

United States Nuclear Regulatory Commission Official Hearing Exhibit


In the Matter of:	SHINE MEDICAL TECHNOLOGIES, INC. (Medical Radioisotope Production Facility)	
	Commission Mandatory Hearing	
Docket #:	05000608	Identified: 12/15/2015
Exhibit #:	SHN-006-MA-CM01	Withdrawn:
Admitted:	12/15/2015	Stricken:
Rejected:		
Other:		

Exhibit SHN-006**RICHARD VANN BYNUM****SUMMARY**

- Experienced leader of large, multidisciplinary research, development, operations, and manufacturing organizations
- Extensive experience managing large, high-tech, high-security organizations and projects
- Outstanding ability to build and maintain relationships with customers
- Led the highly successful design and NRC licensing effort for the first new radioisotope facility in the U.S. in over 50 years.
- Responsible for all of the Los Alamos National Laboratory's facilities (including nuclear, high hazard, and research facilities) and their safe, secure operations
- Experienced managing large, diverse organizations and detailed budget management (approximately 1850 staff with a budget of \$917M/year)
- Reduced accident and injury rate by over 30%
- Managed a \$1.7B project to re-establish this nation's ability to manufacture and certify pits, the core of modern day nuclear weapons.
- Chief Project Engineer, construction of a nuclear materials processing facility
- Successfully developed new work for others markets for Los Alamos National Laboratory (LANL)
- Disposal Room lead for permitting of WIPP, the United States' first TRU waste repository
- Experienced in national and international technology development and exchange projects

EDUCATION

Ph.D.: Inorganic Chemistry, University of Alabama, Tuscaloosa (1983)

B.S. in Chemistry, University of Alabama, Tuscaloosa (1978)

Lean Manufacturing Certificate, University of Michigan (2005)

SECURITY CLEARANCE

Dr. Bynum holds a U.S. Department of Energy (DOE) "Q" and is approved for SCI access.

SUMMARY OF EXPERIENCE

SHINE Medical Technologies, 2011-present

Dr. Bynum is the Chief Operations Officer (COO) for SHINE Medical Technologies, a company founded to address the world-wide shortage of Mo-99, a medical isotope essential for over 50,000 medical procedures each day in the US. As COO, he is responsible for Environment Safety & Health, Quality, security, technology development, engineering, plant design, licensing, construction, and operation of the facility. Under Dr. Bynum's leadership, SHINE developed the preliminary design for the facility, generated the Preliminary Safety Analysis, and successfully submitted to NRC the first application for a medical isotope production facility in over 50 years. This application has been positively cited by NRC numerous times for its quality resulting in SHINE being referred to as a model applicant. In the course of developing this high quality application Dr. Bynum integrated and managed the work of a very small core staff at SHINE with resources from large architect engineer and specialty consulting contractors along with support from four National Laboratories.

Los Alamos National Laboratory (Los Alamos National Security, LLC/ University of California), 1998-2012

Dr. Bynum served as the Principal Associate Director for Operations (acting) for the Los Alamos National Laboratory (LANL) where he was responsible for all operational matters for the Laboratory, and provided oversight, strategic direction, and integration to the Associate Directors for Environment, Safety, Health, and Quality, Nuclear and High Hazard Operations, Institutional and Site Services (which includes maintenance), Project Management, and Security. Dr. Bynum was responsible for a staff of approximately 1850 with an annual budget of approximately \$917M. While in Operations at LANL, Dr. Bynum as part of a team reduced our staffing by over 200 while enhancing our delivery performance, reduced our accident and injury rates by over 30%, decreased the number of corrective actions overdue by more than 70%, initiated a Formality of Operations Project to provide an even safer work environment, and set a pathway to reduce the Laboratory footprint by 2M square feet, thus reducing our costs and allowing the programs to direct more of their funding to program execution. Dr. Bynum also served as a program manager in the Hydrodynamic Program at LANL and assisted in the Global Threat Reduction Program in space based intelligence systems sector and the application of novel technologies to emerging problems.

Prior to the contract transition in June 2006, Dr. Bynum was Deputy to the Associate Director of Weapons Engineering and Manufacturing and assumed the Associate Director position for extended periods on several occasions. In that position, Dr. Bynum provided management oversight of manufacturing and related technology development activities at LANL, incorporated the management of all fabrication activities (e.g. experimental support) into an integrated, responsive, and cost effective organization, managed the waste operations activities, and provided management direction to weapons engineering activities. Dr. Bynum chaired for Her Majesty's Government an Independent Review Panel that assessed the United Kingdom's nuclear weapons fabrication capability and capacity. Prior to being named Deputy Associate

Director, Dr. Bynum was Project Director for the W88 Pit Manufacturing and Certification Project, with a project budget of \$1.7B. The W88 Pit Manufacturing and Certification Project was designed to restore this nation's ability to certify nuclear weapons in the absence of underground nuclear testing.

