

ate

Northern New Mexico Citizens' Advisory Board
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Santa Fe, New Mexico 87505
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1987
General

February 21, 2001

Dear Board Member,

Welcome to our new Board members David Chávez, Valerie Espinoza, Maxine Ewankow, Richard Gale, Myron Gonzales, Donald Jordan, June Fabryka-Martin, and Tom Switlik. We are delighted that you joined the Board. You will find on the blue papers the biographies for all the Board members.

We also welcome our facilitator for this meeting, Toby Herzlich. We will discuss the choice of a facilitator who will continue to work with the Board. A process will be presented to gather your feedback and suggestions.

Thanks to the feedback from the public and Board members, the Environmental Restoration Committee revised the Acid Canyon recommendation. This recommendation is offered for a first reading so we can discuss the revised wording and to involve new Board members in our discussion. We will make a decision about this recommendation at our March Board meeting.

The Waste Management Committee proposes a recommendation on Arrow-Pak, a transportation/container/treatment technology. This recommendation is printed on green paper. If you have any questions or comments about either recommendation, please call Terra Nash at 800-218-5942.

I look forward to seeing you soon.

Sincerely,

Menice AD

Menice S. Manzanares
Chair

2001 FEB 28 AM 11:53
RCRA PERMITS PROGRAM



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Northern New Mexico Community College
Española

February 28, 2001

Board's Mission: The Office of Environmental Management Site Specific Advisory Board will provide the Department of Energy Assistant Secretary for Environmental Management with policy information, advice and recommendations concerning EM environmental restoration, waste management, and technology development activities.

- 6:00 PM I. Call to Order by DOE**
Welcome
Approval of Agenda
Approval of Minutes – December and January
- 6:15 PM II. Introduction of New Members**
- 6:30 PM III. Public Comments**
- 6:45 PM IV. Orientation around Board Process**
- 7:15 PM BREAK**
- 7:30 PM V. Reports**

LANL's RCRA Permit, Part B - James Bearzi, Chief, Hazardous Waste Bureau, New Mexico Environment Department
"RCRA 101" Overview of RCRA - What is it, Why is it important, How can the CAB give meaningful input?
Questions and Discussion – Board, LANL, Public

8:30 PM VI. Board Business

- A. Report from the Chair – Menice S. Manzanares

- B. Report from DOE – MJ Byrne

- C. Overview of Committee Structure

- D. Report from the Environmental Restoration Committee – Fran Berting
 - Revised Recommendation on Acid Canyon (first reading)

- E. Report from Community Outreach Committee – Jim Johnston
(Information)

- F. Report from Waste Management Committee – George Chandler
 - Recommendation on ARROW-PAK™

- G. Report from Monitoring and Surveillance Committee – Agustin Garcia

8:50 PM VII. Board Comments

9:00 PM VIII. Adjourn

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White Rock Town Hall

**Board Meeting Minutes
December 13, 2000**

Board Members Present:

Jim Johnston, Chair
Fran Berting
Jim Brannon
George Chandler
Agustin Garcia
Dorothy Hoard

Board Members Absent:

James Alarid
John Alejandro
Anthony Armijo - Excused
Patrick Feehan - Excused
Tim Gallegos
Sara Galpin - Excused
Menice S. Manzanares - Excused
Domingo Martinez
Evelyn Maruska - Excused
Angelina Valdez - Excused

Ex-Officio Members Present:

Michael Baker, ER/LANL
James Bearzi, NMED
MJ Byrne, DDFO
Dennis Martinez, DOE/LAAO

Guests:

Julie Canepa, ER/LANL
Jean Dewart, ESH-17/LANL
Steve Fong, DOE/LAAO
Mat Johansen, DOE/LAAO
Scot Miller, ESH-17/LANL
Judith Moss, NMED
Ted Taylor, DOE/LAAO
Carmen M. Rodriguez, ER/LANL
Paul Schumann, ER/LANL

Staff:

Ann DuBois, PWT
Terra Nash, ATA Services

I. OPENING

MJ Byrne, Deputy Designated Federal Official, called the meeting to order at 6:00 p.m. The Chair, Menice S. Manzanares, was absent. Jim Johnston, Vice Chair, chaired the meeting.

Fran Berting moved, seconded by George Chandler that the Board add to its agenda a report on the Bylaws, a proposed recommendation on Acid Canyon, and a report on the SSAB stewardship conference attended by Jim Brannon and MJ Byrne. Mr. Johnston explained that because the Board did not have a quorum, the Board could not pass any recommendations or approve the minutes.

Mr. Johnston introduced Terra Nash, the new Environmental Technical staff person. He requested that Board members, ex-officio members and the public introduce themselves. Mr. Johnston acknowledged Veronica Rodriguez from Senator Domenici's office and Dolores Garcia from Senator Bingaman's office.

Mr. Johnston announced the resignation of Board member Janet Gerwin. She asked to continue with the Monitoring and Surveillance Committee.

II. PUBLIC COMMENT

Mat Johansen reported on the tritium sampling in a Los Alamos drinking water well. The previous results were 36 picuries. The October test results showed 32 picuries. That amount is less than the 20,000 picuries that is the drinking water standard. The well will be tested monthly for tritium. In November, the quarterly update samples will include strontium 90 and other items.

George Chandler asked about the production well schedule. Mr. Johansen replied that the well is pumped every other day.

END OF PUBLIC COMMENT

III. REPORTS

A. LANL Air Quality Audit Dr. John Till, Risk Assessment Corporation, 417 Till Road, Neeses, SC 29107 803-536-4883

Dr. Till reported on his Air Quality audit of LANL that was completed on December 13. In July, he shared with the Board his plans for this audit. The purpose of the audit was to determine if LANL were in compliance with the Clean Air Act, 40 CFR 61, Subpart H in 1999. The audit was to see if there were any radiological releases into the atmosphere that exceeded the standards. The audit is

the result of a Consent Degree between the Department of Energy and the Concerned Citizens for Nuclear Safety organization. Dr. Till read a prepared statement of his findings on this second audit that found LANL in compliance in 1999 for offsite contamination. The regulations limit the air releases to 10 mrem per year. LANL reported a dose of .032 mrem. The audit team commended LANL for addressing the concerns identified in the first audit. Dr. Till acknowledged that the audit was conducted under difficult circumstances including the aftermath of the Cerro Grande fire and heightened security considerations at LANL. He said that the thoroughness of this audit is the most comprehensive evaluation under the Clean Air Act. The Institute for Energy and Environmental Research sent Dr. Arjun Makhijani as an observer to monitor the audit for completeness, quality, and thoroughness on behalf of Concerned Citizens for Nuclear Safety. The audit process was open and included several Pueblos, members of the public and Concerned Citizens for Nuclear Safety.

