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- Facilitates and communicates R&D through collaborative actions
  - Energy industry
  - Authorities
  - Suppliers, universities, consultants etc
- Owned by trading- and transmission organizations for electricity, heat and gas
- Active in the entire field of energy
  - Activities defined from industry needs
  - Close collaboration with financiers
  - From PhD to applied projects
- More on www.energiforsk.se

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Nuclear portfolio activities 2020

Concrete

Strål säkerhets myndigheten
Swedish Radiation Safety Authority

GINO Grid/plant interact.

Strål säkerhets myndigheten
Swedish Radiation Safety Authority

Strategic Monit.

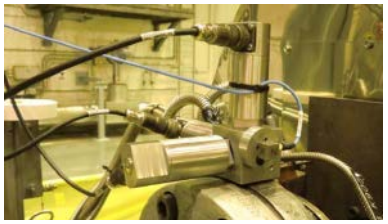
Polymers

Strål säkerhets myndigheten
Swedish Radiation Safety Authority

ENSRIC I&C

Strål säkerhets myndigheten
Swedish Radiation Safety Authority

Digitalization in nuclear



Vibrations

BREDA
RPV Embrittlement

GINO – Grid Interference on Nuclear power plant Operations

Monika Adsten, Energiforsk
Mattias Wondollek, Energiforsk

Energiforsk

Stakeholders:

VATTENFALL

uniper

TVO

fortum

Strål säkerhets myndigheten
Swedish Radiation Safety Authority

ENERGI
karlstadsenergi.se

Skellefteå Kraft

SVENSKA KRAFTNÄT

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GINO – Grid Interference on Nuclear power plant Operations

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Activities

- Focus areas:
  - Plant/grid interaction and future outlook
  - Generic systems and components
  - Skills transfer/building competence
- Ongoing/new activities:
  - Co-simulation model for safety and reliability of electric systems in flexible environment of NPP
  - Impact on the nuclear power plant operation with introduction of a generation mix with limited short circuit power capacity and decentralized location

Photo: OKG

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Interact and stay in touch!

- Arena for dialogue
- Propose project ideas
- Attend events
- Read news and reports
- Contact us
  - mattias.wondollek@energiforsk.se
  - monika.adsten@energiforsk.se

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Program

- 13.15 Case Study- Effective Voltage Control and operational coordination, *Johan Falk, Solvina*
- 13.45 Sub-synchronous oscillations between FPC wind farms VSC-HVDC links and nuclear power plants, *Lena Max, Protrol*
- 14.15 Break/Meet the author sessions
- 14.30 Survey on power system ancillary services, *Seppo Hänninen, VTT and Tatiana Salnikova, Framatome*
- 15.10 Co-simulation model for safety and reliability of electric systems in flexible environment of NPP, *John Millar, Aalto University and Poria Divshali, VTT*
- 15.50 Meet the author sessions

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