Harry D. Harmon

DETAILED EXPERIENCE

2008 – Present **Senior Consultant.**
Senior management and technical consulting to the Department of Energy and its contractors including assessments such as technology readiness assessments, independent project reviews, and technology development program reviews.

2000 – 2007 **Senior Program Manager, Battelle, Pacific Northwest National Laboratory.**
Served as the Salt Processing Project Technology Development Manager for the Tanks Focus Area (TFA) at Savannah River Site (SRS). Managed the research and development program for alpha and strontium removal and for three alternative cesium removal processes. Provided support to U.S. Department of Energy-Headquarters and U.S. Department of Energy-Savannah River (DOE-SR) on the technology down selection. After down selection, continued management of technology development for actinide/strontium removal and Caustic-Side Solvent Extraction. After TFA was discontinued, the management function was broadened to include supporting DOE-SR in managing the Engineering, Procurement, and Construction contractor on conceptual design of the Salt Waste Processing Facility. Also, the technology development management and oversight role was expanded to include all aspects of the SRS Salt Processing Program. Led or participated in several peer review panels, independent review committees, and Red Team reviews at other DOE sites.

1998 – 2000 **Senior Consultant, Harmon Consulting.**
Provided technical and management consulting in the areas of waste management, environmental programs, nuclear processing, separations chemistry and engineering, actinide chemistry, and technology development in these and related areas.

1997 – 1998 **Senior Program Manager, Savannah River and Oak Ridge Programs, NUKEM Nuclear Technologies.**
Managed NUKEM's activities in pursuing waste management, environmental remediation, and nuclear processing contracts at these DOE Sites. Directed proposal development, provided technical input and specific knowledge of site operations.

1996 – 1997 **Vice President, Tank Waste Programs, M4 Environmental Management, Inc.**
Managed M4 programs in support of the Hanford Tank Waste Remediation System Phase 1A privatization contract. Also, led efforts to pursue other major tank waste programs such as the Melton Valley Storage Tanks and TRU Solid Waste Procurement.

1994 – 1996 **Technical Director, High Level Waste Management Division, Westinghouse Savannah River Company.**
Provided expert technical advice and process overview for all High Level Waste activities and programs. Ensured that a cost effective, innovative, technology development program was conducted in support of the High Level Waste Management Division. Represented WSRC as Chairman of the User Steering Group for the Tank Focus Area.

1992 – 1994 **Vice President, Tank Waste Remediation System Division, Westinghouse Hanford Company.**
Expanded the organization described below to include the long-term disposal of tank wastes -- retrieval, pretreatment, vitrification, and grout processing. This formed the overall system required to safely manage the waste tanks and process the waste for ultimate disposal. A detailed New Technical Strategy for tank waste was developed based on a system engineering approach. The 1200-member organization included program control, operations, engineering and projects. The FY-93 budget was $490 million and exceeded $600 million in FY-94.

1990 – 1991 **Vice President, Waste Tank Safety, Operations & Remediation, Westinghouse Hanford Company.**
Organized a new division in Westinghouse Hanford Company to focus on mitigation and remediation of the high visibility waste tank safety issues. The organization was also responsible for the ongoing operations of the 177 waste tanks, the waste evaporator, and restoration and upgrades of the tank farm equipment. The position demanded extensive interface and presentations to external review groups and significant interactions with the media, including monthly media briefings. The organization consisted of about 615 people with an equivalent number of matrix support in other divisions; the FY-91 budget was $155 million.

1989 – 1990 **Manager, Chemical Processes and Environmental Technology Department, Savannah River Laboratory, Westinghouse Savannah River Company.**
Responsibilities same as previous position except non-reactor facility safety oversight and safety analyses moved to another organization.

1987 – 1989 **Program Manager, Chemical Process and Environmental Technology, Savannah River Laboratory, E.I. du Pont de Nemours & Company.**
Program Manager for five divisions (Actinide Technology, Analytical Development, Non-Reactor Safety Evaluation, Environmental Sciences, and Environmental Technology) which consisted of about 130 exempt and 90 non-exempt employees. Major program areas included fuel reprocessing process and equipment development, safety analyses, on-line analyzers, process control, analytical services, non-reactor facility safety oversight, emergency response, environmental dosimetry, low-level measurement techniques, terrestrial and aquatic ecology, groundwater characterization, and biotechnology. Also, responsible for small Budget Group and SRL Library.

1986 – 1987 **Research Manager, Interim Waste Technology Division, Savannah River Laboratory.**
Managed process and equipment research and development for all SRP waste management operations excluding the Defense Waste Processing Facility. Work included in-tank processing, effluent treatment technology, low-level waste, transuranium waste, hazardous waste, and safety analysis reports for these operations.

