses the Department's commitment to early and meaningful Tribal Government interactions and specifically the approach taken to develop narrative text for inclusion in the Draft GTCC EIS; key issues and concerns identified in the narrative text; and experiences gained from the development process.

Section 3(b)(1)(D) of the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LRWPAA, Public Law 99-240) assigned the Federal Government responsibility for the disposal of GTCC Low Level Radioactive Waste (LLRW) that results from activities licensed by the U.S. Nuclear Regulatory Commission (NRC) and Agreement States. The LLRWPA also directed that such waste be disposed in a facility licensed by the NRC. Currently, there are no facilities licensed by NRC for disposal of GTCC LLRW. DOE is the Federal agency responsible for the disposal of GTCC LLRW and is preparing an EIS that evaluates a range of reasonable alternatives for disposal of GTCC LLRW. DOE plans to issue the Draft EIS in 2010.

Greater-Than-Class C LLRW is waste in which the concentrations of radionuclides exceed the limits for Class C LLRW established by the NRC in 10 Code of Federal Regulations Part 61.55. GTCC LLRW is generated in the commercial sector and includes activated metal from the decommissioning of nuclear power reactors, sealed sources, and other wastes that are the result of decommissioning of nuclear facilities and production of medical isotopes.

Several disposal methods for GTCC LLRW are being evaluated in the Draft EIS, including disposal in a deep geologic repository, intermediate depth borehole disposal, and/or enhanced near-surface disposal in a trench or vault. Geologic disposal involves placement of the waste in mined cavities deep beneath the earth's surface. This method is currently being used for the disposal of defense transuranic (TRU) waste at the Waste Isolation Pilot Plant (WIPP) in New Mexico. Intermediate depth borehole disposal involves the use of drilling equipment to construct a deep borehole (deeper than 30 meters) in the ground. The wastes are then placed in the borehole up to about 30 meters from the surface, and the remaining space is

filled with clean soil. Enhanced near-surface disposal involves the placement of the wastes in engineered trenches or vaults. The containment characteristics of these disposal facilities are enhanced by incorporating features such as barriers, deeper depth to disposal, and enhanced waste packaging.

The Department of Energy intends to analyze deep geologic disposal at WIPP. For intermediate depth disposal and enhanced near surface disposal, DOE intends to evaluate disposal at new facilities at the Hanford Site, Idaho National Laboratory (INL), LANL, NTS, Oak Ridge Reservation, Savannah River Site, and WIPP vicinity (Figure 1). In addition, hypothetical commercial locations will also be analyzed in the EIS to allow DOE to make a programmatic decision regarding the disposal of GTCC waste should one or more commercial facilities be identified at a later time.

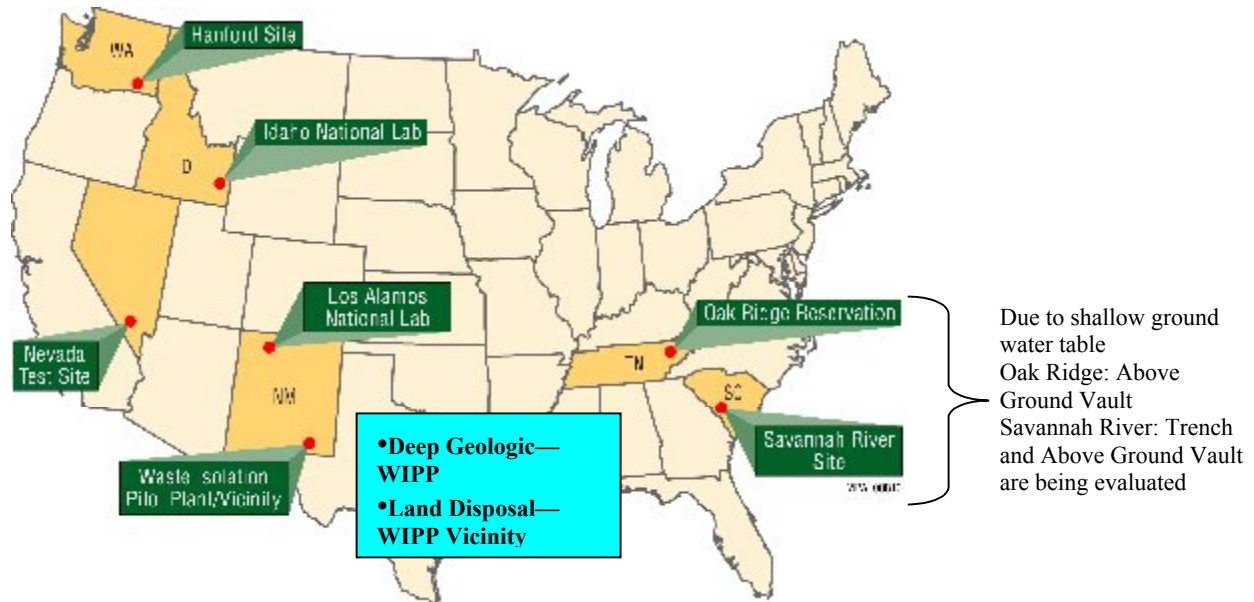


Fig. 1: Candidate GTCC Disposal Sites

## DOE’S COMMITMENT TO TRIBAL INVOLVEMENT

The Department of Energy is committed to formal and meaningful consultation and interaction, at the earliest practical stages, with Tribal Nations on the GTCC EIS consistent with DOE’s American Indian and Alaska Natives Tribal Government Policy (DOE Order 144.1). The Order communicates the Departmental, programmatic, and field responsibilities for interacting with American Indian Governments and establishes the Department’s Indian Policy including its guiding principles and framework for implementing the policy.

