Faces of Nuclear Professionalism

Anna Ellis MEng

"The Nuclear Industry has many interesting opportunities, not least the growing area of cyber security. It is a great industry to be part of."

Anna Ellis is a control and instrumentation (C&I) and safety specialist with sixteen years experience within engineering consultancy and the UK civil nuclear industry. Following a successful career with Atkins and Frazer Nash, Anna co-founded Indigon Consulting, a multi-disciplinary consultancy focused on the defence and nuclear sectors. She now works in Indigon Nuclear, her own company.

Describing herself as a "free thinker" and flexible and enthusiastic engineer," Anna has extensive experience within the field of civil nuclear safety, with a particular focus on the safety and security of control and instrumentation. She has a thorough understanding of the UK regulatory framework and associated safety standards with significant experience applying this knowledge to the design, implementation, operation, and modification of plant, in particular safety, and safety-related systems.

Route into nuclear

Anna graduated with a Masters in Engineering (MEng) from Brunel University and Ecole Central de Lille. Inspired into Engineering by participating in the Royal Academy of Engineering's Engineering Education Scheme whilst at school, Anna knows first-hand the value of outreach projects. Anna was interested in energy from an early age. In particular the value of availability of electricity as a means to provide equal opportunities internationally. Whilst still valid, the modern day equivalent is now the vision to bring the internet to all, in an equitable manner. After graduation and a year travelling, Anna joined Atkins as an Assistant Engineer in Control and Instrumentation, and became involved in her first Civil Nuclear engineering project at Wylfa power station in Anglesey. The rest, she says is history.

Nuclear professionalism

Anna is very involved in nuclear professionalism on a work and personal level. She is chartered through the Institution of Engineering and Technology (IET) and is an Associate Member of the Nuclear Institute. Her aim is to take this through to professional membership.

Anna is a regular contributor to conferences including papers delivered recently at SANS and IET conferences on C&I safety and security in the nuclear sector. She is currently part of the working group of the US body NTI, in its project to develop guiding principles for cyber security of C&I systems on NPP worldwide, and has written papers on a range of subjects, including Small Modular Reactors (SMRs) for the Nuclear Institute's professional magazine, Nuclear Future.

Anna has been involved with the Nuclear Institute for many years and currently holds the position of Chair for the Nuclear Institute's Western branch. She has been on the Western Branch committee for the last 7 years and Western Branch Chair for the last year and a half. Speaking about what nuclear professionalism means to her personally, Anna said:

"I always remember a line from a course on nuclear safety I attended at EDF some time ago which defined professionalism in the context of nuclear safety as, "*Doing the right thing, even when no-one is looking."* I enact this by ensuring all my actions are aligned with my value set, and I can fully support all decisions I am party to. I think this is essential to self-worth and motivation, and I wholeheartedly recommend that everyone think about their professional values, define them and then live them."

Career to date

- Indigon Nuclear 2015 - current
- Frazer Nash 2009 - 2015
- Atkins 2000-2009

The future

The nuclear industry is undergoing resurgence and there is a clear skills shortage. This is particularly evident in control and instrumentation, cyber security, and other safety and security related disciplines.

There will never be a shortage of work in the industry. Alongside the new build projects, the UK's existing fleet requires ongoing modification to keep it operating and up-to-date with technology changes. Decommissioning projects continue to present a large degree of interest and technical challenge.

The future is set to see the breaking down of international boundaries too and a move to smaller scale nuclear through the introduction of SMRs.

Interesting times!