



Status and challenges in ageing management and LTO preparation of Oskarshamn NPP

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I have been working with Swedish NPPs since 2000 starting with reactor maintenance at Barsebäck NPP, Ringhals NPP and Oskarshamn NPP. After that I have been involved in several projects of Swedish NPPs like upgrade of unit 3 and 4 at Ringhals (GREAT and NICE-projects) and Internal Core Cooling 2018-2019.

I have been at OKG since January 2020 working on several projects, LTO being one of them.

My background is in electronics where I studied for a Masters in Electronics but my interest and work experience is in the mechanical field with a love for mechanical and piping installations.



Purpose of the Project

Identify GAPS in the current ageing management program and bring it up-to-date with SSG-48



Time Schedule

New legislation from 2024-01-01 regarding ageing management.



Scope


Update the current ageing management program to fulfill the requirements in SSMs new legislation. This new legislation points to SSG-48 as the suggested guide. The project will identify the GAPS in the current ageing management program and suggest actions to fulfill them. Swedish regulators have no definite date for the issued license for NPPs but instead mentions ageing management we focus on chapter 5 in SSG-48.





Tasks


- Update the scope setting for ageing management according to SSG-48
- Develop commodity groups to support ageing management
 - In OKGs case they are called Ageing Groups
- Perform AMR
- Deliver GAPS to the organization

Current status

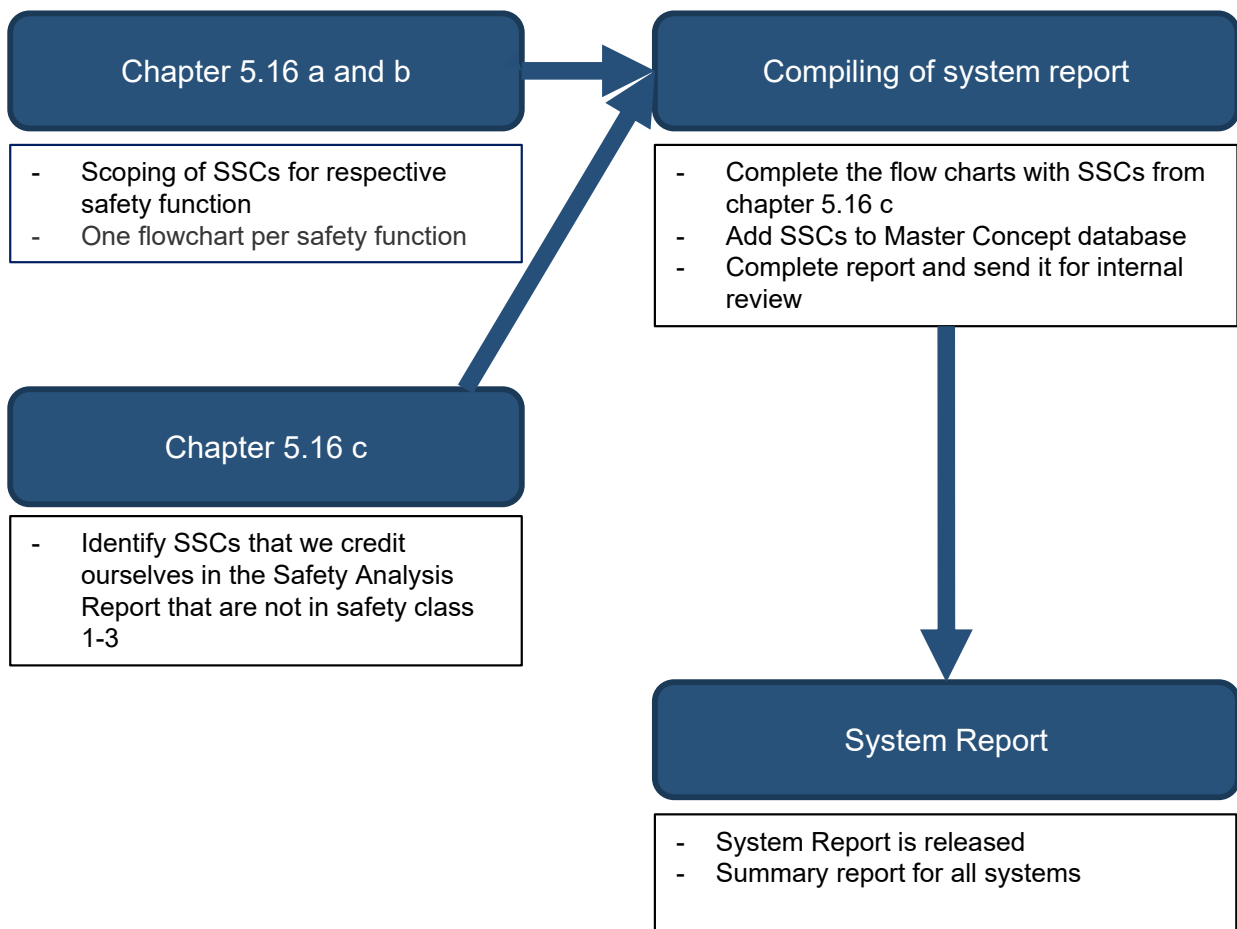
 TLAA | Time Limited Ageing Analysis completed.


