Project BY3.01/16 – Component B
(PROJECT BE/RA/09)

Swedish regulatory work without TSO

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BACKGROUND

- The Swedish company ASEA Atom designed and built the 9 Swedish BWRs (1972 - 1985)
- Westinghouse designed and built the three Swedish PWRs (1975 – 1983)
- Vattenfall – the Swedish state owned electricity company took part in the construction of their NPPs at Ringhals and Forsmark

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BACKGROUND

- During the construction period the regulatory body had close contact with Vattenfall and ASEA Atom
- No dedicated Technical Support Organisation
- Since Vattenfall is a state owned company they acted more or less as a TSO during the construction of Ringhals 1-2 and Forsmark 1-3
- Many decisions were taken after discussions with the licensees

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BACKGROUND

- From the late 80th, with all the Swedish NPPs in operation, SKI (Swedish Nuclear Power Inspectorate, the forerunner to the current authority) worked more independent from the vendors and owners

- **Today** the **contact** between the regulatory body SSM and the licensees are much **more formal**

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The Swedish Nuclear Regulations

- During the first decades of operation there were no specific regulations issued by the regulatory body
- In the early 90th SKI issued the first nuclear regulation
- The Swedish regulations are goal based without detailed requirements
- That means that the licensees have to show that a construction meets the requirements

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The Swedish Nuclear Regulations

- The goal based model requires that the authority's inspectors and analysts have good knowledge of the nuclear facilities and the interpretation of the regulations

- When major changes are performed at the plants the licensees have to report in advance, relatively detailed, the aim with the change/new construction before they are allowed to start

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representativeness

The Swedish supervision model

- Performance driven rather than detailed driven
- Requirements focus on goals and performance
- Licensees are free to find effective and efficient solutions.
- The authority does not have the resources to control all changes but reviews selected works, based on imortance and representativeness

- Confidence building by continuous dialogue and openness

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The Swedish supervision model cont.

- Supervisor focus on its independence, integrity and impartiality leaning on IAEA recommendations and WENRA ref. levels
- SSM independent in question of nuclear power development (political question, parties, government), only safety concerned
- Principle - Avoid conflict of interests in supervision
- Financing of supervision – by the licensee in form of annual fee determined by the Government

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The Swedish supervision model Summary

- Historically only Swedish stakeholders involved (producer, operator, supervisor)
- No dedicated TSO
- Competence, knowledge, mostly at the part of producer and operator
- Usually more effective and efficient with high level, function oriented regulations and requirements
- Dialogue and openness creates confidence
- Independence aspect might be weaker (compared to the TSO model)

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THANK YOU

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