An internal tribal consultation plan for the GTCC EIS was developed and approaches to consultation were identified to include: staff to staff technical briefings; formal government-to-government consultations between senior DOE and elected tribal officials; and/or the participation in the development of the Draft EIS by writing text that gives tribal views and beliefs, which will be included in the EIS.

## Department of Energy American Indian Tribal Government Interactions and Policy

DOE Order 141.1 presents DOE responsibilities, seven Guiding Principles (see below) and the Framework for interacting with American Indian Governments. The key responsibility of the United States is to protect tribal sovereignty and self-determination, tribal lands, assets, resources, and treaty and other federally recognized and reserved rights. The policy further provides direction regarding the fulfillment of trust obligations resulting from Departmental actions which may potentially impact tribal

traditional, cultural and religious values and practices, natural resources, treaty and other federally recognized and reserved rights.

The Framework is designed to ensure that DOE program elements (Office of Environmental Management, Office of Science, Office of Nuclear Energy, and the National Nuclear Security Administration) work with affected tribes at the start of any process that may impact tribal rights and resources in order to integrate the Indian Policy into DOE's mission activities and other decision making processes and procedures (e.g., EIS).

Seven guiding policy principles are articulated and include:

1. DOE recognizes the Federal Trust relationship and will fulfill its Trust responsibilities to American Indian and Alaska Native Nations;
2. DOE recognizes and commits to a government-to-government relationship and will institute appropriate protocols and procedures for program and policy implementation;
3. DOE will establish mechanisms for outreach, notice, and consultation, and ensure integration of Indian Nations into the decision-making processes. *This effort will include timely notice to all potentially impacted Indian nations in the early planning stages of the decision-making process, including predraft consultation in the development of regulatory policies on matters that significantly or uniquely affect their communities;*
4. Department-wide compliance with applicable Federal Cultural Resource Protection and other laws and Executive Orders will assist in preservation and protection of historic and cultural sites and traditional religious practices;
5. DOE will initiate a coordinated Department-wide effort for technical assistance, business and economic self-determination development opportunities, education, and training programs;
6. The Secretary of Energy will conduct periodic summits with Tribal Leaders for performance review of policy implementation and issue resolution; and
7. DOE will work with other Federal Agencies and State Agencies that have related responsibilities and relationships to our respective organizations as they relate to tribal matters.

## **GTCC CONSULTATION**

Department of Energy Order 141.1 requires all DOE Operations Office Managers, Field Office Managers, and Lead Program Secretarial Officers to ensure that meaningful government-to-government consultations take place prior to taking any action with potential impact upon American Indian Nations. As part of the consultation process, mutually agreed on protocols for timely communication, coordination, cooperation and collaboration will be jointly developed.

Consultation with the Tribal Nations on the GTCC EIS is being achieved through formal government-to-government consultations, development of Narrative text for participating tribes, technical exchanges, briefings, and site visits. In January 2008, DOE issued letters to elected tribal officials communicating DOE's intent to consult with Tribal Nations on the GTCC EIS. The letters requested the Tribe's preferences on a consultation approach for the GTCC EIS, identified possible consultation activities (based on discussions at the October 2007 State and Tribal Government Working Group meeting), identified the senior DOE official for the consultations, and proposed a staff to staff teleconference to discuss possible consultation approaches. After issuing the letters, the GTCC EIS Project team briefed Tribal representatives on the status of the GTCC EIS and obtained initial feedback on tribal preferences for consultation, including input on technical issues and possible topics for discussion during government-to-government consultations.

One area of mutual interest was tribal participation in the development of the GTCC EIS by writing text that provides tribal views and beliefs to be presented in the GTCC EIS, such as the cultural resources, socio-economics, and environmental justice sections. This approach is based on an existing model of consultation utilized by the Nevada Site Office in the development of the Site Wide Environmental Impact Statement for the Nevada Test Site and Off Site Locations in the State of Nevada.[2]. Tribal

participation in the development of Narrative text is voluntary. Formal government-to-government consultations between senior DOE officials and elected tribal officials can be conducted at agreed upon points in the EIS, or on request, as was the case with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and the Shoshone-Bannock Tribes, to further ensure that tribal treaty rights, values, and interests are identified and considered in pertinent decision-making on the disposal of GTCC LLRW.

In the development of the GTCC EIS, the Department identified 14 tribes and tribal organizations based on the candidate disposal locations being analyzed in the GTCC EIS for consultation and interaction. They include tribes associated with the Hanford Site, INL, LANL, and NTS (Table 1). The locations of the tribal lands in relationship to the Hanford Site, LANL, and NTS are provided in Figures 2-4.