 SCOPE SETTING | Methodology for Scope setting of ageing management completed. Work with scoping of systems are ongoing. System analysis report completed. Two different groups are working with this. One is for scoping of main safety functions and the other is for scoping the SSCs that we credit ourselves in the Safety Analysis Report that are not in safety class 1-3. The work with Ageing Groups (Commodity Groups) are ongoing.

 AMR | AMR methodology has been released for review. NRG has reviewed it alongside our own organization. Pilot reports are ongoing.

 NEXT STEPS |
Complete Scoping of SSCs
Complete instruction for Ageing Groups and Establish Ageing Groups
Complete instruction for Ageing Management Review
Perform Ageing Management Review
Complete Pilot Reports

Scope setting of ageing management



 **Basic problems**


- Going the route of mapping the SSC to their respective safety function takes time. Time per safety function can differ between 2 and 30 hours depending on the complexity of the system.
- Safety Analysis Report is not crystal clear on the SSCs derived from chapter 5.16 c and therefore this specific task requires key personnel that have an extensive background in the plant.
- Organization is slim internally which required the project to hire external personnel with extensive plant experience. This has been an issue.
- Time planning with the above issues is hard.


Scope setting of ageing management – Challenges


Challenges of Scope setting of ageing management


- Interpretation of SSG-48 chapter 5.16 c) for methodology and instruction
 - Done by subcontractor
- OKG's way forward with scoping in each and every safety function is time consuming
 - Requires specific resources – Specialists in safety analysis, higher level of understanding in the way the plant is built regarding mechanical, electrical and I&C
 - OKG's organization is slim – Required resources are specialists and are often needed elsewhere
- Resources that knows the safety analysis report in detail and can explain and interpret if for us are scarce.
 - Questions that needs this explanation and interpretation are mostly on the 5.16 c-matter with SSCs that we credit ourselves in the safety analysis but are not safety class 1-3
- Setting the boundaries of the scope setting and how it should be documented in reports
- Internal reviewing of the documents

Current status

 **Methodology** | AMR methodology released for review. Has been reviewed by NRG and relevant comments incorporated in the methodology.

 **Instruction** | AMR instruction is ongoing. OKG has chosen to divide the methodology in two documents. AMR Methodology and AMR Instruction.

 **Pilot Reports** | Pilot reports are ongoing and are scheduled to go for NRG review July 5.

 **PreSALTO** | PreSALTO starting August 30 in Oskarshamn. AIP is scheduled to be sent in the beginning of July. Counterparts has been selected and preparations are ongoing.

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