



SVAFO

An overview & expectations within PREDIS WP 6

2021-03-09

SVAFO's mission



"AB SVAFO's task is to, in a safe and environmentally responsible manner, take care of facilities and waste from the early Swedish nuclear research programs"

The assignment extends in time until disposal of all its waste can take place. That is, until 2045 at the earliest.



Activities

- Interim storage of waste
- Waste characterization
- Waste treatment
- Decommissioning of the Studsvik R2 reactor
- Decommissioning of other Swedish legacy nuclear facilities
- New interim storage (SALUT project)



SVAFO is funded from the Studsvik Fund / Nuclear Waste Fund and by SVAFO's owners.

Owned by Swedish nuclear power utilities:

Ringhals	48 %
Forsmark	30 %
OKG	22 %



Overview solid organic wastes



- Grouted ion exchange resins
 - Contaminated bitumen liner (from decommissioned silos)
 - Grouted sludges (minor organic component)
 - Mixed laboratory organic legacy wastes
 - Medical research wastes
 - Actinide bearing solid organic wastes
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- Typically in drums (as is, compacted, cemented or with cement overpack)
 - Typically LLW (range from VLLW to ILW)
 - Legacy waste, general need for additional characterization
 - Subsets ranging from a few drums to the low thousands

Challenges



- Legacy waste: varied origins, limited documentation, no or old data
- Difficulties in determining nuclide inventory and chemical composition
- Potential for chemical hazards (heavy metals, toxicity, etc)
- Difficulties in scale & complexity

Diversified wastes in small quantities although large enough to merit investigation
Subsets often not large enough to easily merit a dedicated handling facility



PREDIS Expectations



- To observe the general state of knowledge within Pre Disposal
- Current WAC trends (granted different repositories & geologies)
 - Waste package & matrix performance requirements
 - Package performance vs outer barriers and geology?
- Advances in thermal treatment technologies
 - Problematic wastes (Hg, PVC, high alpha, high inorganic content, etc)
- State of the art in characterization of legacy waste
 - ND methods & difficult packages (cement, organics, DTM RN, actinides)
- State of the art in flexible/multipurpose processing installations
 - Destructive investigations, handling, sorting, repackaging

Thank you



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