Table I. Tribal Nations Identified for Consultation on the GTCC EIS

<b>GTCC Disposal Alternative</b>	<b>Proposed Tribal Nations for GTCC Consultation</b>
Hanford Site	Confederated Tribes of the Umatilla Indian Reservation, Pendleton, OR Nez Perce, Lapwai, ID Wanapum People, Ephrata, WA Yakama Nation, Union Gap, WA
Idaho National Laboratory	Shoshone-Bannock Tribes, Fort Hall, ID
Los Alamos National Laboratory	Acoma Pueblo, Acoma, NM Cochiti Pueblo, Cochiti, NM Jemez Pueblo, Jemez, NM Laguna Pueblo, Laguna, NM Nambe Pueblo, Santa Fe, NM Pojoaque Pueblo, Santa Fe, NM Santa Clara Pueblo, Española, NM San Ildefonso Pueblo, Santa Fe, NM
Nevada Test Site	The Consolidated Group of Tribes and Organizations (CGTO) representing 16 Paiute and Shoshone Tribes. Consultation with these Tribal Nations would be through the CGTO.

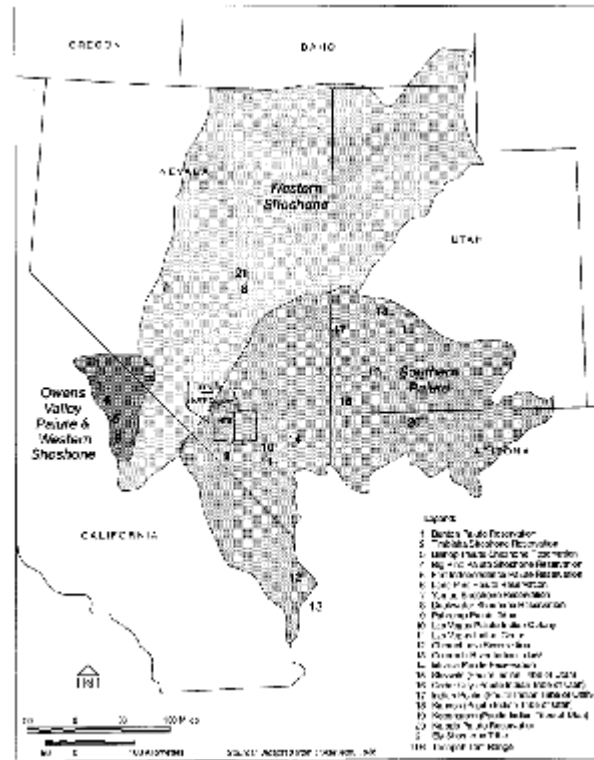


Fig. 2: Tribes Affiliated with the Nevada Test Site [3]

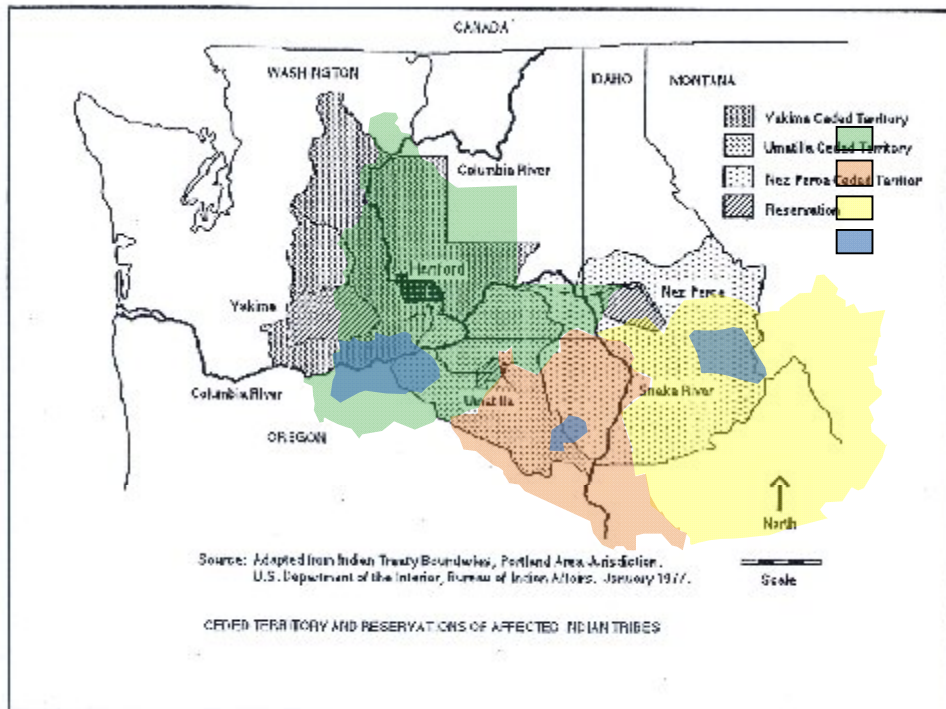


Fig. 3: Tribes Affiliated with the Hanford Site [4]

