

Nuclear Safety Services

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General

Galson Sciences Limited (GSL) provides a range of nuclear safety services to an international clientele. Other key work areas include: radioactive waste management including inventory audits and waste conditioning, packaging, transport, storage and disposal studies; decision analysis and options studies for decommissioning; risk and impact assessment studies; risk management and communication; and geosciences. The company was founded in 1992.

Principal Nuclear Safety Service Areas

- Collation and analysis of nuclear safety information, including on incidents and events
- Analysis of incidents and events at nuclear facilities
- Surveys of nuclear facilities and operations, including equipment upgrades for plant safety
- Evaluations of qualifications required for workers in nuclear facilities
- Reviews of nuclear safety regulations, including guidance and best practice
- Reviews of regulatory practice, including inspection procedures and requirements
- Evaluations of nuclear regulatory organisation and training requirements
- Evaluations of safety culture in the nuclear sector and other industries
- Response to nuclear emergencies
- Studies on plant and waste management safety at nuclear facilities

We have undertaken reviews and surveys for Japanese organisations for the last eight years. We have also undertaken work directly for nuclear safety regulators in the UK (NII), the US (NRC), Sweden (SKI), and France (DGSNR and IRSN; we also have contacts in the DRIRE, who have assisted us with previous nuclear safety projects), and have extensive contacts within these organisations. Furthermore, we have broad experience of working for nuclear operators in the UK, especially UKAEA (Windscale, Dounreay) and British Nuclear Group (Sellafield, Hinkley Point A, Trawsfynydd).

Recent Project Experience - Examples

- **Sellafield review.** We reviewed operations and the regulatory framework of nuclear fuel cycle (NFC) facilities at Sellafield. We identified and analysed key issues for the main NFC facilities and operations, including waste management.
- **Safety culture.** We reviewed nuclear safety culture in the UK and Germany, and reported on the main control room upgrades at the Oskarshamn nuclear power plant (NPP) in Sweden.
- **Safety review.** We reviewed the regulatory framework and assessment of Periodic Safety Reviews (PSRs), safety case documentation, and ageing issues for NFC facilities in the UK, France and Germany.
- **Incident reporting.** We collated information on, and analysed, incidents and events at reprocessing and fuel fabrication plants in the UK, France and Germany. We provided information on more than 100 events.
- **Regulations.** We reviewed regulations pertaining to NFC facilities and their decommissioning in the UK, France and Germany.
- **Recruitment, training and development.** We reported on recruitment, training and development practices and requirements for nuclear regulatory personnel in the UK and France.
- **Performance-based and risk-informed regulations.** We reviewed performance-based and risk-informed nuclear regulations, and inspections on Quality Assurance in the UK and France.
- **Safety reports.** We compiled a list of references on safety analyses of MOX fuel fabrication and fuel reprocessing facilities in the UK and France.
- **Criticality safety.** We surveyed criticality safety pertaining to wet interim storage of spent fuel assemblies at nuclear power plants (NPPs) in France, Germany and the UK.
- **Emergency Preparedness.** In the aftermath of the Tokai-mura accident in 1999, we reviewed emergency preparedness at civil nuclear installations in the UK.
- **Nuclear emergencies.** In the aftermath of the Tokai-mura accident, we reviewed the system for the control of nuclear safety in the UK during emergencies.
- **Control systems.** We reviewed control systems for non-radioactive chemicals at reprocessing facilities at Sellafield, and provided information on discharge limits and actual discharge levels for major gas, liquid and solid chemical wastes.
- **Safety assessment.** We reviewed changes in technical specifications of NPPs in France, Germany and the UK as a result of Probabilistic Safety Assessment (PSA).

Our Clients Include:

United Kingdom

British Nuclear Group
British Nuclear Group Sellafield Limited (BNGSL)
British Nuclear Fuels Limited (BNFL)
Committee on Radioactive Waste Management (CoRWM)
Department for Environment, Food and Rural Affairs (DEFRA)
Environment Agency of England and Wales (EA)
Magnox Electric
Scotland and Northern Ireland Forum for Environmental Research (SNIFFER)
Scottish Environment Protection Agency (SEPA)
Planning Inspectorate
UK Health and Safety Executive (HSE) and UK Nuclear Installations Inspectorate (NII)
UK Department of Trade and Industry
UK Department of Environment, Transport and the Regions (DETR)
UK Atomic Energy Authority (UKAEA)
UK National Radioactive Waste Management Company (UK Nirex Limited)

Europe (non-UK)

Belgian National Radioactive Waste Management Company (ONDRAF/NIRAS)
French Nuclear Safety Authority (ASN), and Institute for Radiological Protection and Nuclear Safety (IRSN)
French National Radioactive Waste Management Company (ANDRA)
French Atomic Energy Commission (CEA)
Finnish National Radioactive Waste Management Company (POSIVA)
Swedish Nuclear Power Inspectorate (SKI)
Swedish Radiation Protection Institute (SSI)
Swiss National Radioactive Waste Management Company (NAGRA)

North America

Sandia National Laboratories (SNL), US Department of Energy (USDOE)
Westinghouse Electric Corporation, United States
US Electric Power Research Institute (EPRI)

Far East

Japan Nuclear Fuel Cycle Development Institute (JNC)
Japan Nuclear Energy Safety Organization (JNES)
Japan Nuclear Fuel Limited (JNFL)
Support Organisation to the Japanese Nuclear Utilities (JANUS)
Radioactive Waste Management Funding and Research Center (RWMC) and Kajima Corporation
Japanese Institute of Nuclear Safety Systems (INSS)
Nuclear Waste Management Organisation of Japan (NUMO)

International Organisations

European Commission (EC)
International Atomic Energy Authority (IAEA)
Organisation for Economic Cooperation and Development (OECD)
World Health Organisation (WHO)

For more information on our experience and staff, go to our website: www.galson-sciences.co.uk.