

## MR K ARDRON

A long career in senior roles in the nuclear industry, now at Imperial College as a Research Fellow in the Nuclear Research Group, Mechanical Engineering. Keith has particular expertise in nuclear safety and licensing, and nuclear plant thermal analysis. He led the licensing activity in the United Kingdom for the Areva EPR, responsible for coordinating and developing safety case and related submissions to the United Kingdom regulator. He also has extensive experience working for a nuclear operator, having been a safety case officer and section head for British Energy, and has both performed and supervised nuclear thermal hydraulics research, including for the Canadian government nuclear research agency.



## CAREER HISTORY

### Present **Imperial College**

Research Fellow

- Current research projects include:-
  - Risk assessment methods development for nuclear power.
  - Development of analysis methods for nuclear thermal hydraulics
  - Methods development for the fundamental study of nuclear boiling processes.
  - Development of a novel SMR concept

### Present • **Independent Consultant**

- Contributing to the Checkendon Hill assessment of the license-ability of SMRs in the UK.
- Ministry of Defence: Member, Research Programmes Group (a high level policy group advising MoD on its nuclear reactor research programme).
- Ministry of Defence: Review and advisory work on approving methods to be employed in submarine nuclear reactor design.
- Rolls Royce: Advisory work on various aspects of the submarine nuclear programme

### 2010- 2014 **AREVA**

UK Licensing Manager

- Managed interface between AREVA UK EPR Projects (HPC, Horizon etc) and UK Regulatory Bodies (ONR, Environment Agency)..
- Managed interface with Engineering Teams in AREVA/EDF to ensure delivery of licensing documentation necessary to achieve new nuclear builds.
- Provided support to AREVA clients in licensing negotiating with regulators, proposing solutions to issues of regulatory concern.
- Coordinated AREVA licensing input in UK MOX recycling proposal

### 2006- 2010 **EDF Energy**

Nuclear Safety Manager

- Managed interface between the EDF/AREVA and the UK Regulatory Bodies for the UK Generic Design Assessment (GDA) of the EPR.
- Managed production of the UK EPR Pre-Construction Safety, Security and Environmental



Report submitted in GDA:

**1985-  
2006      British Energy**

Senior Safety Case Officer/ Section Head

- Developed & project managed nuclear safety cases for AGR power stations, including:-
  - safety cases for design & installation of diverse shutdown systems in AGRs.
  - back fitting of seismic upgrades to AGR safety systems
  - safety cases for integrity of concrete reactor pressure vessels
  - safety cases for on-load repair of essential cooling systems degraded by corrosion
- Developed thermal hydraulic and neutronic models for Sizewell B PWR and AGR/Magnox reactor plant for normal operation and fault conditions

**1981-  
1985      ATOMIC ENERGY of CANADA**

Manager, Thermal-hydraulics Research Branch

- Responsible for managing research program on CANDU reactor emergency core cooling;.
- Development of computer code for accident analysis and experimental validation of codes:

## **QUALIFICATIONS**

M.Sc. Theoretical Physics, Oxford University  
BA Physics, 2:1, Oxford University  
Honours Moderations in Physics and Mathematics: 1st Class Oxford University

Member, Institution of Mechanical Engineers  
Chartered Engineer

## **PUBLICATIONS**

**~50 total journal and conference papers in nuclear engineering**