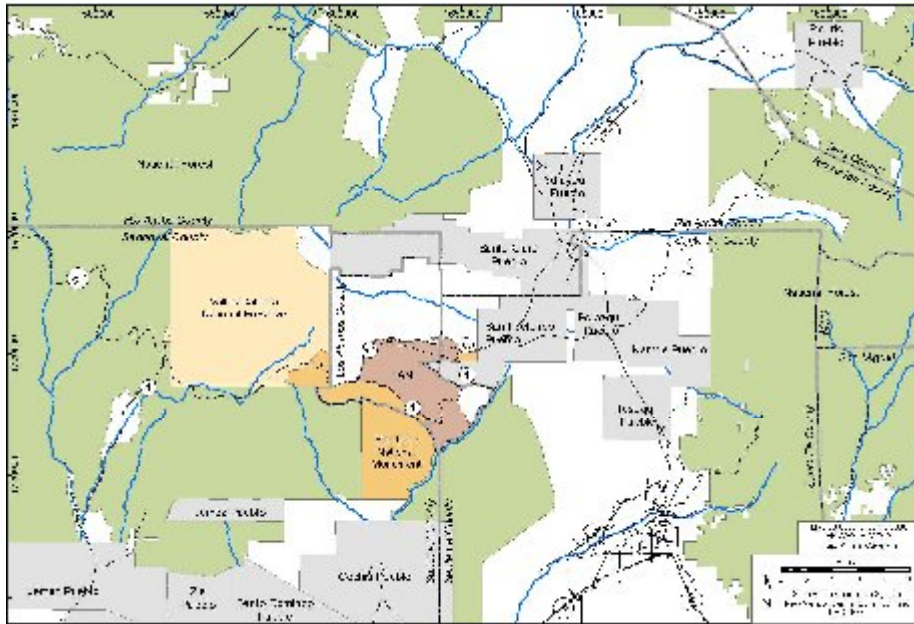


Fig. 4: Pueblos Affiliated with Los Alamos National Laboratory [5]

## APPROACH TO NARRATIVE TEXT DEVELOPMENT

The approach that is being used to develop the narrative text for the GTCC EIS is based on an effort by the NTS to incorporate narrative text beginning with their Site Wide EIS. In 1996, DOE developed a working relationship with the CGTO. A subgroup was formed; the AIWS and they were charged with several responsibilities, including the development of the Cultural Resource Management Plans and writing text for NTS Environmental Impact Statements.

The development of the Site-wide EIS for the NTS in 1994 provided a vehicle for information exchange between the CGTO and the NSO. The CGTO agreed to write text in the NTS EIS from an American Indian perspective. The development of the text was facilitated by the American Indian Program Coordinator with support from the University of Arizona–Bureau of Applied Research in Anthropology including three representatives from the University of Arizona. Within the body of the NTS EIS, the AIWS text was italicized so as to delineate it from other sections of the DOE text. With the issuance of the NTS EIS, both the CGTO and the DOE believed that this was a progressive approach to incorporating appropriate tribal views into the document. Through use of this approach positive interactions were promoted, and useful information for consideration by the Department was received. This approach aided in achieving results consistent with the intent of the DOE American Indian Policy and Framework and goes beyond merely requesting comments from the tribal governments

In September 2007, the DOE held a Public Scoping Meeting in Las Vegas, NV, on the Notice of Intent (NOI) to prepare an EIS for the Disposal of GTCC LLW. During the comment period the Spokesperson for the Consolidated Group of Tribes and Organizations (CGTO), a group of 16 tribes and organizations, each of which has demonstrated cultural and historic ties to the NTS, commended the DOE on their interest in evaluating potential Native American concerns. Additionally, based on their positive interactions and past experience with NTS, the CGTO desired to have the American Indian Writers Subgroup (AIWS) develop text for the GTCC LLRW EIS. The Spokesperson for the CGTO also stated that DOE should engage in meaningful consultation using a similar approach for all culturally affiliated tribes near DOE facilities that will be evaluated under the GTCC EIS. By using this approach, the Tribal Nations can identify their respective concerns and these concerns can be properly identified and evaluated early on in the EIS process.



Based on the positive experiences of the NTS, the GTCC process was modeled after the NTS approach for development of the GTCC narrative text. Key elements of this approach include:

1. Work with DOE Tribal Points of Contact (POCs) from those facilities being evaluated to identify the appropriate tribes.
2. DOE obtain tribal interest in development of the narrative text.
3. Once interest is confirmed, tribes assemble a writers group of knowledgeable individuals similar to the NTS AIWS. To maximize efficiency, the writes group is comprised of a limited number of tribal representatives from each culturally affiliated tribal group in order to provide information specific to that location.
4. Individuals must be selected by their respective tribal governments and be familiar with issues that can be developed into pertinent text and incorporated into the proposed EIS through the use of a facilitator(s).
5. Each writer's subgroup would be responsible for reviewing information on the "affected environment" to develop corresponding narrative text for each section.
6. Schedule meeting(s) with each respective writers subgroup to begin work within prescribed timelines.
7. Throughout this process, it is suggested that the POCs remain available, if necessary, to enhance working relationships.
8. If multiple tribes are involved, agree to the best approach to present tribal input collectively or individually.
9. Develop text and work with tribal leadership to approve text for inclusion in EIS.
10. Tribal representatives participating in this effort would need to be compensated for their time away from work in support of this effort unless other agreements/arrangements are in place.

