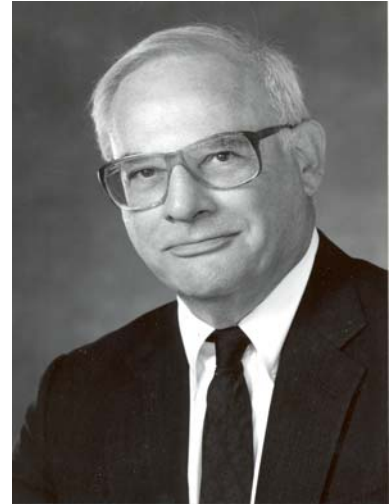


John D. STEVENSON

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BIO PROFILE

Dr. John D. Stevenson began his professional career as a senior engineer in the Westinghouse Atomic Power Division in 1966. He acted as the Design Authority responsible for development of structural design criteria and review and approval of A/E prepared structural plans and specifications for 5 Westinghouse turnkey nuclear power plants. In 1968, he earned a Ph.D. from Case Western Reserve University in Civil Engineering and was appointed Manager of Structural Systems Engineering for Westinghouse Nuclear Energy Division where he was responsible for development and detailed analysis and design of standardized support structures for Westinghouse nuclear reactor and major reactor coolant system components.

In 1970, he joined the Civil Engineering faculty of the University of Pittsburgh. In 1972 he rejoined the Westinghouse Nuclear Energy Division as the Manager of Balance of Plant Engineering for the Westinghouse SNUPPS Standard Nuclear Power Plant Project. In 1974 he was elected a Westinghouse Consulting Engineer and joined the staff of the Westinghouse Executive Vice President for Nuclear Power.

In 1975 he joined the Civil-Mechanical Engineering faculty of Case Western Reserve University. In 1976 he joined the Arthur G. McKee A/E Company as Vice President for Corporate Quality Assurance.

In 1981 he founded the Consulting Engineering firm of Stevenson and Associates, which eventually grew into a 5 office firm with offices in Cleveland, OH; Boston, MA in the U.S. and offices in Bucharest, Romania; Pilzen Czech Republic and St. Petersburg, Russia in Eastern Europe. He served as President and Senior Consultant of the firm until he retired in 1996.

Since 1996 he has offered structural-mechanical senior consulting and outside expert engineering services primarily to the nuclear industry and served as an outside expert to the Defense Nuclear Facility Safety Board half-time since 1989 to the present.

Since 1972 he has conducted more than 45 training programs and courses worldwide in the area of structural-mechanical analysis and design of nuclear facilities.

He is, or has been, an active member or Chairman of American Nuclear Society, American Society of Civil Engineers, American Society of Mechanical Engineers, American Concrete Institute, American Institute of Steel Construction and the International Atomic Energy Agency Safety Standards Development Groups. He has been a member of the ASME Boiler and Pressure Vessel Code Committee, various Section III Working Groups, Subgroups and Subcommittees including former Chairman of Division 3 Transportation and Storage Containments for Nuclear Material and Waste and former member of the ASME Board of Nuclear Standards since 1970.

Dr. Stevenson provides consulting engineering services in the following areas applicable to nuclear facilities:

- Development of Structural-Mechanical Analysis and Design Criteria for Nuclear Power Plants and other related Nuclear Facilities
- Development or Review of Structural-Mechanical Systems and Components Procurement, Design or Construction Specifications and Reports
- Participate in or Conduct Structural-Mechanical Design Reviews
- Participate in or Conduct Peer Reviews of Seismic Analysis or Design
- Prepare or Review Design Oriented Quality Assurance Programs
- Prepare and Review of Design Basis or Configuration Management Documentation
- Conduct Training Programs and Courses in Structural-Mechanical Design of Nuclear Facilities
- Informal Interpretation and Review of National and International Nuclear Codes and Standards

RESUME

JOHN D. STEVENSON

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EDUCATION

B.S. Civil Engineering – Virginia Military Institute, 1954
M.S. Civil Engineering – Case Institute of Technology, 1962
Ph.D. Civil Engineering – Case Institute of Technology, 1968

PROFESSIONAL ENGINEERING REGISTRATION

Commonwealth of Virginia, State of Ohio

PROFESSIONAL HISTORY

J.D. Stevenson, Consulting Engineer, Senior Consultant: 1995 – Present
Center for Design of Special Facility, Director: 1995 – Present
Stevenson & Associates, Cleveland, OH, President: 1981 – 1995
Woodward Clyde Consultants, Cleveland, OH, Vice President: 1979 – 1980
A.G. McKee & Co., Cleveland, OH, Vice President: 1976 – 1979
Case Western Reserve University, Cleveland, OH, Associate Professor: 1974 – 1976
Westinghouse Nuclear Energy Systems Division, Manager, Balance of Standard Plant
Engineering Consulting Engineer, Executive Vice President Staff: 1972 -1974
University of Pittsburgh, PA, Adjunct Professor: 1970 -1972
Westinghouse Atomic Power Division, Manager Structural System
Engineering: 1966 – 1970
Virginia Military Institute, Assistant Professor: 1957 – 1962
McDowell Consulting Co., Field Engineer: 1956 – 1957
U.S. Army Corps. Of Engineers, Captain: 1954-1956

PROFESSIONAL PROJECT EXPERIENCE

Since 1995 Dr. Stevenson has served as a Senior Consultant to J.D. Stevenson Consulting Engineer Co. with an office in Cleveland, Ohio. Between November 1981 to 1995 Dr. Stevenson managed and served as President and Senior Consultant to Stevenson & Associates. The firm, which had two offices in the U.S. and three in Europe, specialized in high technology consulting and engineering services. These engineering services were associated with design of structural and mechanical and pressure vessel systems for extreme loads with particular

application to nuclear facilities and nonlinear, dynamic, probabilistic and high temperature analyses of building structure and structural design of in-plant mechanical and electrical distribution systems, components and their supports.

