Clifford H. Wells, Ph.D.

Senior Scientist

Education

PhD Eng., Applied Mechanics, Yale University (1961)
MS Eng., Civil Engineering, Yale University (1957)
BS Eng., Mechanical Engineering, Yale University (1954)

Professional Associations

Fellow, American Society of Mechanical Engineers
Member, American Society for Metals
Past President, Federation of Materials Societies
Past Chairman, Air Force Studies Board Panel on Nondestructive Evaluation,
National Research Council
Past Chairman, National Materials Advisory Board Committee on Fatigue
at Elevated Temperature
Former Member, National Materials Advisory Board Committee
on Fretting Initiated Fatigue
Past Chairman, Executive Committee, Materials Division
of American Society of Mechanical Engineers
Materials Properties Council Electric Power Subcommittee

Professional Experience

1995 to Present	Structural Integrity Associates, Pompano Beach, FL Senior Scientist
1993 to 1995	Southwest Research Institute Program Director, Materials Center for Combustion Turbines
1981 to 1993	Failure Analysis Associates Vice President, Research and Development
1975 to 1981	Southwest Research Institute Assistant Director, Applied Mechanics
1954 to 1974	United Technologies Corp. Pratt & Whitney Div. Assistant Manager, Materials Engineering and Research Laboratory

Summary

Dr. Wells has 50 years of experience in life management of power plant components, including steam and combustion turbines and high-energy pressure vessels and piping. He is knowledgeable in structural analysis design methods, nondestructive and destructive methods of condition assessment, mechanics of deformation and fracture, microstructural mechanisms of degradation and integrated life management systems for plant maintenance.

He most recently directed the EPRI Materials Center for Combustion Turbines at Southwest Research Institute. Prior to that he was Vice President for research and development at Failure Analysis Associates and Assistant Director of Metallurgy and Mechanics at Southwest Research Institute. He has 20 years experience in aircraft gas turbine engine design and analysis, materials evaluation, life prediction and failure analysis at Pratt & Whitney Aircraft.

At SI, Dr. Wells will develop condition assessment and remaining life prediction services for operators of steam and combustion turbines, conduct root cause failure evaluations, and help expand SI's role in new business areas.

Current and Recent Clients for Professional Services

Clifford H. Wells

1. Zurich American / Cozen and O'Connor: Mechanical failure and fire in a General Electric LM 2500 at Hawaiian Independent Refinery (umpire of initial arbitration and expert witness)

2. Zurich American / Kinder & Wuerfel: Mechanical failures in several General Electric LM5000 engines in Southern California (evaluation of bolt, blade and bearing failures)

3. Royal Insurance / McDermott & Company: Petro Canada v. Westinghouse (power turbine blade failures--expert witness)

4. Industrial Risk Insurers / Cozen and O'Connor: Arizona Public Service v. Westinghouse (combustion turbine bolt failure--expert witness)

5. General Electric Company: Simpson Paper v. General Electric (alleged design defects in LM5000 engine--named expert)

6. Thomas Howell Group / Clausen, Miller, Gorman and Witous: Archer Daniels Midland v. ABB and Mueller Steam Supply (evaluation of steam turbine failure--named expert)

7. Thomas Howell Group / ABB: Insurance settlement (ABB Stal VAX cogen turbine damage)

8. L'Energia / Ober, Kaler, Grimes & Shriver: (Siemens V64.3 gas turbine operation problems)

9. TransCanada Pipeline Co. / Royal Insurance Co.: Design review of modification to ABB Stal VAX steam turbine

10. Diamond Energy / Irell and Manella: Catastrophic failure of a Siemens V84.2 engine at Doswell Combined Cycle Plant (root cause investigation). Currently FPL Energy / Duker Barrett Gravante & Markel

11. Indemnity Insurance Co. of North America / Cozen and O'Connor: Arizona Public Service Co. v. General Electric (failure of a second stage turbine bucket—named expert)

12. R. P. Wolfe Insurance Consulting / Gerling Global General Insurance Co.: Failure of a GE LM1600 gas generator and Ruston power turbine at Alberta Natural Gas Crowsnest Station.

13. Royal Insurance Co./R. P. Wolfe Insurance Consulting: Failure of an oriented strand board hydraulic press at Malette Lumber Co., Timmins, Ont. (determine relative loss attributable to fire versus mechanical damage)

14. Major Utility (Confidential) v. Westinghouse (CBS): Nuclear steam turbine stress corrosion cracking--named expert.

15. Crawford Adjusters Canada / Gasco Lelarge: Failure of a Nuovo Pignone power turbine at Cascades Paper Boralex cogeneration plant.

16. Blake, Cassels & Graydon: TransAlta v. General Electric: Failure of a GE LM6000 aeroderivative engine*.

17. Fowler, Rodriguez & Chalos: Houston Casualty v. Siemens-Westinghouse et al.: Failure of a Siemens V84.2 engine at Valladolid, Mexico*.

* Active cases July 2004