The first audit found some deficiencies. LANL improved the compliance process for this audit. Dr. Till said that LANL took this second audit seriously and improved since the last audit. He felt that the audit process itself was successful and contributed to the Department by its being independent and cooperating with citizens.

Dr. Makhijani from the Institute for Energy and Environmental Research observed Dr. Till's team. He did not do the audit but participated in the audit design, the observations, reviewed the reports, and attended the press conference. Dr. Makhijani stated that he agreed with the findings of compliance. He said that this audit was complete but noted that the first audit was not complete. Dr. Makhijani said that the first report should be conditional because the uncertainty calculations were not done. He discussed the neutron doses that were tracked. Some European research showed that the neutron doses to workers were underestimated. Dr. Makhijani suggested that LANL should look at this issue. He also noted that LANL should institute a complex terrain modeling for the canyons before the next audit.

Mr. Chandler asked about the location of the maximum exposed individual rating. Dr. Till said that the location is the county landfill office and not at LANSCE. The naturally occurring uranium that would be kicked up by moving dirt would cause this dose.

Dr. Till explained that the largest source of neutrons was released by the criticality experiments. The concern was for the exposure to the public on Pajarito Road and to workers. The first air audit raised this issue. Dr. Makhijani suggested that EPA should look at this issue and add some material to the regulations. EPA has been asked about this issue but seems to be not responsive to their comments. Jean Dewart said that the neutrons are included in the all pathways analysis in the Site Environmental Report.

Mr. Brannon asked how the dose of .32 mrem compares to dental and medical x-rays. Dr. Till explained that an x-ray is approximately 10 mrem. The dose of .32 mrem is slightly higher than background radiation.

Ms. Hoard asked if the audit team used LANL-collected data to base their findings. Dr. Till said that they looked at LANL's data and the calculations that LANL made. He added that staff from the New Mexico Environment Department provided some of the quality assurance on this data.

Dr. Till said that there would be another audit in two years at the request of all parties. An ongoing result of this audit process will be the citizens' involvement in checking LANL for compliance.

Scott Miller acknowledged the Board's role in this audit. The Monitoring and Surveillance Committee suggested locations for the Maximum Exposed Individual calculations. The Committee and the Board made recommendations and LANL implemented the Board's suggestions.

Mr. Chandler thanked Dr. Till and CCNS for their work with the audit. He acknowledged his initial skeptical attitude towards this process. At a result of this audit, his skepticism about Dr Till and CCNS decreased. He expressed his appreciation for the creditability that the audit gave to these findings and the integrity of their process.

Ms. Byrne asked for the Board, that when Dr. Till's does the third audit, if he would meet with Board and personally involve Board members. She said that the Board wants to work with CCNS. Dr. Till promised that Board members could be involved with the third audit.

B. Interagency Flood Risk Team

Dr. Bearzi said that the Interagency Flood Risk Team would hold on December 18 their first Open House and public meeting. This Team is assessing the damage from the Cerro Grande fire and the possible transport of contaminants. The Team will distribute information to the public in a digestible form. The primary audiences are downstream water users, the general public and the Pueblos. He encouraged Board members to attend this meeting.

C. Chair Report

Mr. Johnston tabled this report due to the absence of the Chair Menice S. Manzanares.

D. DOE Report

Ms. Byrne reported on the Bylaws Committee that included Fran Berting and herself. A member of the public gave extensive ideas about revising the Bylaws. The Committee welcomes contributions to this discussion. The Board will have at least two readings before the Bylaws can be adopted.

Ms. Byrne said that Amanda Burton, Terra Nash and Ann DuBois sent out 160 letters asking for nominations to the Board. The Eight Northern Pueblos Council of Governors nominated Maxine Ewankow and San Ildefonso Pueblo nominated Myron Gonzalez to the Board. She encouraged Board members and the public to nominate more people to fill the vacant six slots.

Ms. Byrne said that the Board received a draft Board newsletter in their packets. She asked the Board members to give their comments to Ms. DuBois. Ms. DuBois will edit the newsletter and then it will go to press by mid-January. The plan is to issue a newsletter on a quarterly basis.

Ms. Byrne invited Board members to attend the February SSAB Chairs meeting in Las Vegas, Nevada.

E. Monitoring and Surveillance Committee

The Monitoring and Surveillance Committee did not meet this month and so did not have a report.

F. Environmental Restoration Committee

Dr. Berting reported on the December 2 Risk Assessment Workshop. The purpose of the workshop was for Board members to learn how LANL evaluates risk to human health. The Committee met on Monday, December 4 at the Northern New Mexico Community College in Española. The Committee and staff members from the New Mexico Environment Department, LANL and DOE looked at the results of the RESRAD modeling of Acid Canyon. The Committee drafted a recommendation on the cleanup levels for Acid Canyon. The recommendation was distributed to the Board members. The recommendation was option of removing 228 cubic meters from Acid Canyon to remove hotspots and protect the public.

The next meeting is scheduled for January 8 at the Northern New Mexico Community College in Española.

G. Bylaws Committee

Dr. Berting distributed a preliminary report and explained that it is not a complete document. She described the major changes from the existing Bylaws so the

Board can be more functional and in compliance with the new SSAB Guidance

H. SSAB Stewardship Conference

Mr. Brannon introduced the SSAB Stewardship Principles drafted by the conference. The various Boards were asked to adopt these Principles by the SSAB Chairs meeting in February. If the majority of the Boards pass these Principles, they will be sent as a uniform voice to DOE. These Principles are offered for a first reading at this meeting.