#### **AGREEMENT ON DEVELOPMENT OF GTCC NARRATIVE TEXT**

On February 10-11, 2009, Tribes and organizations affiliated with the Hanford Site, INL, LANL, and NTS met in Las Vegas, NV. The objectives of the meeting were to share information with tribal representatives on the GTCC EIS; obtain tribal representative input on technical issues; identify possible topics for government-to-government consultations; present information on the opportunity for Tribal Nations to submit written text on their unique perspective on the DOE sites and environmental resource areas being analyzed in the Draft GTCC EIS; and obtain preliminary feedback from tribal representatives as to their interest in submitting written Narrative text. DOE Headquarters representatives from the Office of Environmental Management's Office of Regulatory Compliance and Office of Public and Intergovernmental Affairs, DOE Tribal Program Managers from Los Alamos, Richland, Idaho, and Nevada, and representatives from Tribal Nations, including the CTUIR, Nez Perce, CGTO, Wanapum People<sup>1</sup>, Santa Clara Pueblo, Shoshone-Bannock Tribes, Pueblo of Pojoaque, Duckwater Shoshone, Nambe Pueblo, Yakama Nation, Jemez Pueblo, Moapa Paiute, and Pueblo of San Ildefonso participated in the meeting.

DOE staff presented information and discussed opportunities for tribal participation in the GTCC EIS. DOE presented an overview of the EIS including information on the GTCC inventory; disposal alternatives; reference locations being considered for a land disposal facility; and the approach and methodology for evaluating environmental impacts of the proposed actions. Opportunities for tribal input were discussed to include direct government-to-government consultations; review and comment on the published Draft EIS, which would include narrative text; technical briefings; and/or development of narrative text for inclusion in the GTCC EIS. DOE made the commitment that if narrative text were provided, it would be included in the GTCC EIS and specifically identified as such.

---

<sup>1</sup> Wanapum People are not a federally recognized tribe nor have they asked to be federally recognized. Nevertheless, they are culturally associated with the Hanford Site and DOE and its predecessor agencies have worked with the Wanapum people since the establishment of the Hanford Site.

The proposed approach to development of the narrative text was discussed to include identifying tribal writers who have a working knowledge of the DOE facilities and related activities, and individuals with the ability to share tribal perspectives. A key factor in tribal participation is the need to have tribal representatives that could devote adequate time to writing and reviewing the narrative text, reviewing documents relating to the Draft GTCC EIS, and the availability to participate in a week long workshop at the DOE facility being assessed. Once the workshops are completed, the writing activities will continue. Tribal writers will need to review and refine the text for acceptance by their respective tribal governments prior to submittal to DOE. It is anticipated that coordination with tribal writers will continue after the writing session is completed to insure information is accurately reflected and updated due to any changes in the document during the tribal approval process. Once the text has been revised and accepted by the tribal representatives and their respective tribal governments, the final product will be transmitted to DOE.

The meeting agenda included time set aside specifically for the tribal representatives to participate in facilitated Tribal Executive Sessions to discuss issues and concerns among themselves and reported out to DOE. As a result of their discussion, concerns were raised to DOE to include the fact that tribal recommendations and concerns are based on spiritual beliefs which are different from western science; the concern over inclusion of information in the GTCC EIS that is confidential to tribes; how western data analysis would be reconciled with tribal information which is "anecdotal"; and the extent to which tribal input requires revision of the Draft GTCC EIS. In general most of the Tribes were interested in participating in the effort; however, the process of getting approval to participate in narrative text development may take time due to tribal leadership approval processes. After follow up discussions with their respective tribal leadership, the Tribes affiliated with the Hanford Site (CTUIR, Nez Perce and Wanapum), LANL (Nambe Pueblo, Pueblo of San Ildefonso, Pueblo of Santa Clara, Pueblo of Cochiti), and NTS (CGTO —Pahrump Paiute Tribe, Colorado River Indian Tribes, Duckwater Shoshone Tribe, Moapa Paiute Tribe, Bishop Paiute Tribe, Big Pine Paiute Tribe, Ely Shoshone Tribe) agreed to participate in the development of narrative text for inclusion in the GTCC EIS. Tribes from the Yakama Nation and the Shoshone-Bannock Tribes declined to participate in the development of Narrative text at that time, however, the Department will engage in other agreed upon consultation activities with those tribes.

## **NARRATIVE TEXT DEVELOPMENT WORKSHOPS**

Three facilitated week long workshops were held with the goal of having a draft narrative text relating to the environmental resource areas and other areas of tribal interest and concern. Workshops were held in Nevada (May 10-15, 2009); Los Alamos (June 8-12, 2009), and Hanford (June 15-19, 2009). Essential elements for the meeting were a meeting room with adequate capacity for the number of participants and necessary equipment (e.g., computer and printer) and reference reports to support the text preparation.

Day 1 focused on an Overview of the GTCC EIS; Expectations for Tribal Involvement; Presenting Tribal Perspectives; and survey of the Potential Location of the GTCC land disposal facility. The first day also included a visit to the proposed GTCC land disposal facility location (if accessible), a limited site survey to identify cultural resources (e.g. native plants with cultural or religious significance to the tribes, historic and archeological sites and finds, and other parameters of interest); and a review of the location of the proposed site in relationship to sacred areas, existing infrastructure, and other areas of interest. The proposed GTCC land disposal facility locations at NTS and LANL were accessible; the Hanford reference location was not accessible due to low levels of contamination at the site.

