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# LONGENECKER and ASSOCIATES

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## Dr. Donald L. Vieth

### EXPERIENCE SUMMARY

Dr. Vieth is recognized for his authoritative work in developing and implementing technical solutions for the real-world problems facing the US Nuclear Weapons Complex. He has over thirty years experience of technical analysis and management gained within government agencies and departments. He has served as a technical advisor to several presidential appointees as well as DOE and Laboratory technical managers. He managed the Yucca Mountain Project and was responsible for its selection as the single site for continued evaluation as the nation's first high level radioactive waste repository. He managed the environment, safety, security and health programs associated with weapons testing at the Nevada Test Site. At the request by the Secretary of Energy, he was responsible for developing technical, systems engineering and regulatory requisites necessary for the privatization of the Tank Waste Remediation System project. While at Hanford, serving as the senior technical advisor on the tank waste, he was responsible for restructuring the plan to address DNFSB Recommendation 93-5 regarding the safety of the tanks. The revised plan resulted in the closure of the DNFSB concerns. At Rocky Flats, he was responsible for restructuring the plutonium residue characterization program and the supporting analysis which resulted in the DNFSB determining the residues were not a pyrophoric hazard facilitating the closure of Recommendation 94-1. He was also responsible for the analysis of safeguards requirements and developing the variance request that allowed the plutonium residues to be shipped to WIPP without expensive processing.

### SPECIAL ACCOMPLISHMENTS

- Prepared the summary document that formally documented the technical accomplishments of the Type 126 Pit Development Units
- Developed the concept and approach for the LANL Design Agency's Weapons Quality Assurance Plan covering the approach to quality of intellectual products
- Developed the approach and prepared the document for the LANL Nuclear Material Technology Division's Integrated Quality Management Program (to be issued fall of 2005).
- Provided the technical guidance and operational support necessary for the LANL Pit Manufacturing Project to deliver the QUAL 1 Pit on schedule in April 2003 and have the DOE/NNSA accept the product.
- Revised and expanded the LANL 126 Pit Qualification Plan to meet the requirements for the Plan specified in the National Nuclear Security Agency's Technical Business Practice documents. First revision of the document was issued in December 2001.
- Developed, in October 2001, the Quality Management Program for the Pit Manufacturing Project Office necessary to establish the basis for achieving acceptance by DOE/NNSA of the pits manufactured by Los Alamos National Laboratory (LANL).
- Responsible for developing the argument and preparing the documentation (November 1998) that facilitated the issuance of the variance to the Safeguards Termination Requirements for disposal of plutonium bearing residues. This document became the basis for Congress formally defining the limits of fissile material in the residues disposed of at WIPP. It provided the basis for saving over \$150 million and shortened the disposal completion time by 4 years.

- Responsible for developing the documentation program necessary to achieve agreement with the DNFSB on the safety of the plutonium bearing residues and effect the close out of Recommendation 94-1. Closure was achieved in May 1999.
- Responsible for restructuring of the Plutonium Residue Characterization Program at Rocky Flats necessary to gather and analyze the information to demonstrate that the plutonium bearing materials were safe for handling and disposition without extensive processing. Within the year, the restructured program was providing data that management was using to make decisions and set priorities on processing and handling the residues.
- Responsible for the revision of the Implementation Plan for the Defense Nuclear Facility Safety Board's Recommendation 93-5 regarding the Hanford Tank Waste Characterization and the resolution of the remaining safety issues associated with the waste. The Defense Nuclear Facility Safety Board (DNFSB) approval received in September 1996. Closure of the Recommendation was achieved in November 1999.
- At the direction of the Secretary of Energy, assigned the responsibility for developing the Department of Energy's approach to privatizing the Hanford Tank Waste Remediation System (removing and solidifying the high-level radioactive waste from the 177 tanks on the Hanford Site, July 1994 through October 1996). This effort also included the creation of an alternative approach to nuclear safety regulation within the Department of Energy to resemble the Nuclear Regulatory Commission approach. Contracts for developing the privatized service were signed in September 1996.
- Managed the review of an unsolicited proposal to privatize the construction and operation of a high level-waste vitrification plant to process the high level waste at Hanford. Provided definitive report that outlined the strengths and weaknesses of the multibillion dollar proposal. Report completed in August 1994.
- At the invitation of the Society of Mining Engineers, was principal author of chapter on "Waste Repositories" for the "Mining Engineer's Handbook, 2<sup>nd</sup> Edition, published in August 1992
- Reorganized effort, recovered the schedule, and prepared the Rocky Flats Plan Mission Transition Program Management Plan. Prepared Summary version of the Transition Plan which the Secretary of Energy submitted the Report to Congress on committed schedule, July 31, 1992.
- Developed and implemented the Red Team Review methodology for the Office of Environmental Restoration and Waste Management. Issued the first review document, "Independent Engineering Review of the Hanford Waste Vitrification System" in October 1991.
- Served as Chairman of the Investigation Team for the Fire at the LLNL Spill Test Facility. Investigation successfully identified, without question, the cause of the fire.
- Testified before Congress in June 1987 regarding the status of the site investigations for the Yucca Mountain focusing on the strengths and weaknesses of the status of knowledge regarding the site. Pursuant to the testimony by all three Repository Project Managers, a Congressional decision was made, ahead of schedule, to select the Yucca Mountain Project as the single site for continued characterization for the first high level radioactive waste repository.
- Managed the Yucca Mountain Project's for five years until the site was selected as the Civilian Radioactive Waste Management Program's single site for continued investigation as