Ms. Hoard asked about the drivers for new technology to clean up. The Principles seem to assume monitoring forever. She offered that it is better to clean up so as not to be monitoring forever. Mr. Brannon said that this issue was thoroughly discussed during the conference. He thought the biggest drivers for clean up were the cost of monitoring and the desire to use the real estate in other ways.

I. Community Outreach Committee

Mr. Johnston said that on December 14, he will do the monthly KRSN radio interview. Mr. Johnston suggested that letters be sent to radio and TV stations to get publicity for the Board.

Mr. Johnston asked that Board members send their comments on the draft newsletter to Ms. Nash or Ms. DuBois. He reported that the Board's webmaster contract for one year is up for renewal. The bill will be sent to Ms. DuBois for payment.

J. Budget Committee

Mr. Johnston tabled the report due to the absence of the Chair Domingo Martinez.

K. Waste Management Committee

Mr. Chandler reported on his conversation with James Orban, Waste Management Director for DOE Albuquerque Operations. They discussed the Board's Recommendation 2000-4 to expedite the waste shipping schedule from LANL to WIPP. Mr. Orban described the new technology that DOE is developing. He offered to brief the Committee. Mr. Chandler said that the recommendation's purpose is for DOE to place a higher emphasis on moving the waste before 2013. During the Cerro Grande fire, there was a possibility of the fire hitting this waste stored at TA-54. The possibility of fire was the second reason for the evacuation of White Rock.

Mr. Chandler relayed Mr. Orban's description of the monthly meeting where the waste management priorities are discussed. The Chair is John Arthur. At this

meeting, the decisions are made to use LANL funds as a bank to clean up other Environmental Management sites. Mr. Arthur said that more public interest is needed for this process to change. Other sites use their political influence with their Congressional delegations to increase the funds to clean up their sites. Mr. Chandler asked the representatives from Senators Bingaman and Domenici present at the meeting to take this concern to ask them to give higher priority and shorten the deadlines to move this waste from LANL to WIPP. Ms. Byrne suggested that LANL's Governmental Relations Office could carry this message in a letter from the Board Chair Menice S. Manzanares to the Congressional Delegation.

Mr. Chandler said that the Committee discussed the proposed Arrow-Pak recommendation. The Arrow-Pak is used at Rocky Flats. The recommendation asks LANL and DOE to explore this technology. He asked for time on the January agenda to present more information on Arrow-Pak. Mr. Chandler requested a briefing from BOH at next Board meeting.

Mr. Chandler expressed the Committee's concern about LANL's Liquid Waste Treatment releasing tritium into Mortandad Canyon. The Committee will look at this issue in more depth.

L. Presentation on WIPP Shipping

G.R. Allen, E-ET Project Leader for Characterization of Waste

Mr. Allen described the near-term TRU shipping schedules. The next shipment is scheduled for December 21. The New Mexico Environment Department may grant the necessary prior approval on December 18. The shipping schedule for next year will stay flat and then in 2002 will go up.

Mr. Allen described the characterization activities required by Part B of the RCRA Permit. Recently an audit was completed that involved EPA, NMED and Carlsbad. New standards will be created as a result of this audit.

Mr. Allen said that cost is a driver with the over wattage containers that have to be repackaged. The NMED RCRA Part B requirements for Mixed Waste are prescriptive. Due to these requirements, LANL will not be able to ship homogenous waste in several years. Right now, LANL can ship drums filled with debris.

Mr. Allen described the contact waste technology that has been developed. The shipping standards for remote-handled waste are not yet finalized. The cost improvements are on target to increase LANL's ability to ship higher wattage drums.

Mr. Johnston asked about the process of selecting two or three more vendors than

Westinghouse who wants to pull out of contract. Mr. Allen said that this year's shipments do not require standard waste boxes. LANL is trying to move this shipping completion date in from 2013. The legacy waste is reduced in size and volume by separating the low-level from TRU waste. LANL is adding more stations to pack more waste.

Mr. Garcia asked what corrective action would be taken against the company that failed to correctly ship from INEEL to WIPP. Mr. Allen explained that DOE is responsible for the waste after it leaves a site. He added that Carlsbad would not allow this company to ship until the investigation is completed.

Dr. Bearzi said that the characterization of waste is needed because the RCRA amendments and Congressional testimony show the need for these requirements. These steps are protective of human health. He requested the opportunity to present to the Board some information about the LANL's RCRA Permit, Part B at the January meeting.

III. ADJOURNMENT

The meeting adjourned at 8:30 p.m. Mr. Johnston thanked the Board members and the public for attending the meeting.

The minutes are an accurate and complete summary of the matters discussed and conclusions reached at the Northern New Mexico Citizens' Advisory Board meeting held on December 13, 2000.

Certified by:

James Johnston, Chair Pro Tem

Date

I.D. 2

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Board Meeting Minutes
January 24, 2001

Board Members Present:

Menice Santistevan-Manzanares, Chair
 Fran Berting
 Jim Brannon
 George Chandler
 Agustin Garcia
 Dorothy Hoard
 Jim Johnston

Board Members Absent:

Anthony Armijo
 Patrick Feehan
 Angelina Valdez
 Evelyn Maruska

Ex-Officio Members Present:

Michael P. Baker, ER/LANL
 James Bearzi, NMED
 Joe Vozella, DOE/LAAO

Ex-Officio Members Absent:

MJ Byrne, DDFO, DOE/LAAO

Guests:

Julie Canepa, ER/LANL
 Tom Baca, ER/Rocky Flats
 Joni Arends, CCNS
 Mat Johansen, DOE/LAAO
 Steven Tujague, Boh Environmental

Trent Hannah, BOH Environmental
 Harvey Svetlik, BOH Environmental
 Bruce Gallegher, LANL
 Steven Reneau, ER/LANL

I. OPENING

Joe Vozella, Acting DDFO, called the meeting to order at 6:04 p.m. A quorum was established. The agenda was approved as presented. George Chandler moved, seconded by Dorothy Hoard, that the October minutes as amended be approved. The Board voted 7-0. George Chandler moved, seconded by Dorothy Hoard that the November minutes as presented be approved. The Board voted 7-0.

II. PUBLIC COMMENT

Joni Arends, Concerned Citizens for Nuclear Safety, 107 Cienega, Santa Fe, New Mexico 87501, 505-986-1973

Ms. Arends said that due to her workload she could not accept nomination to the Board. Ms. Manzanares invited her to consider membership at a later time.