Days 2-5 were set aside for the facilitators to work with the tribes on the development of the narrative text. The approach consisted of reviewing existing information on the site related to cultural resources, environmental justice, geology, hydrology, other existing documentation, including the Site-Wide EIS, and reviewing information on the affected environment that will be addressed in the GTCC EIS: Climate, Air Quality, and Noise; Geology and Soils; Water Resources; Human Health; Ecology; Socioeconomics; Environmental Justice; Land use; Transportation; Cultural Resources; and Waste Management.



The ultimate goal for the workshop was to develop a single document containing the narrative text. Given the geographical, cultural, and religious differences, it was anticipated that there may be some differences in tribal perspectives. In general the tribes collectively presented their common views and issues of concern. This was the case for the tribes associated with the CGTO since they have been working together since 1996. Though the Pueblos have worked very closely with DOE and Los Alamos National Laboratory they had not worked together developing Narrative text presenting Pueblo views prior to this effort. At Hanford, the tribes worked together to develop a common set of perspectives which were adopted. The CTUIR developed its own document that tiered off of the tribal writers group (CTUIR, Nez Perce, and Wanapum People) text. The CTUIR document is intended to supplement the Hanford NEPA document [6] by adding tribal perspectives.

## TRIBAL ISSUES AND CONCERNS

Each of the environmental resource areas were reviewed during the workshops. Based on three workshops, several common tribal views and issues related to the environmental resource areas were identified. All of the issues and concerns raised in the narrative text will be included in the GTCC EIS either within subsections of each of the appropriate chapters and/or included in the Appendix to the GTCC EIS. These issues and concerns include: climate change; soils and minerals, ecological impacts to American Indian traditional use plant and animal species; human health impacts and American Indian pathways analysis; environmental justice; cultural resources, visual resources; and cumulative impacts. Presented below is an overview of tribal issues and concerns along with their narrative text highlighted in the text boxes.

### *Climate Change*

The most common area of tribal concern was that the climate (and thus the overall ecology) at each of the three sites (NTS, LANL, and Hanford) had changed in the past 10,000 years. It was perceived at each site that the lives of Indian people had changed during these climatic shifts, the plant and animal communities had shifted, and such shifts would occur again in the future; perhaps in the near future given potential impacts of Global Climate Change.

- *It is important to recognize that major climatic changes have taken place since the end of the Pleistocene and shorter term climatic changes such as the wet period in the 1980s and 1990s contrast with the current 10-year drought. It is important for the GTCC EIS to assess the impacts of short term and long term climatic changes because the DOE expects to safely manage these GTCC wastes for up to 10K years during which similar climate changes can be expected. (CGTO)*
- *Climate change that will occur over the next 10,000 years will inevitably draw on knowledge from the past, whether the climate becomes wetter or drier. Evaluation of future climate scenarios will need to include as much variation as occurred in the last 10,000 years. (CTUIR/Hanford)*
- *These climate shifts are both culturally important to the Pueblo people who conduct ceremonies to balance climate and pertinent to the consideration of GTCC proposal. (Pueblos)*

As an example of the implications of climate change, the tribes referred to NTS where the proposed GTCC disposal site is near a playa – dry lake bed. This lake bed was full of water 10,000 years ago and was surrounded by large mammals and wetland plants. Even as recently as 1983 and 1993 the area was much wetter involving both rain runoff from the mountains and rising water tables from the playa. At LANL the vegetation is seen by tribes as potentially expanding onto the waste site quickly during a wet period thus pushing roots into the site, cracking the tuff itself, and potentially eroding edges of the mesa towards the site. Similar tribal concerns are at Hanford.

### *Soils and Minerals*

At each of the potential GTCC disposal locations, regional soils and minerals found at or around each site play an important role in cultural and ceremonial activities.

- *There is a need for a cultural mineral assessment and study to identify the existence of minerals of cultural significance and use. (Pueblos)*
- *All minerals are culturally important and have significant roles in many aspects of Indian life. (CGTO)*

#### *Ecological Impacts to American Indian Traditional Use Plant and Animal Species*

Tribal ecological concerns relate to the fact that only threatened and endangered species and plants are evaluated. The full range of species needs to be evaluated especially in terms of Indian use plants and animals. Plants are used for medicine, food, basketry, tools, homes, clothing, fire, and social and healing ceremonies. Animals and insects are culturally important and the relationship between them, the earth and Indian people are represented by the roles they play in the stories of Indian peoples.

- *There are at least 364 Indian use plants on the NTS. Traditional use plants include: White Sage, Indian Rice Grass, Joshua Tree, Yucca, and Datura. The characteristics of the plants at the proposed GTCC area are smaller and thinner than in other desert areas where it is wetter. Indian people from elsewhere travel to this area to gather specific plants because they have stronger characteristics when they grow in dry places. (CGTO)*
- *All natural resources are significant to tribal culture as part of functioning ecosystems, and many are individually important as useful for food, medicines, materials, or other uses. (CTUIR/Hanford)*
- *Pueblo People know that they have many traditional plants and animals located on and near to the GTCC proposal area. Traditional use plants were identified which include medicinal, ceremonial, and domestic use plants. (Pueblos)*

#### *Human Health Impacts and American Indian Pathways Analysis*

All the tribes raised concerns that we do not have Indian-people specific pathways analyzed. It was generally agreed by the tribes that standard calculations of human health exposure as used in the GTCC EIS for the general public are not applicable to Indian populations.

