



# Jeffrey D.E. Jeffries

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## Summary and Background

Dr. Jeffries has over thirty years of experience in the nuclear power industry. He has been a utility manager, a member of the Electric Power Research Institute (EPRI) staff, and a consultant. He has worked in most power plant functional areas to improve both efficiency and effectiveness. He is an expert in the areas of nuclear engineering, licensing, risk assessment, process design, change management, and self-assessment. He is also a leader dealing with issues of organizational effectiveness and human performance.

During the past several years, Dr. Jeffries has provided consulting services aimed at improving overall operations of assets while improving safety or commercial objectives. He has worked with all levels of managers at the strategic and tactical levels to redefine how selected aspects of business are conducted. His understanding of the new Nuclear Regulatory Commission (NRC) regulatory policy and the impact of economic deregulation have added value to facilities preparing for unprecedented transition and change. He has been a key participant in projects designed to improve processes and performance in engineering, management, nuclear oversight, organizational effectiveness, procedure development and training.

Dr. Jeffries has served on numerous top-level nuclear safety oversight committees and risk assessment review boards. During the past decade, he has been a member of nine such groups. Within the past year, he has been instrumental in leading an effort to broaden the scope of oversight committees to employ risk-informed techniques and become “boards of excellence” rather than remain in traditional roles with emphasis only on technical elements.

Additionally, Dr. Jeffries was a principal contributor to an EPRI project in the asset management area specifically dealing with work control optimization.

Dr. Jeffries received a Bachelor of Science degree from the U. S. Naval Academy, and he earned Master of Science and Doctor of Philosophy degrees in Nuclear Engineering from The Pennsylvania State University. He is also a graduate of an Executive Management Program at The University of North Carolina as well as a Professional Engineer registered in North Carolina and Pennsylvania. Between 1982 and 1986 he was an Adjunct Associate Professor at North Carolina State University.

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## Highlights of Recent Experience

Over the past few years, Dr. Jeffries has been engaged in several projects dealing with three major transformations within the commercial nuclear power industry – the deregulation of the economic market, the increased use of risk-informed methods and the implementation

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of a new safety regulatory framework. As utilities merge and consolidate operations, he has formulated various strategies and models to assist clients effectively make the transition. He has also been an advisor to industry groups, universities and technical centres in an effort to revitalize the nuclear industry infrastructure. He has worked with the International Atomic Energy Agency (IAEA) on several projects including the committee that developed NPP Technical Support criteria and the Committee on Self-Assessment where he was Chairman. He is also a member of the Nuclear Energy Institute (NEI) Working Group on Risk-Informed Regulation.

Selected projects that highlight some Dr. Jeffries' diverse experiences are:

- ❑ South Texas Project (Risk-Informed Asset Management and Oversight Redesign)
- ❑ Constellation Nuclear (Risk-Informed Asset Management and Oversight Redesign)
- ❑ Niagara Mohawk Power Corporation (Training Accreditation Recovery)
- ❑ South Carolina Electric and Gas (Corrective Action Program Improvement)
- ❑ Florida Power Corporation (Self-Assessment Process Evaluation and Improvement)
- ❑ Ontario Hydro/Atomic Energy Control Board (Cultural Assessment and Improvement)
- ❑ Northeast Nuclear Energy Company (Organizational Culture Issues)
- ❑ Commonwealth Edison (Nuclear Oversight Redesign)
- ❑ Nebraska Public Power District (Organizational and Process Improvement)
- ❑ Omaha Public Power District (Process Redesign)

## **Highlights of Past Experience**

Since the early 1980's Dr. Jeffries has been an advocate and developer of applied risk assessment methods in the commercial nuclear power sector. He has effectively used risk technology to more efficiently utilize organizational resources as well as determine the relative safety significance of issues. As a utility manager he was responsible for developing state-of-the-art techniques in risk assessment and best-estimate transient analysis for the three nuclear plants at Carolina Power & Light. His work in organizational culture has focused on understanding and changing the environmental attributes that contribute or lead to ineffective behavior patterns. He has developed models that help describe and visualize organizational and individual performance elements.

He has assisted many organizations recover from regulatory induced outages and extended shutdown periods. He has worked with top performing facilities as well as those in the fourth quartile, and this breadth of direct experience has provided insights of the differences between highly effective and dysfunctional organizations. Clients where significant management and process improvement efforts were undertaken include:

- ❑ Carolina Power & Light
- ❑ Commonwealth Edison
- ❑ Niagara Mohawk Power Corporation
- ❑ Pacific Gas & Electric
- ❑ Portland General Electric
- ❑ Public Service Electric & Gas
- ❑ Texas Utilities