III. REPORTS

A. LANL's RCRA Permit B Modifications – James Bearzi, Chief, Hazardous Waste Bureau

Dr. Bearzi requested additional time on the Board's February agenda. He said that LANL had to comply with the RCRA permit for waste management. Dr. Bearzi felt that it was important for the Board to understand the importance of this permit and how it worked. In 1989, EPA issued this permit to LANL. The federal law was new and LANL's first permit would last ten years. The permit covered operations at TA-16, TA-50 and TA-54. The permit expired two years ago and is being reviewed by NMED. The permit is still in force because LANL made a complete and timely application before the original permit expired.

The reason that this permit is important for the Board to review is that it will guide waste management and environmental restoration decisions for the next ten years and beyond. The corrective actions are part of the permit. Dr. Bearzi offered to brief the Environmental Restoration and the Waste Management Committees. He would like the Board to be involved at a level beyond public comment. The draft permit will be out this calendar year.

B. Groundwater Update – Mat Johansen, Environmental Engineer, DOE/LAAO

Mr. Johansen updated the Board on results of testing the Otowi-1 well (a Los Alamos drinking water well) for tritium, perchlorate, and other contaminants. This well is in Pueblo Canyon. The recent test results showed no surprises with tritium and perchlorate at about the same levels and strontium-90 was not detected. Recent tritium levels are a bit lower than previous levels. Mr. Johansen offered to the Board and the public a complete set of tables for all the tested wells.

Mr. Johansen distributed a handout describing the tritium findings in the test wells and drinking wells in the regional aquifer below LANL. Soon a new test well, R-5, will be drilled in Pueblo Canyon to test the regional aquifer near the Otowi-1 drinking water well to better understand movement of perchlorate and tritium. Mr. Johansen explained that tritium and perchlorate move more rapidly through the groundwater than most radionuclides. Tritium is a good tracer for understanding groundwater movement.

Mr. Johansen discussed sources of tritium. A map was handed out showing where LANL tritium discharges have occurred. It also showed levels of tritium in rainwater that reached their peak in the early 1960's due to atmospheric testing or nuclear weapons.

Mr. Johansen presented data that came from both LANL and NMED. Two NMED Oversight Bureau personnel were in attendance. The pooled data gave a more complete picture. The data shows that pathways do exist from surface areas to the regional aquifer. They are finding that the maximum values for tritium are long way from the drinking water standards (20,000 pico-curries per liter). The older measured values of tritium are generally higher than the current levels, but more wells are planned to provide a better picture.

Dorothy Hoard asked since the really high values of tritium are older is the tritium getting removed from the system or if there is a recharge somewhere. Mr. Johansen replied that the decreased levels seen today are a result of both radioactive decay and dispersion of tritium as it mixes in groundwater. Also that some canyons, particularly Mortandad Canyon has yet to be fully investigated by the LANL Environmental Restoration program. Dr. Canepa said that all sources in Pueblo Canyon have been turned off. Mr. Vozella clarified that TA-50 the Radioactive Liquid Waste Treatment Facility is still discharging tritium into Mortandad Canyon and the lagoons at TA-53 evaporate liquid contain tritium. He offered to brief the Waste Management Committee on the steps that LANL took to reduce these contaminants.

Jim Brannon asked why EPA chose the 20,000 pico-curries standard. Mr. Johansen said that EPA established standards based on where radionuclides go in the body and the health hazards they present. Mr. Brannon asked about the epidemiological and low-level exposure standards used to set this standard. Mr. Johansen acknowledged that the effects of low level radiation are still debated. Mr. Brannon asked if LANL is getting better at detecting the low limits. Bruce Gallegher, LANL, responded that LANL uses the well-recognized lab at the University of Miami because they are experts on lower detection limits.

Joni Arends, CCNS, asked when was tritium first detected in Otowi-1. Mr. Johansen said that the first findings were made by NMED from sampling in 1998 that was reported early 1999. In 1999, Otowi-1 well was shut down for a while, then LANL sampled in June 2000 and found tritium which was the main topic of discussion at the October Board meeting. NMED and LANL have done more sampling since then, and will continue the high frequency sampling.

C. BOH Environmental

Stephen L. Tujague, President, described the research and development process for the ARROW-PAK™ container. The container can be used to ship and bury waste. DOE has approved it as a treatment for low-level waste on specific projects at Hanford and Oak Ridge.

BOH Environmental is developing a container to ship TRU waste to WIPP called the BOH PAK. Rocky Flats and other DOE facilities have shown interest in using the new BOH container to ship to WIPP. The proposed BOH PAK will contain an ARROW-PAK contained in a steel transport container for compliance with WIPP and other applicable requirements.

Jim Johnston asked about the hydrogen gas build up in these containers. Mr. Tujague responded that several approaches are being taken to resolve this problem. If the BOH PAK were accepted as a treatment process, then the hydrogen gas test is not needed. If this test is not required, the Department will have considerable savings.

Mr. Johnston asked how BOH expected to ship the containers. Mr. Tujague replied that the containers would be shipped by truck. Mr. Baca explained that rail is much more expensive because they must be dedicated trains. The salt will encapsulate the material put in WIPP and the environment will be safe for hundreds of years.

Mr. Chandler asked about the amount of plutonium that can be put in each container. Mr. Tujague responded that less than 13 grams would be placed in each container.

Ms. Hoard asked about the fire resistance properties of the ARROW-PAK™. Mr. Tujague responded that 800⁰ Farenheight for thirty minutes is standard for Land Disposal Restriction. The outer casing burns at temperatures above 650⁰ when oxygen is present. When the ARROW-PAK monolithic material burns it creates a thick billowing smoke (consisting of carbon and hydrogen) that will takes up the oxygen in a closed space and puts out the fire. Thus fire is not of great concern when considering the ARROW-PAK for use at WIPP.

Dr. Berting asked about the assumption when plutonium and TRU waste is mixed with other materials, hydrogen is generated. Mr. Baca responded that the assumption is that when the material is not clumped, it is equally mixed. The ARROW-PAK container is a safety pressure vessel so it cannot generate enough hydrogen beyond 60 psi to be a problem.