- *The concept of General Public is an EPA term that is a generalization that derives from studies of average adult males. Residency time for the General Public tends to be a short period of an individual's lifetime and exposure is voluntary. Pueblo people live here in their Sacred Home Lands for their entire lives and will continue to reside here forever. (Pueblos)*
- *A "reference Indian" should be used in radiological and chemical risk assessment. Two exposure scenarios which reflect traditional tribal uses of the lands and resources, including hunting, fishing, gathering, and use of the sweat lodge, have been developed for use at Hanford by the CTUIR. They are multimedia and are full-time residential scenarios. These scenarios should be used to evaluate risks to tribal members at the location of the proposed federal [GTCC facility] and any impacted areas. (CTUIR/Hanford)*

#### *Environmental Justice*

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) states that Federal Agencies shall make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. Tribes believe that the analysis of Environmental Justice by DOE is inadequate to address Native American rights, resources and concerns. Native American communities face environmental exposures that are greater than those faced by other Environmental Justice communities due to greater contact with the environment that is a direct result of traditional, cultural, and ceremonial practices.

- *Environmental justice [should] include (1) damage to Holy Lands, (2) negative health impacts, and (3) lack of access to traditional places that contributes to breakdowns in cultural transmission. (CGTO)*
- *Pueblo people would like to expand the definition of Environmental Justice so that it reflects the unique burdens borne by them. Potential impacts include: loss of traditional lands; damage to Sacred Home Lands; negative health effects due to European diseases and shifting diet; and lack of access to traditional places.*
- *At Hanford, the Environmental Justice analysis should begin with an identification of resources and who uses them, not with county demographics. The first step in evaluating EJ for Native Americans at Hanford is to answer the following questions:*
  - *Do tribal members live in (now or in the past), visit, or use resources from the impacted zone?*
  - *Is the affected area within a tribal historic area, a traditional cultural property, or a tribally important landscape?*
  - *Is the affected area linked ecologically, culturally, visually, or hydrologically to tribal or other EJ population resources or uses?*
  - *Is a tribe a Natural Resource Trustee of the affected resource or lands?*
  - *If the answer to any of these questions is positive, the EJ analysis may proceed with more detailed evaluation. (CTUIR/Hanford)*

### *Cultural Resources*

Tribal Cultural Resources include all physical, artifactual and spiritual aspects for each of the potential areas being evaluated at Hanford, LANL, and NTS. All things of the natural environment contribute to the cultural resources for the tribal lifestyle.

- *Pueblo people have lived in and used the entire area of LANL since the beginning of time. Pueblo people continue to desire and have a culturally important role and responsibilities in the management of all of these traditional lands. (Pueblos)*
- *According to our religion, everything is based on nature. Anything that grows or lives, like plants and animals, is part of our religion. (Nez Perce Tribal Elder).*
- *All things of the natural environment are recognized as a cultural resource. This is a different perspective from many who think of cultural resources as artifacts or historic structures. (Hanford)*
- *Formal studies of cultural resources should be conducted to identify, assess, mitigate and manage these resources. Such studies should include ethnoarchaeology, ethnobotany, ethnozoology, traditional cultural properties, ethnogeography, and cultural landscapes. (All tribes).*

### *Visual Resources*

Views are important cultural resources that contribute to the location and performance of Indian ceremonies. Viewscapes are typically experienced from high places or tend to provide panoramic views.

- *Interruption of the vista by large facilities or bright lights impairs the cultural services associated with the viewshed. (CTUIR/Hanford)*
- *Views combine with other cultural resources to produce special places where power is sought for medicine and other types of ceremonies. (CGTO)*

### *Cumulative Impacts*

Cumulative impacts are the total impacts on a given resource resulting from the incremental environmental effects of an action or actions added to other past, present, and reasonable foreseeable future actions.

- *Cumulative impacts on tribal lands include: holy land violations, further destruction of traditional cultural sites, making the water disappear, general treatment of the land without proper respect; cultural survival, decreased ability and access to perform ceremonies; environmental restoration, revegetation of restored lands with native species; empowerment process; and radiation risks. (CGTO)*
- *The full span of risks and impacts needs to be evaluated within the risk assessment framework in order for cumulative risks to be adequately characterized. One of the premises of cumulative impact analysis is that risks to the entire tribal community, not just to a maximally exposed individual, must be evaluated. (CTUIR)*
- *Pueblo people express a concern that negative stigmas have been and will continue to be attached to their Sacred Home Lands, the natural resources from these lands, their businesses, and even themselves. (Pueblos)*

## POST-GTCC TRIBAL NARRATIVE TEXT

For the GTCC EIS, DOE has made a commitment to include the text developed by the participating tribal writers affiliated with Hanford, LANL, and NTS. However, the analysis to address some of the tribal narrative concerns (e.g., environmental justice, impact to American Indian traditional use plant and animal species) would be best analyzed at the site-specific level.

The tribal narratives developed for inclusion to the GTCC EIS is one of many activities at DOE sites involving working with the Tribes. Tribal scenarios have been developed and are being considered at many DOE sites where there are potential impacts to Indian people. Health impacts to Indian and other populations are taken into account for purposes of deciding the level of cleanup and remedy selection. Land-use plans have been developed with input from the public, tribes and State and Federal agencies which establish the “reasonably anticipated future land use” for the site.