1980 – 1986 **Research Manager, Actinide Technology Division, Savannah River Laboratory.**
Managed process and equipment research and development for the SRP fuel reprocessing areas including canyon operations, plutonium finishing, neptuniurn finishing, and transplutonium recovery. Also, responsible for preparation of safety analysis reports for all Separations Area facilities.

1980 **Research Manager, Fuel Cycle Technology Division, Savannah River Laboratory.**
Managed the development of LWR and breeder fuel reprocessing technology and the development of alternative waste forms for SRP high-level waste. Interfaced extensively with Oak Ridge National Laboratory and other DOE sites.

1977 – 1979 **Area Superintendent and Assistant Department Superintendent, Separation Department, Savannah River Plant.**
As Area Superintendent in Separations Department, led startup of Multi-purpose Processing Facility (MPPF) to meet production commitment of Am-241 and supervised the plutonium metal fabrication area (FB-Line). After promotion to Assistant Superintendent of Separations Department, was administrative head of H-Area (about 850 people at that time) and directly in charge of H-Canyon Reprocessing Plant, Receiving Basin for Off-site Fuel, and Tritium Facilities.

1973 – **1977** **Research Chemist and Research Supervisor, Savannah River Laboratory.**
As a research chemist, conducted research in fuel reprocessing areas including dissolution of nuclear fuels, PuO2 dissolution, solvent extraction, and stability and reactions of tributylphosphate during thermal denitration of uranyl nitrate. Became research supervisor in 1976 and supervised the fuel reprocessing group for about one year. Then moved to supervise a waste management group in the same division that was responsible for vitrification and ion exchange development in support of the Defense Waste Processing Facility.

1971 – 1973 **Assistant Professor of Chemistry, Walters State Community College, Morristown, TN**
Began chemistry program in new institution.

1965 – 1971 Summer employment and Ph.D. Thesis with Union Carbide in Chemical Technology Division, Oak Ridge National Laboratory.

1965 – 1968 (Part-time) Organic Synthesis in Cancer Research Program at Carson-

Newman College.

EDUCATION

B.S. Chemistry, 1968, Carson-Newman College, Jefferson City, TN
Ph.D. Inorganic and Nuclear Chemistry, 1971, University of Tennessee, Knoxville, TN

INDEPENDENT REVIEWS

1. Expert Consultant, "Research Reactor Spent Fuel – Treatment Options for Disposal", National Research Council Report, 1998.

2. Independent Reviewer, "An End State Methodology for Identifying Technology Needs for Environmental Management, with an Example from the Hanford Tanks", National Research Council Report, 1999.

3. Panel Member, "High-Level Waste Tanks Integrity Peer Review Panel", for Westinghouse Savannah River Company, Savannah River Technology Center, January 1999 – September 1999.

4. Leader of Review Team, "Technical Alternatives to Reduce Risk in the Hanford Tank Waste Remediation System Phase I Privatization Contract", U.S. Department of Energy, Office of Environmental Management, Office of Science and Technology, Tanks Focus Area, September 1999.

5. Committee Member, "National Research Council Committee on Long-Term Research Needs for Deactivation and Decommissioning at Department of Energy (DOE)", requested by Department of Energy, Environmental Management Science Program, National Research Council Report, June 2001.

6. Independent Reviewer, "Characterization of Remote-Handled Transuranic Waste for the Waste Isolation Pilot Plant", National Research Council Report, 2002.

7. Panel Member, "Independent Review of the EMSP Research Portfolio", Prepared for the U.S. Department of Energy Environmental Management Science Program, August 2002.

8. Panel Member, "Peer Review of Waste Treatment Project Research and Technology Program", 2002 to 2004.

9. Chairman, "INEEL Sodium Bearing Waste Independent Review Committee", U.S. Department of Energy, Idaho Operations Office, 2003 to 2004.

10. Committee Member, "Red Team Design Review of Integrated Waste Treatment Unit Project", U.S. Department of Energy, Idaho Operations Office, 2005.

11. Committee Member, "Review of the Strategic Plan of How to Provide Waste Treatment Systems for the Oak Ridge National Laboratory of the Future", Oak Ridge National Laboratory, 2005.

12. Team Leader, "Salt Waste Processing Facility Independent Technical Review", U.S. Department of Energy, Savannah River, 2006.

13. Team Member, “Technology Readiness Level (TRL) Assessment for the River Protection Project (RPP) Supplemental Technology Treatment Program”, U.S. Department of Energy, Office of River Protection, 2007.

14. Team Leader, “Savannah River Site Tank 48H Waste Treatment Project: Technology Readiness Assessment”, U.S. Department of Energy, Savannah River, 2007.

PUBLICATIONS

Dr. Harmon has over 40 external publications in journals, DOE reports, and conference proceedings. A list is available upon request.