Dr. Berting asked about the 300-year test of disintegration over time. Mr. Tujague replied that the ARROW PAK is a higher structurally engineered to withstand ultraviolet light.

Mr. Johnston commented that if LANL could ship the higher wattage material using these containers, DOE would realize considerable savings. The Department of Transportation allows the drums to be compacted at the rate of 4:1. Mr. Tujague added that DOE considers this a treatment process because there is no leaching.

Mr. Garcia asked if this was BOH Environmental's first presentation to a DOE facility. Mr. Tujague responded that in 1990, BOH began working with DOE at various facilities. Hanford and Oak Ridge have both used the ARROW PAK™ system for specific projects, deploying five times for approximately 1000 drums.

D. Chair's Report

Ms. Manzanares invited Board members to attend the SSAB Chairs meeting from February 7-10 in Las Vegas, Nevada. She announced that she, Jim Johnston, Dorothy Hoard, and Jim Brannon would attend this meeting and tour Yucca Mountain.

Ms. Manzanares announced that she and Mr. Garcia are interviewing prospective Board members. She hoped that some new members will attend the February Board meeting.

E. DOE Report

Mr. Vozella noted that since the last meeting, the Board received the responses to two recommendations. The first response was to Recommendation 2000-3 concerning Santa Fe Alloys company. Mr. Vozella reported that Albuquerque Operations is reviewing its contracts. The Safety Manager at DOE Headquarters received this recommendation and the suggestion that other sites also review their contracts. The response to Recommendation 2000-3 concerns expediting waste from LANL to WIPP. He said that LANL received \$15 million for fire risk mitigation at TA-54. This money will not expedite the shipment of waste but will make safer its temporary storage. Mr. Vozella said that LANL had not received additional funds to accelerate waste shipments. Mr. Chandler said that he talked with Veronica Rodriguez from Senator Domenici's office. The Senator's DOE expert, Pete Lyons, said that DOE Headquarters supported money being used for cleanup at other sites to quickly close them. Then more funds will be available to clean up and ship LANL's legacy waste.

F. Stewardship Principles

Mr. Brannon said that the SSAB conference on stewardship developed the principles that were sent to Board members. The conference requested that all the Site-Specific Advisory Boards adopt these principles so they can be sent to DOE Headquarters as a joint recommendation. Jim Brannon moved, seconded by Fran Berting, that the Board adopt the stewardship principles. The motion passed 7-0. ACTION: Ms. Manzanara asked the staff to prepare a letter for her signature to convey the Board's action.

G. Bylaws Committee

Dr. Berting described as a work in progress the draft of the Bylaws sent to the Board members. She presented the most important changes. Ms. Hoard added that the Bylaws Committee discussed the use of Robert's Rules of Order. Mr. Chandler said that the Bylaws could specify that Robert's Rules of Order could be stated as the default and consensus used only for recommendations to the Department of Energy. Dr. Berting said that the Board might receive another draft at the February Board meeting.

H. Environmental Restoration Committee

Dr. Berting distributed a written copy of her report. She presented for the first reading, the recommendation on Acid Canyon. Dr. Berting suggested some editorial changes to make the text easier to read. Joni Arends, CCNS, asked for the Committee's rationale for selecting option #2. Dr. Berting responded that this option included cleaning up the hotspots but does not require that the total habitat be destroyed.

Mr. Reneau said that the option is based on reducing the dose that the public might receive in an extended backyard scenario. Ms. Arends was concerned about the pathway that the tritium might follow to the Rio Grande. Ms. Hoard explained that if the plutonium moved, due to the water and soil dispersion, it would be reduced to trace levels. If LANL cleaned up all the sources, the habitat would be destroyed. Mr. Vozella said that LANL is doing further study on the tritium findings. He stated that there is no public health risk in the canyons if there were any transport of these contaminants.

I. Waste Management Committee

Mr. Chandler presented for the first reading the ARROW-PAK™ recommendation. He explained that DOE is looking at this technology. The purpose of this recommendation is to expedite the waste in temporary storage at TA-54 and ship it to WIPP.

Mr. Vozella said that a source of tritium is the Radioactive Liquid Waste Treatment Facility at TA-50. The discharge water flows into Mortandad Canyon. The Waste Management Committee was briefed on January 22 on what LANL is doing to minimize and achieve further reduction in the release of this contaminant. Mr. Vozella emphasized that all these releases are below EPA standards. Mr. Chandler added that the tritium releases are on the magnitude of several 10s of thousands less than the 20,000 pico-curies required by the drinking water standards. The outfall from the Waste Treatment plant contains strontium 90, perchlorates, nitrates and TRU waste in the stream. However, nothing exceeds the tritium standard or other components of the effluent permit. There are no standards or permit requirements for perchlorates. Mr. Chandler stated that he believes LANL needs more money to bring down these effluent levels even further. The technology and the processes exist to achieve this goal.

J. Community Outreach Committee

Mr. Johnston reported that staff sent out 140 letters and made 60 calls to request nominations to the Board. Four potential Board members will be interviewed on January 25 and another four on February 1.

The Board's website has been updated and a new carrier has been found. The most recent edition of the newsletter is available on line. Mr. Johnston will do the KRSN interview on January 25. He talked with PAC 8 to see if he can get a spot for the Board. On April 18, a Board member will participate in the Santa Fe High School Earth Day celebration. Mr. Johnston is recruiting a high school student to serve on the Board.

K. Budget Committee

The Budget Committee Chair, Mr. Martinez, resigned from the Board. Ann DuBois made the report in his stead. She noted that the equipment expenses that were supposed to be paid from last year's budget were charged to this year's funds. In July, the Budget Committee will begin the process of closing the fiscal year's budget.

IV. BOARD COMMENTS

James Bearzi, NMED, announced that on January 22 his Department released the standards on risk-based screening. Mr. Brennon requested that he include information on this topic during his February 28 presentation to the Board.

Ms. Manzanares announced that the Board would hold a Retreat when the new Board members are available.

V. ADJOURNMENT

Ms. Manzanares adjourned the meeting at 9:00 PM. The next meeting will be February 28 at the Northern New Mexico Community College in Española.