a repository for disposal of high level radioactive waste. Site was selected in advance of the approved baseline schedule in November 1987.

- Chairman of National Academy of Science Workshop on “Advances in Technology for Construction of Deep Underground Facilities,” December 1985, Report issued in January 1986.
- Responsible for the negotiation and preparation of the U.S./Japan Bilateral Agreement on the use of Test Facilities for Fusion Reactor Materials Development, January 1982.
- Responsible for the development of the Climax Test Facility at the Nevada Test Site and the concomitant experimental/technical activities conducted and the acquisition and shipment of the 11 irradiated spent fuel elements.
- Responsible for the negotiation and preparation of the U.S./Sweden Bilateral Agreement on Waste Management (Stripa Project), July 1978.
- Responsible for the development of the announcement to and notification of the governors, senators and congressman of the site exploration and identification program for developing the nation’s first high level radioactive waste repository, November 1976.
- Responsible for organizing the first joint Industrial Research Institute/Federal Council for Science and Technology Symposia on Management of Research and Development, April 1975.

#### **DETAILED EXPERIENCE**

1997 Private Consultant

- 2007 Los Alamos National Laboratory, Summary of Development Units for LANL Manufactured Pits
- 2006 Los Alamos National Laboratory, Design Agency Weapons Quality Assurance Program
- 2006 Los Alamos National Laboratory, AD Weapons Physics Integrated Quality Management
- 2006 Los Alamos National Laboratory, NMT Division, Revision of Quality for Weapons Surveillance
- 2004 Los Alamos National Laboratory, NMT Division, Development of Integrated Quality Management Program
- 2001 Los Alamos National Laboratory, Pit Manufacturing Project, Technical Advisor to Project Director
- 2001 Los Alamos National Laboratory, Pit/Weapon Certification Oversight Board Member
- 1999 Brookhaven Laboratory, Environmental Remediation Review Group
- 1999 Department of Energy, Nuclear Materials Focus Group, Advisor Committee Chairman
- 1997 Rocky Flats Plant, Plutonium Residue Remediation Project, Technical Advisor

1994 Senior Technical Advisor, Tank Waste Remediation System; Department of Energy – Richland Operations Office

1993 Deputy Assistant Manager for Environment, Safety, Security and Health; Department of Energy – Nevada Operations Office

1987 Deputy Assistant Manager for Environment, Safety and Health; Department of Energy – Nevada Operations Office

- 1982 Director, Yucca Mountain Project Office; Department of Energy – Nevada Operations Office
- 1981 Chief, Materials and Radiation Effects Branch, Office of Fusion Energy; Department of Energy – Headquarters
- 1976 Director, Repository Development; Office of Waste Isolation, Energy Research and Development Administration/Department of Energy – Headquarters
- 1975 Technical Assistant to Assistant Administrator for Nuclear Energy; Energy Research and Development Administration – Headquarters
- 1974 Special Assistant to Director; Office of Director, National Bureau of Standards; Department of Commerce

**EDUCATION**

- Metallurgical Engineer, University of Cincinnati
- PhD, Metallurgical Engineering, University of Cincinnati

**PROFESSIONAL ASSOCIATIONS**

- Member, U.S. Delegation to the General Conference of Weights and Measures, Paris FR, 1974
- Executive Secretary, Committee on Federal Laboratories, Federal Council for Science and Technology, 1974 – 1975
- U.S. Representative, International Atomic Energy Agency, Technical Review Committee on Underground Disposal, 1978 – 1980
- Staff Director, U.S. Waste Management Working Group for the International Fuel Cycle Evaluation 1978 – 1980
- Member, National Academy of Science, U.S. National Committee on Tunneling Technology, 1983 – 1987, Chairman 1985 – 1986
- Recipient, Distinguished Alumni Award, University of Cincinnati College of Engineering, 1984
- Chairman, Official U.S. Delegation to International Tunneling Association meeting, Prague, CZ, 1985
- Participant in the President's Executive Exchange Program, 1989 – 1990 with assignment at Lockheed Engineering and Science Co.