## SUMMARY

Developing narrative text and working with the various tribal organizations and governments requires planning, appropriate resources, patience, and an appreciation for diversity. The concept of having each of the tribes develop Narrative text seems simple and straightforward. It is when one gets into the details of the “what, when, where, and how” when the complexities of developing the narrative text becomes evident.

**What:** The Department needs to clearly define what it is hoping to achieve by having tribal writers develop their text. In the case of the GTCC EIS, it was clear from the beginning that there was agreement among the DOE and the tribes that the text would reflect tribal perspectives. However, clearly defining tribal perspectives was something that was further discussed and refined as part of the text development process.

**When:** Sufficient time needs to be set aside to work through the entire process. Setting up the initial meeting with the tribes in February 2009 and planning the workshop took significant advance planning. A full week was set aside to conduct a workshop where the narrative text was developed. It was our assumption that draft text would be available at the end of the workshop. Though this was achieved in most cases, sufficient time needs to be dedicated in advance of the workshop to identify and review pertinent documents (e.g., cultural surveys) as well as provide sufficient time to allow the tribal writers to develop their perspectives in advance of the workshop. It is also important to understand the approval process. In most cases the Tribal Governments/Councils meet once a month. Insufficient time was initially allocated because of the lack of understanding of the tribal review and approval processes.

**Where:** Once an agreement to participate was made, tribal writers needed to be identified, meeting locations needed to be set, and background information resources needed to be identified and assembled. Staff support from the Field DOE Indian Program Managers (Linda Cohn, NTS; Cassandra Begay and

Don Ami, Los Alamos Site Office; and Kimberly Ballinger, Richland) was instrumental in setting up the workshops, coordinating the visits to the proposed disposal sites, and arranging other logistics.

**How:** On the surface it seemed easy; invite the tribal writers to develop their perspectives on the GTCC EIS. How was this going to be achieved? Given tribal concerns related to cultural and historic sites, it was determined early on in the process that DOE would not be directly facilitating the development of the text. In the workshop environment, it is critical to successful development of the text that there be a facilitated discussion with facilitators possessing the knowledge and understanding of tribal culture, customs, and processes. Through the resources of the Nevada Test Site and Desert Research Institute we were able to acquire the services of Richard Arnold. Richard Arnold was responsible for working with the CGTO tribes on development of their narrative text for the NTS EIS and other NTS documents. Assisting Mr. Richard Arnold was Dr. Richard Stoffle from the University of Arizona's Bureau of Applied Research and Anthropology. Richard and Dr. Stoffle discussed the proposed approach with the tribal writes and worked with them to develop the narrative text. In addition, they facilitated the production of the review draft. Another key aspect of text development is staying in contact with the tribal writers as they review and revise the final text, maintaining lines of communication and fostering communication among the tribes. Finally Richard and Dr. Stoffle worked with the tribes on receiving final approval of the text by their respective Tribal Leadership/Government.

Deciding up front on the process on how the narrative text would be integrated into the EIS greatly facilitated the development of the narrative text. The approach that was agreed on was to review the environmental areas that would be addressed in the GTCC EIS and develop associated Narrative text. This approach worked well and provided an outline for text development.

## **CONCLUSION**

DOE Order 141.1 lays out the foundation for successful early and meaningful consultation with Tribal Nations. Through open communication among DOE and the tribes, the development of the narrative text for inclusion in the GTCC EIS was achieved as one approach for consulting with participating tribes. Other agreed upon consultation activities (e.g., formal government-to-government consultations) for the GTCC EIS will be used by DOE and participating tribes consistent with established polices and protocols. Establishing the approach for consultation, defining the expected product for the narrative text, providing facilitated discussions, and working together (DOE and the tribes), provided the appropriate forum for development of the narrative text. The information that is included in the narrative text will play an important role in evaluating the alternatives being considered by the Department for the disposal of GTCC waste. The consultation activities and the identification of tribal views and perspectives for inclusion in the GTCC EIS is an example of how the Office of Environmental Management has translated the DOE Indian Policy into action.

## REFERENCES

1. U.S. DEPARTMENT OF ENERGY, Order 144.1, Department of Energy American Indian Tribal Government Interactions and Policy (January 6 2009).
2. U.S. DEPARTMENT OF ENERGY, Volume 1, Appendix G, American Indian Assessments: Final Environmental Impact Statement for the Nevada Test Site and Off-Site Locations in the State of Nevada (August 1996).
3. W.L. D'AZVEDO (Ed.), Great Basin, Volume II, Smithsonian Institute, Washington, DC (1986).
4. U.S. DEPARTMENT OF INTERIOR (Adapted from), Treaty Boundaries, Portland Area Jurisdiction, Bureau of Indian Affairs (January 1977).
5. CASSANDRA BEGAY, Personal communication from Cassandra Begay (Department of Energy, Los Alamos Site Office) to Arnold Edelman (U.S. Department of Energy) (October 1, 2009).
6. PACIFIC NORTHWEST NATIONAL LABORATORY, Hanford Site National Environmental Policy Act (NEPA) Characterization, PNNL-6415, Rev. 18 (September 2007).