The minutes are an accurate and complete summary of the matters discussed and conclusions reached at the Northern New Mexico Citizens' Advisory Board meeting held on January 24, 2001.

Certified by:

Menice S. Manzanares, Chair

Date

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**ENVIRONMENTAL MANAGEMENT SITE-SPECIFIC ADVISORY BOARD
LOS ALAMOS (Northern New Mexico Citizens' Advisory Board)**

BIOGRAPHIES

Board Members

Armijo, Anthony - Mr. Armijo is a member of the Jemez Indian Pueblo, and works for the Public Works Department. He is the Chairperson of the SSAB's Monitoring and Surveillance Committee.

Berting, Fran - Chair of the CAB's Environmental Restoration Committee and she has a Ph.D. in Materials Science. During her career, she worked at Bell Labs, Lawrence Livermore National Laboratories, Uniroyal and for major contractors at the DOE's Hanford Reservation. Dr. Berting work experience includes a variety of positions in materials analysis, writing ADP acquisition and computer security requirements. She has also worked on teams writing Environmental Impact Statements on projects including spent fuel disposition. Dr. Berting served as an alternate to the Battelle team on the Hanford CAB the year it was being formed, 1994. She has served in leadership positions in music and the arts, and on political committees in the Tri Cities area. She is currently active in the Los Alamos County Neighborhood Action Committee and serves on the Los Alamos County Council.

Brannon, James R. - Mr. Brannon is a registered professional civil and environmental engineer with over 20 years engineering management experience. He has an extensive background in the management and execution of civil and environmental engineering projects, facilities engineering, and public works. His experience includes broad application of the environmental sciences relating to a wide range of compliance responsibilities associated with: the National Environmental Policy Act (NEPA); the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); the Clean Water Act (CWA); the Clean Air Act (CAA); and the National Historic Preservation Act (NHPA). Mr. Brannon joined Battelle in October 1999 as a Program Manager. He is responsible for market development in the environmental sector and restoration support to DOE's Pentax Plant. He has an M.S. in Systems Management, MS. in Business Administration and B.S. in Civil Engineering.

Chandler, George - Mr. Chandler has twenty-five years experience in hydrodynamic experiments, Controlled Thermonuclear Reactions research, nuclear weapons testing, and environmental technology at the Los Alamos National Laboratory (LANL). He has an M.A., B.A., and A.A. in physics. George has served for eight years as an elected member of the Los Alamos County Council, as a magistrate for the past two years for the County, and completed

*** Proposed New Board Member submitted on February 15, 2001**

sixteen months as the Los Alamos Site-Specific Advisory Board Chairperson.

* **Chávez, David** – Mr. Chávez served twenty years on the Española City Council. While serving on the Council, he visited WIPP. He was the President of the New Mexico Association of Counties from 1996/1997. Mr. Chávez was the Rio Arriba County Clerk for twelve years.

* **Espinoza, Valerie** – Ms. Espinoza is the Executive Office Administrator, Office of the Associate Laboratory Director for Nuclear Weapons-Institutional Facilities and Construction, Los Alamos National Laboratory. She has extensive training in mediation and negotiation. She has a Bachelor of Science degree in Organizational Psychology, College of Santa Fe. Ms. Espinoza has an Associate of Applied Science Degree in Human Services, Northern New Mexico Community College. She is enrolled in the Bachelor of Science degree in Political Science, College of Santa Fe.

* **Ewankow, Maxine** – Ms. Ewankow was nominated to the Northern New Mexico Citizens' Advisory Board by the Pueblo Governors serving on the Eight Northern Indian Pueblos Council, Inc. She provides community outreach education and reference materials to/for the pueblo environmental departments. From 1995 to 1996, Ms. Ewankow worked at the Los Alamos National Laboratory Waste Treatment and Minimization Science and Technology Group. In 1989, she got a Bachelor of Science degree in Biology from the University of Maine.

* **Gale, Richard E.** – Mr. Gale was responsible for the identification, definition and control of technical design interfaces for the Clinch River Breeder Reactor. He was the Facilities/Works/Construction Manager with Westinghouse Electric Corporation. Mr. Gale has a combined Bachelor of Science and a Bachelor of Arts degree in Industrial Management and Electrical Engineering. He completed the Executive Development Program at Cornell University. He is a Director of the Santa Fe Chamber of Commerce and the President of the Northeast Neighborhood Association.

Garcia, Agustin - Mr. Garcia graduated from St. Michael's High School in Santa F. He attended Midwest Business College and took additional college hours in the social sciences. Mr. Garcia worked at the Penitentiary of New Mexico for twenty-six years and retired as Chief Classification Officer and Supervisor of Classification Department. He has five years experience as drug abuse counselor with University of New Mexico and four years' experience with the Albuquerque Journal prior to his retirement.

* **Gonzales, Myron J.** – Mr. Gonzales is a member of San Ildefonso. He works as the Pueblo's Cultural Resource Technician for the Environmental and Cultural Department. He was nominated by the Pueblo Council to serve on the Board. Mr. Gonzales studied Computer Science at the Santa Fe Community College and Business Administration at New Mexico State University.

Hoard, Dorothy - Ms. Hoard has a BA in Biochemistry. Until 1997, she was a Team Member in the Environmental Restoration Project office at the Los Alamos National Laboratory. Ms. Hoard was the founding member and President of the Board of Trustees of the Friends of Bandelier National Monument. Ms. Hoard served as a member of the Trails and Pedestrian Pathways Committee that developed the Los Alamos County Trails Management Plan. Since 1993, she coordinated the 4th of July Annual Butterfly Count for the North American Butterfly Association. Since 1998, she has been active with the Los Alamos County Adopt-a-Spot Volunteer to plant flowers near the Public Library. Ms. Hoard reviews and comments on management actions including logging contracts, mining permits, thinning projects and elk studies for the Santa Fe National Forest and National Park Service. She was a volunteer for the restoration efforts including seeding, raking and spreading straw following the Cerro Grande Fire.

Johnston, Jim R. - Mr. Johnston works as a contractor for LANL as a packaging design engineer. He is also the President and Chief Executive Officer of Johnston Consulting Services, a private consulting business specializing in hazardous materials and packaging. He has twenty years of experience in shipping, packaging engineering, design and transportation and technical expertise in hazardous materials packaging, transportation and training. He is a member of the American Testing and Materials and the National Institute of Packaging, Handling and Logistics Engineers. He is a former member of the Naval Air Station (Miramar) Restoration Advisory Board.

