

# NPP Licensing in Finland, Experiences



**The Core Team  
of Nuclear Experts**

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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, especially for Licensing
- Expert in Electrical Engineering and Electrical Engineer
- Quality Engineer, Certified Lead Auditor ISO 9000-serie, nuclear specific audits

## **Fortum / Loviisa NPP:**

- Mechanical Maintenance & Mechanical Quality Control

**Master of science, LUT, Energy Technology 2000**

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

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1998-

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

Miika Puukko, CEO



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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

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# NPP Licensing, Experiences

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

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

*Safety first*

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# Lessons learned, Project management

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

*Keep it  
simple!*

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# Lessons learned, Licensing procedures

After construction license / conceptual 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?

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*Safety first*

# Lessons learned, Supply chains

Thousands of suppliers

**Supply chain management**

Relevant requirements

Nuclear experiences

Documentation

**Focus on  
Safety**

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# 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)
- **Towards International Standards**

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*Safety first*

# 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

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*What requirements there shall be?*

# 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.

**Safety first**

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# Thanks!

## Time for your questions



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