

CURRICULUM VITAE

Dr Doug White



Qualifications:

Bristol Siddeley Scholar
B.Sc. (Hons.) Mechanical Engineering, King's College,
University of London (1966).
Ph.D. University of Cambridge, Churchill College (1969)
"Squeeze Film Journal Bearings"

Career Summary:

- 1966 - 1967 Rolls Royce, Bristol Siddeley Scholar. Specialized in vibration analysis.
- 1967 - 1969 Ph.D. at Cambridge, funded by Rolls Royce,
- 1969 - 1977 National Gas Turbine Establishment, finite elements and low cycle fatigue.
- 1977 - 1987 Founder member of Principia Mechanica Ltd. Eight years experience of technical operations, seismic assessment of nuclear power stations and process plant. Manager of Warrington and Sellafield offices.
- 1987 - 2000 Founder of DC White & Partners. Developed expertise as a mechanical engineering trouble-shooter. Involved in over 1400 jobs, ranging from the collapse of a domestic stepladder to the design of a major building for the Sizewell "B" Power Station and of a major chemical process facility.
- 2000 – present Managing Director of DC White & Partners Ltd.

General Experience:

- Finite element stress analysis, theory and application for mechanical & civil structures.
- Mechanical failure investigations - impact, vibration, thermal loading, expert witness.
- Dynamic analysis of impact and vibration, plant and buildings.

Page 1 of 3 DCW CV



- Design of large & small scale mechanical systems for vibration, thermal loading, impact.
- Expert witness services in transport, domestic equipment and power industry design
- Theoretical and experimental investigation.
- Post-earthquake damage assessments of domestic buildings and chemical process plant
- “Seismic walkdown” specialist (Seismic assessment on the basis of past earthquake experience)
- Project Manager of the Seismic Shake Table project at Imperial College London (4 tonne capacity, biaxial test facility).

Nuclear plant:

- Project Manager for seismic design of the Reserve Ultimate Heat Sink (RUHS) at Sizewell B Power Station.
- Seismic assessment of pressure vessels and piping.
- Seismic design of electrical control cabinets and switchgear.
- Seismic assessment of various new buildings for British Nuclear Fuels, Sellafield.
- Project Manager for retrospective assessment of all radioactive inventory buildings on the Sellafield site.
- Seismic safety assessments for Calder Hall, Chapel Cross, Hunterston A, Hunterston B Power Station boilers.
- Seismic safety cases for refuelling machines at Hunterston B, Torness, Hinkley Point and Heysham II power stations.
-
- Design of seismic restraints for the Dungeness B pressure vessels.
- Gas circulators: Seismic vulnerability of Dungeness, Hunterston A, Hunterston B stations.
- Vibration testing of major structures as part of seismic safety cases, e.g. Calder Hall reactor building, refuelling machines.
- Analysis of boiler superheater piping bifurcations for operating and seismic loads.
- Boiler Closure Units: Experimental and analytical assessment of the performance of pre-stressed wire wound concrete boiler closure units at Heysham I and Hartlepool power stations to determine sensitivity to wire failures.

Conventional Power Generation:

- Design & assessment of Pressure vessels and piping systems.
- Retro-design of furnace improvements.
- Boiler failure investigations.
- Design of cooling tower systems.
- Seismic design of conventional boiler systems for Russia.
- Seismic design of water piping systems for Uzbekistan.

Renewable Energy:

- Design, manufacture and installation of a test facility for 45 metre wind turbine blades.
- Design of highly loaded bearings for a 2MW wave power generation unit.
- Design and development of a novel wave power generation system.
- Design and supply of various rigs for blade testing.

Process Plant:

- Vibration investigations.
- Design of support structure for an 800 tonne chemical reactor vessel displaying earthquake-like vibratory motions.
- Plant design appraisals.
- Failure investigations.
- Novel design for ultra-high temperature process plant.
- Pressure vessel design.
- Assessment of explosive and depressurisation events in plant.
-

Oil industry:

- Investigation of failure modes of offshore cranes.
- Fundamental assessment of drill casing designs.
- Development of a novel valve for extremely high pressure offshore applications.
- Oil rig anti-vibration design.

Research Physics:

- CLRC vessels, analyzing high specification nuclear research vessels for all operating conditions
- Deep sea instrumentation containment.

Automotive Industry:

- Modelling impact of road vehicles with bridge parapets.
- Investigation into failure of military vehicle chassis.
- Supervisory role in investigation of asymmetric braking and loss of control of a sports car.