His years of expertise include development of structural and mechanical construction criteria and design and qualification of nuclear power plant and other critical facility structures, systems and components. He also served as Corporate Quality Assurance Manager for a large Architectural-Engineering-Construction firm and Manager of Structural Systems Engineering for a major nuclear reactor manufacturer. Dr. Stevenson's relevant experience includes 35 years as a structural-mechanical engineer with particular application to natural phenomena and man-induced hazard design and analysis. He is also the author of over 50 technical publications. A list of projects, which Dr. Stevenson performed or directly supervised include the following:

1. Developed original structural design criteria and approval of structural design of 5 nuclear power stations: Westinghouse Turnkeys.
2. Evaluation of seismic design adequacy of structures, systems and components for 8 European nuclear power stations.
3. Evaluation of seismic and wind design adequacy of liquefied natural gas storage facilities.
4. Analytical seismic qualification of nuclear spent fuel storage racks-nonlinear analysis for 10 nuclear power plants.
5. Evaluation of the seismic capacity of a 600 MW CANDU reactor station for safe shutdown.
6. Evaluation of containment integrity of 20 CANDU Reactor Stations: Province of Ontario.
7. Detailed evaluation of seismic design adequacy for selected mechanical and electrical equipment of 5 nuclear power stations as part of the U.S. NRC Systematic Evaluation Program: U.S. Nuclear Regulatory Commission.
8. Consultant to EPRI to develop criteria for OBE Exceedence based on measured and observed site behavior: Electric Power Research Institute.
9. Consultant to NRC to develop an experienced database and criteria for design and analysis of piping systems to resist seismic loads: U.S. Nuclear Regulatory Commission.
10. Personally performed seismic walkdown evaluations of over 30 nuclear power plants in the U.S., Europe, Asia and South America.
11. Preparation of detailed analysis and design of safety related piping systems costs in nuclear power plants: Pressure Vessel Research Council.
12. Consultant over a 30 year period to the International Atomic Energy Agency associated with the development of structural-mechanical safety standards for new and operating nuclear power plants.
13. Prepared External Event Design Criteria for the Chernobyl Dome Structure.
14. Conducted over 45 Continuing Education Structural-Mechanical Design or Analysis Programs or Courses Associated with Nuclear Power Plants as listed in Attachment A.

CODES & STANDARDS:

Member	American Society of Civil Engineers: Committee on Dynamic Analysis of Nuclear Facilities
Past Chairman	Nuclear Standards Committee Responsible for ASCE-1 and ASCE-4 and ASCE-43 Standards
Member	American Concrete Institute: Joint ACI-ASME Subgroup on Design of Concrete Components in Nuclear Service, ACI-359 and ASME BPVC-Section III-Div. 2
Member	American Society of Mechanical Engineers: Subgroup on Design of ASME BPVC-Section III-Div. 1 Nuclear Components Subcommittee on Qualification of Mechanical Components in Nuclear Service; ASME BPVC Subcommittee III Nuclear Components
Past Chairman	ASME BPVC Section III - Div. 3 NUPACK
Member	U.S. Representative, International Atomic Energy Agency Working Group on the Development of Extreme Load Design Standards
Member	American Nuclear Society Committee on Site Evaluation; American Nuclear Society Nuclear Facility Standards Committee, NFSC
Chairman	ANS 2.3 Tornado Design Working Group ANS 58.3 Physical Protection for Nuclear Safety Related Systems and Components Committee ANS 58.16 Safety and Pressure Integrity Classification Criteria for Nuclear Facilities Other Than Power Reactors
Member	Earthquake Engineering Research Institute

AWARDS:

Moiseiff Award – ASCE, 1971

Stephen Bechtel Jr. ASCE Energy Award - 1995

Bernard Langer ASME Codes and Standards Award – 1997

ATTACHMENT A

CONTINUING EDUCATION PROGRAM SHORT COURSES IN ANALYSIS DESIGN AND CONSTRUCTION OF NUCLEAR FACILITIES WITH PARTICULAR APPLICATION TO NUCLEAR POWER PLANTS

ANALYST SERIES	
101	Mathematical Modeling of Building and Foundation Structural Systems
102	Seismic Analysis Procedures for Foundations and Building Structures
103	Blast, Tornado and Other Extreme Wind Analysis of Building Structures
104	Analysis of Pipe Break and Other High Energy System Rupture Effects in Nuclear Power Plants
105	Missile Analysis of Nuclear Plant Structures, Systems and Components
106	Typical Engineering Design
DESIGNER SERIES	
110	Survey of Civil-Mechanical Structural Design Criteria, Codes and Standards
111	Design of Safety Class Nuclear Plant Structures
112	Design of Safety Class Nuclear Plant Mechanical Components Including Vessels, Pumps, Tanks, Valves and Piping
113	Preparation and Implementation of Vendor Seismic Qualification Specifications
114	Design of Mechanical Components Supports in Accordance with the Requirements of ASME B&PVC Section III-NF and AISC N-690
115	Structural Steel Design in Nuclear Service
116	Structural Concrete Design in Nuclear Service
117	Preparation, Content and Application of Engineering Quality Assurance Programs and Manuals for Nuclear Power Plants
118	Preparation and Review of Structural-Mechanical Design Basis Documentation and Configuration Management for Nuclear Power Plants

These courses typically consist of 6 to 12 hours of lecture plus workshops as requested by clients.