* **Jordan, Donald J.** - Mr. Jordan has twenty years professional experience in public administration. He is the Deputy Director of the New Mexico Department of Finance and Administration, Local Government Division. Mr. Jordan served as the County Manager of McKinley County and was involved with a number of Superfund sites in that county. He has a Bachelor of Arts degree in Political Science and History from New Mexico Highlands University. Mr. Jordan has taken 37 hours of Graduate Courses in Public Administration from Arizona State University. He completed the Program for Senior Executives in State and Local Government, Harvard University.

Manzanares, Menice - Ms. Manzanares has a B.A. degree in Political Science and an M.A. in Distributive Social Science with emphasis in Political Science and Economics. Ms. Manzanares was formerly the Village Administrator for the Village of Questa. She is currently the Project Manager of the Taos Homeowner Center of the Neighborhood Housing Services of Santa Fe and a consultant with Santistevan-Manzanares Consulting. She was appointed to the New Mexico State Personnel Commission in February, 2001. Ms. Manzanares was elected Chairperson for the Board in October 1999 and re-elected for another term in October, 2000.

* **Martin-Fabryka, June** - Dr. Fabryka-Martin is the Deputy Site Project Manager for Transuranic Waste Characterization/Certification Program, Los Alamos National Laboratory, Environmental Science and Waste Technology Group. Dr. Fabryka-Martin has a Ph.D. in

Hydrology, Masters degree in Hydrology and a Bachelors of Arts degree in Geography.

* **Switlik, Tom** – Mr. Switlik was a senior-level official with the Department of Defense. He worked at the Naval Weapons Center at China Lake, California where he was the Head of the System Safety Branch, Product Assurance Division. Mr. Switlik was the Senior Technical Advisor to the Chairman of the Joint Department of Defense and NASA Safety Review Team for approving classified military and CIA payloads going on the Space Shuttle. He is a Professional Engineer.

Valdez, Angelina - Ms. Valdez worked for the New Mexico Department of Human Services for 29 years. Then she worked as a Library Associate 8 years in the LANL Scientific Library. Ms. Valdez and her family owned and operated a fruit orchard. She has served with the Velarde Mutual Domestic Water Consumers Association.

Ex-Officios

Baker, Michael P. - Mr. Baker is currently the Interim Program Director for the Environmental Management Program at Los Alamos National Laboratory. He is responsible for operating environmental restoration, waste management, radioactive liquid and solid waste operations, integrated science and technology and environmental stewardship.

Bearzi, James P. - Dr. Bearzi is the Chief of the Hazardous and Radioactive Materials Bureau of the New Mexico Environment Department (NMED). He was formerly the Manager of the NMED's Community Services Section. Dr. Bearzi has a Ph.D. from University of New Mexico, M.S. degree in Earth Sciences from Montana State University, and a B.S. in Geology and Geography. He is a member of the Geological Society of America.

Byrne, M. J. - Ms. Byrne currently serves as the Program Manager for Community Outreach and Public Affairs at the Department of Energy's Los Alamos Area Office (LAAO). Her duties include acting as the Deputy Designated Federal Officer to the Northern New Mexico Citizens' Advisory Board; acting as the Department of Energy liaison to the Pueblos, and Federal, State and local elected officials; community outreach for environmental issues; and LAAO liaison for New Mexico economic development projects. She has 16 years' experience with the Department of Energy. She has a B.S./B.A. in Political Science, History and Business Management, and an MPA in Public Administration.

Mayer, Richard - Mr. Mayer received a B.S. in Geological Engineering from the University of Missouri at Rolla in 1986. He began working for the Environmental Protection Agency in January 1987 and has worked in Hazardous Waste Permitting and Cleanup of Hazardous Waste Sites for almost 11 years. Currently, he is with the Hazardous Waste Management Division, US EPA Region VI and works almost exclusively on the Los Alamos National Laboratory corrective action program.

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FY 2001

Budget

Donald Jordan

David Chávez

Menice S. Manzanares

Staff: Ann DuBois

Bylaws Committee

Fran Berting, Chair

Jim Johnston

Dorothy Hoard

Menice S. Manzanares

Staff: Ann DuBois

Community Outreach

Jim Johnston, Chair

Anthony Armijo

Staff: Ann DuBois

Environmental Monitoring and Surveillance

Anthony Armijo

Agustin Garcia, Chair Pro Tem

Valerie Espinoza

Eric Ericson

Myron Gonzales

June Fabriyka-Martin

Tom Switlik

Staff: Terra Nash

Resource People:

Mat Johansen, DOE

Gene Turner, DOE

Steve Yanicak, NMED

John Young, NMED

Environmental Restoration

Fran Berting, Chair

Jim Brannon

George Chandler

Maxine Ewankow

Dorothy Hoard

Angelina Valdez

Staff: Terra Nash

Resource People:

Julie Canepa, LANL

John Kieling, NMED

Ted Taylor, DOE

Waste Management

David Chávez
George Chandler
Richard Gale
Staff: Terra Nash

2/21/01

Resource People:

Joe Vozella, DOE/LAAO

VI. D

Northern New Mexico Citizens Advisory Board
Recommendation to the Department of Energy
Cleanup of Acid Canyon, Los Alamos, New Mexico

BACKGROUND: Acid Canyon was the location of wastewater outfalls from laboratory buildings and a liquid-waste treatment plant between 1944 and 1964. The wastewater streams contained radioactive contaminants. Despite the fact that intensive studies were done over the years, two previously undetected radioactive hot spots were discovered in Acid Canyon in 1999. Acid Canyon is a Los Alamos County park with unrestricted public access. The hot spots are located in a narrow gorge not commonly used, but easily accessible to hikers.

A LANL Environmental Restoration Program (ER) risk assessment of the Acid Canyon contaminated area of 11,840 square feet (approximately a quarter acre) indicates that overall exposure does not exceed the Department of Energy (DOE) limit of 15 excess millirem per person per year (mrem/yr) for a recreational user. However, at the hot spot areas, totaling 538 square feet, the permissible dose may be exceeded under certain conditions. The added exposure is due primarily to plutonium 239/240. Therefore, LANL ER is considering a cleanup of the radioactive hotspots.

