# NPP Licensing in Finland, Experiences



The Core Team of Nuclear Experts

PLATOM

Kirsi Hassinen
Business Unit Manager, Leading Expert
Licensing, Qualification & Authority Requirements

## Over 16 years with Licensing & Qualification issues with NPPs

#### Platom:

 Business Unit Manager, Leading Expert / Licensing, Qualification & Authority Requirements

#### TVO / Olkiluoto NPP:

- Licensing Manager
- Project Manager, expecially for Licensing
- Expert in Electrical Engineering and Electrical Engineer
- Quality Engineer, Sertified Lead Auditor ISO 9000-serie, nuclear specific audits

#### Fortum / Loviisa NPP:

Mechanical Maintenance & Mechanical Quality Control

Master of science, LUT, Energy Technology 2000

20+ years 50+ experts 400+ projects in the Nuclear Industry.

PLATOM

1998-

Mikkeli (HQ), Helsinki, Rauma, Turku, Tampere

Miika Puukko, CEO



Revenue 4,8 MEUR (2018)

Headcount: 56 (current)



### Licensing, Qualification & Authority Requirements

Management of Nuclear Specific Procedures

Technical Support for Licensing & Qualification

Safety Analyses & Independent Reviews

Management of Project Specific Licensing



## Plant Safety & Optimization

Process Modelling

Design & Engineering

Plant Life Management

RadWaste Management

Radiation Safety

EI&C



## **Equipment** & System **Deliveries**

Process Equipment & Systems
UF6 Solutions

## NPP Licensing, Experiences

### Agenda, lessons learned (15min samples):

- Project management
- Licensing procedures
- Supply chains
- Nuclear specific requirements, legislation
- Main topics



## Lessons learned, Project management

- Nuclear spesific management system requirements
- Changes?
- Documentation management
- Requirement and configuration management
- Task management
- Authority interface
- Contract requirements reject behaviour?

Keep it simple!

## Lessons learned, Licensing procedures

After construction license / conseptual design

- Plant and system level ~500 authority documentation packages
- Device and Component level ~thousands of documentation packages and tasks
- Just in right order and format
- Safety classification, spares
- How design solution comes?

Safety first

## Lessons learned, Supply chains

Thousands of suppliers

**Supply chain management** 

Relevant requirements

Nuclear experiences

**Documentation** 

Focus on Safety

## Lessons learned, Nuclear specific requirements, Legislation I

- Requirements are changing
- Updated authority requirements in 2004, 2013 and 2019
- ~10 000, mostly in component level
- Recognize relevant and understanding of requirements
- Must be develop! (effect to design, system/component)

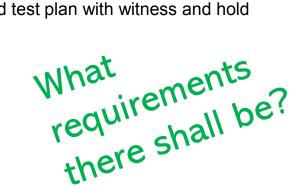
Safety first

Towards International Standards

## Lessons learned, Nuclear specific requirements, Legislation II

#### For safety classified mechanical component, the approval steps tomorrow, example:

- Approval of general equipment requirement specifications, including general inspection plans
- Manufacturer approvals
- Inspection body approvals
- Testing laboratory approvals
- Material and material manufactures approvals
- Approvals of Manufacturers for special processes and qualification of used special processes
- Qualification of the persons that make permanent joints
- Approvals for construction plan of manufacturing including specified inspection and test plan with witness and hold points
- · Construction inspections of manufacturing
- Construction plan for installation
- Construction inspection for installation, Installation inspections, pressure tests
- · Commissioning inspection I and II
- · Result reports and final documentation



### Lessons learned, main topics

Increase the **cost-efficiency** of nuclear power is needed!

Use of **international standards** has to be more acceptable!

**Legislation** and requirements has to update!

**Experience** has to be highly appreciated and keep **focus on right things**!

When you know, what you are doing, it is easy.



## Thanks!

### Time for your questions



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