Science Applications International Corporation (SAIC), 1990 to 1998

Dr. Bynum joined SAIC as a senior project manager and was Chief Scientist for the Integrated Technology Applications group working on various technical management, process engineering, safety analysis, and waste management activities. Dr. Bynum supported the Department of Energy's Waste Isolation Pilot Plant (WIPP) through Sandia National Laboratories in the areas of actinide solubility, colloid formation and transport, and geochemistry. He served as one of the architects for the development of the actinide source term, consulted in general and actinide chemistry for the colloid and gas generation programs, and was the principal integrator for chemistry within the WIPP Performance Assessment. In this position, Dr. Bynum was the principal chemistry technical interface between the WIPP Project and the National Academy of Sciences, the State of New Mexico, the Environmental Evaluation Group, the Environmental Protection Agency, and national and international peer review groups. Prior to his WIPP activities with SAIC, Dr. Bynum was asked to relocate to Albuquerque to accept the position of Business Development Manager for the Integrated Technology Applications Group of SAIC. He was successful in developing new programs and leading the group into new markets. Dr. Bynum also served as a senior technical consultant to Lawrence Livermore National Laboratory on the conceptual design of an automated plutonium manufacturing and processing facility

Rockwell International/EG&G Rocky Flats, Inc., 1984 to 1990

After completing his Ph.D. Dr. Bynum joined Rockwell International as a research chemist, but quickly advanced to a position of high visibility and responsibility. Based on his prior successes, Dr. Bynum was assigned Program Manager for the Pond Crete Project concurrently with his responsibilities for the Process Technology Development Department. Driven by the high visibility and importance of the Pond Crete Project, Dr. Bynum hand selected a team that scoped, engineered, and initiated Pond Crete Operations within 4 months. This included design/procurement/construction of 9 football field size enclosures and assembling a staff of approximately 200, not including matrixed support. The project was successful in satisfying the State of Colorado's concerns and averting a potential lawsuit. Dr. Bynum previously served as the Chief Project Engineer for the PROVE Project, a \$42 million design/construction project at the Rocky Flats Plant, and was responsible for all aspects of the engineering for the project. At the time of this assignment, the PROVE project was \$8M over budget and six months behind schedule. During his time as Chief Project Engineer, Dr. Bynum assisted the Program Manager in establishing a change control team to address the budget and schedule problems. In his last position at the Rocky Flats Plant, Dr. Bynum was the Manager of Process Technology Development, where he was responsible for the identification and development of the technologies necessary to meet the plant's mission in the areas of metal recovery and processing,

weapons production, waste treatment, and RCRA compliance. This involved the integration of process chemistry/physics, mechanical design, nuclear and non-nuclear instrumentation, and control systems. Although Rocky Flats' research and development mission was being cut back significantly, Dr. Bynum led the organization through a period of 25% growth.

Prior to moving to the PROVE Project, Dr. Bynum was manager of the Process Planning and Control Division. This organization was comprised of groups with the responsibility for Planning and Analysis of the Plutonium and Waste Processing Operations, Plutonium and Waste Processing Operations Training, Non-Destructive Assay and Materials Control, and Tank Operations. In this capacity, Dr. Bynum was involved in the detailed planning, forecasting, scheduling, and training necessary to meet the plant's strategic goals in nuclear materials processing and weapons production.

Diamond Shamrock Agricultural Chemicals, Inc., 1980 to 1983

In the Quality Control and Environmental Laboratory, Dr. Bynum supported production operations, monitored plant emissions to ensure the protection of the environment and compliance with all applicable regulations, developed quality control methods and procedures, and performed both- routine and non-routine analyses. Dr. Bynum also assisted Plant Operations with production problems as the need arose. While with Diamond Shamrock, Dr. Bynum led the automation of the routine laboratory analyses that resulted in significant cost savings.

AWARDS, HONORS, AND PROFESSIONAL AFFILIATIONS

Postdoctoral Fellow, Department of Medicinal Chemistry, University of Florida (1984)
ACS Undergraduate Award in Analytical Chemistry