



**Welcome to the 2024  
Energiforsk Vibrations in  
Nuclear Applications  
seminar**

# Energiforsk – nuclear portfolio overview



**The Energiforsk Nuclear Portfolio consists of 7 programs:**

- Concrete technology
- Outlook & Technology
- ENSRIC
- Vibrations
- GINO
- Polymers
- Digitalisation

**The Portfolio is funded by all Nordic nuclear power plants and their owners – Fortum, TVO, Vattenfall, Uniper.**



# Energiforsk – Vibrations in Nuclear applications Program

SURVEY OF PUMP AND PUMP UNIT VIBRATION

REPORT 2023934



The Vibrations in Nuclear Power programme produce and provide knowledge on operational problems related to vibrations. This knowledge is valuable in maintaining safe, efficient operation and in decision processes for investments.

The programme's main focus areas are:

- Digitalized vibration management
- Technical challenges
- Implementation and knowledge transfer

<https://energiforsk.se/en/programmes/vibrations-in-nuclear-applications/>

Chairperson 2025: Petri Lemettinen, Fortum. Program manager: Karin Westling, Energiforsk.

# Contact



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# Seminar agenda

Start time	Agenda point
08:30	<b>Coffee and registration</b>
09:00	Karin Westling, Energiforsk and Petri Lemettinen, Fortum: introduction
09:10	Lasse Linnamaa, Fingrid: Oscillations in the Finnish power system
09:40	Petri Lemettinen, Fortum: Loviisa Low Pressure Turbines Renewal
10:10	<b>Coffee break</b>
10:30	Ari Vepsä and Ludovic Fulop, VTT: Possible alternatives for shaker table testing in earthquake qualification of I&C cabinets
11:00	John Lorentzon, Ringhals: 3D printing of supports
11:30	<b>Lunch break</b>
12:45	Gustavo Orozco, FS Dynamics: "Structural Effects of High-Velocity Flows in Heat Exchanger Barrier Systems"
13:15	Joni Järvenperä , TVO: Loads and vibrations affecting pump operations
13:45	Rainer Nordmann : DIAM – A Matrix Tool for Pump Vibration Problems in Nuclear Power Plants
14:15	<b>Coffee break</b>
14:35	Ilkka Perälä, VTT : OL3 turbine shaft torsional vibration measurements
15:05	Olli Kuuluvainen and Jaakko Rostedt, Trendion: Machine faults detected with Trendion Online™ -vibration monitoring system
15:35	Karin Westling, Energiforsk: wrap up and summary
15:55	<b>End of the day</b>