The Northern New Mexico Citizen's Advisory Board (NNMCAB) understands that the DOE uses the *as low as reasonably achievable* (ALARA) concept to determine levels to which to clean contaminated sites, and that "reasonable" cleanup levels are determined by cost/benefit analyses. LANL ER calculated four options for cleanup based on a dosage to a hypothetical child who played in the sand 200 days per year for 1 hour per day.

- 1) No soil removal, resulting in an excess exposure to the hypothetical child of 12.7 mrem/yr.
- 2) Removal of approximately 65 cubic yards of soil that contains the highest levels of contaminants, which would reduce the calculated excess dose to 5.7 mrem/yr.
- 3) Removal of approximately 228 cubic yards of soil that exceeds the DOE single radionuclide soil guideline of 280 picocuries per gram, which would reduce the excess dose to 3.1 mrem/yr.
- 4) Removal of approximately 880 cubic yards of soil containing virtually all the plutonium-contaminated sediments, which would reduce the excess dose to 0.4 mrem/yr.

RECOMMENDATION: It has come to the attention of NNMCAB that deposits of sediments containing high levels of radioactive contaminants recently discovered in Acid Canyon have caused public concern. The Board reviewed the "ALARA Analysis for the South Fork of Acid Canyon" and other documentation provided by DOE, LANL, and the New Mexico Environment Department.

The NNMCAB recommends to the DOE that the Department add to the baseline for LANL ER an additional cleanup in Acid Canyon. The board recommends that LANL ER remove approximately 228 cubic yards of soil, including the hot spots plus all other soil for which plutonium concentrations exceeds DOE soil guidelines of 280 picocuries per gram.

The NNMCAB believes that the reduction of excess dose from 3.1 to 0.4 mrem/yr does not justify the additional costs in cleanup money, use of waste repository space, environmental damage caused by the cleanup itself, or the stress to local residents during an extended cleanup time.

Acid Canyon

Proposed Recommendation on ARROW-PAK

The NNM CAB is concerned about the current planned completion date of 2014 for the shipments of TRU waste from Los Alamos to WIPP. One of several factors involved in the delay is that the present packaging techniques result in a low density of waste being shipped. After several Board members attended two nation wide SSAB symposiums on transportation issues and a transportation conference in Santa Fe last year it has become apparent to NNM CAB that new options for higher density packages are becoming available. An innovative packaging technique from BOH Environmental seems to be particularly suitable and may result in an increase in the density of waste, while still meeting regulatory requirements. If this be so, the number of shipments to WIPP from Los Alamos would be considerably reduced and would thereby expedite the removal of the surface-stored waste at TA-54, and possibly produce considerable dollar savings to the taxpayer.

Therefore, the NNM CAB recommends that the DOE and LANL study the technology known as Arrow-Pak, provided by BOH Environmental, to determine the feasibility of using it to ship waste from LANL and brief the NNM CAB on their findings and decision. A brief description and list of applications of the technology is attached.

ARROW-PAK TM MIXED WASTE TREATMENT TECHNOLOGY

The Arrow-Pak technology has been successfully demonstrated at several DOE sites and is the preferred technology at EnviroCare in the State of Utah. The technology is the standard for treating low level mixed waste and is being developed by EM-50 for its use in transporting Transuranic waste to WIPP. The technology is now being tested and will soon be presented to NRC for type B certification. Boh Environmental's ARROW-PAK TM is a patented immobilization technology that meets the federal guidelines (40 CFR 268.45) for treatment and land disposal of mixed waste debris. The ARROW-PAK mixed waste treatment method places the debris in a thick high-density polyethylene jacket and seals it with a proprietary thermal fusion process to produce a leak-tight monolithic treatment capsule that immobilizes the waste for 300 years. ARROW-PAK's inherent material properties such as toughness, ductility, strength, fusibility, chemical inertness, structural stability, and longevity, enable it to be land disposed safely and securely without risk of material degradation or leachability of hazardous constituents. ARROW-PAK is certified for safe transportation as a Specification 7A Type A package per 49 CFR 173 and is approved by the State of Utah for direct disposal as a "Macro Capsule" at EnviroCare of Utah, Inc. under the facility's modified Part B Hazardous Waste Permit.

The ARROW-PAK field demonstration at Hanford successfully treated 880 drums containing legacy mixed waste debris in accordance with U.S. EPA Alternative Treatment Standards for Hazardous Debris, 40 CFR 268.45. Approximately 1,070 drums containing mixed waste debris generated from D&D operations at Oak Ridge were successfully treated with the ARROW-PAK technology and accepted for direct disposal at EnviroCare of Utah; the only commercially available disposal facility for mixed waste in the country. These two projects demonstrate that ARROW-PAK successfully meets

the EPA Land Disposal Restrictions for mixed waste. In the case of the Hanford project, ARROW-PAK also demonstrated compliance with the State of Washington's WAC 173-303-140, Land Disposal Regulations.

The technology is currently being used at the OakRidge National Laboratory facility and is being evaluated by the Carlsbad Area Office for its use in transporting transuranic waste to WIPP.

The following regulatory approvals and certifications are currently in effect:

- 1.) State of Utah/EnviroCare of Utah, Inc. Approval for direct land disposal as a "Macro Capsule" under EnviroCare's modified Part B Hazardous Waste Permit(1999).
- 2.) EPA:40 CFR 268.45 Alternative Debris Treatment Standard (at DOE Hanford Site).
- 3.) DOT: DOT Spec 7A Type A Package per 49 CFR 173(1999)
- 4.) Washington State Department of Ecology: WAC 173-303-140, Land Disposal Regulations (at Hanford Site. 1997)
- 5.) EPA: Best Demonstrated Available Technology for Treatment of Irradiated Lead(1991).
- 6.) DOE: EM-50 supported and approved.

The technology can change the way waste material is moved off DOE sites. The technology has the potential to process four thousand drums per month. If Los Alamos(as an example) was ready to measure and process its current inventory of forty thousand drum equivalents, the potential with this technology is to move all of Los Alamos waste off in one year.

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