

Safeguards-by-Design Working Group

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Safeguards by Design (SBD)



SBD is about establishing an early dialogue

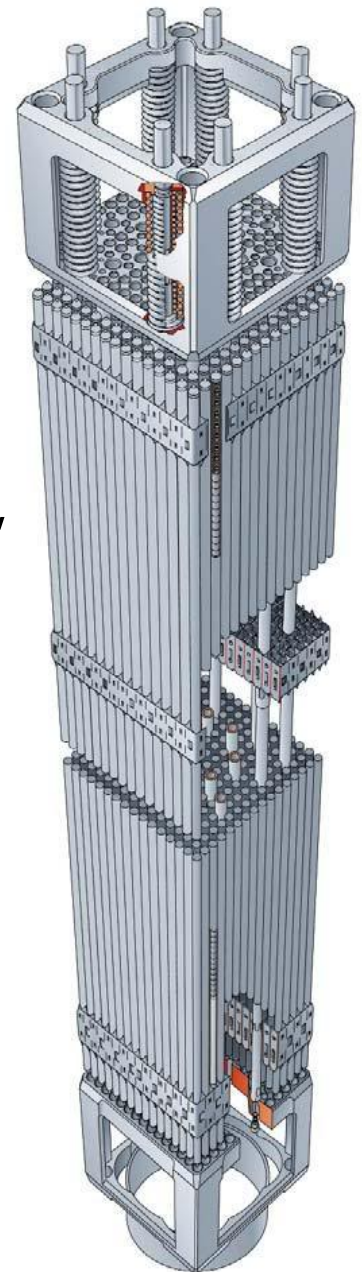
The goal of this dialogue is to:

- ✓ Foster an understanding of safeguards
- ✓ Take advantage of lessons learned
- ✓ Improve the effectiveness and efficiency of IAEA safeguards

Benefits will impact the designer, operator, State, and IAEA

Staying ahead of the game: fuel cycle challenges

- **New fuels:** Th/U-233, RepU, MOX, TRU fuels, ...
 - **New reactors:** Molten Salt Reactors (MSRs), fast reactors, transportables, PBMRs, ...
 - **New fuel cycles:** Pyroprocessing and any breakthroughs Reprocessing / Recycling related to SMR fuels, ...
 - **Longer operation cycles** between refuelling (SMRs): issue around core and key component access
 - **New waste management** technologies, and deep geologic repository development
- **IAEA SG verification toolkit must keep pace**



Safeguards by design (SBD) guidance



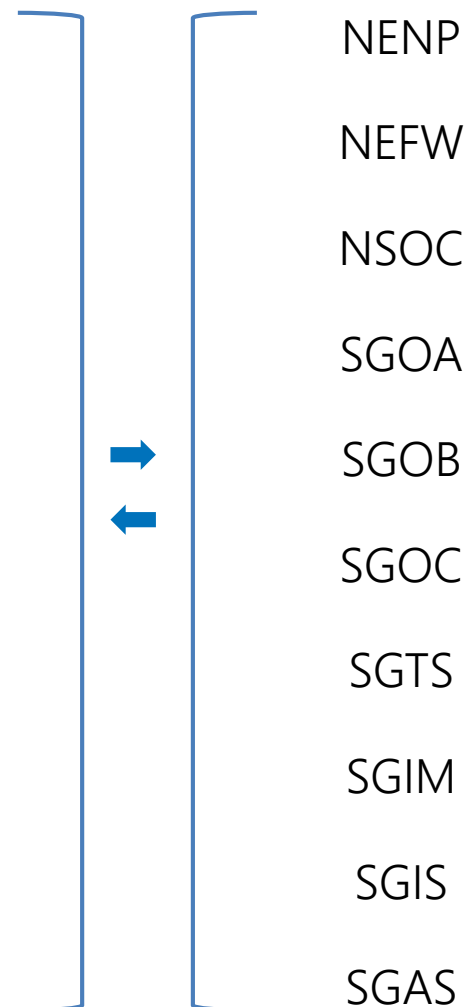
Coming in 2019...
*Reprocessing,
Enrichment*

SBD Working Group (est. Dec. 2018)

The SBD-WG is an **interdepartmental** working group that will **coordinate the Agency's SBD activities**.

Goals

1. **Advance SBD** by ensuring safeguards are taken into account early in the design
2. Leverage and establish **partnerships across the Agency and externally**
3. **Ensure clear and consistent messaging** to all stakeholders



Responsibilities

Identify and Prioritize Nuclear Facilities

Monitor the progress of emerging facilities

Prioritize facilities based on timing and SG impact

Identify Technical Issues and Lessons Learned

Capture lessons learned

Assess technical issues that could impact safeguards

Engage Stakeholders and Provide Strategic Direction

Identify external stakeholders

Provide strategic direction to management

Prepare/review SBD material

Providing strategic direction to Agency management

Outcomes

Identify and Prioritize Nuclear Facilities

Additional guidance documents

MSSP tasks

Identify Technical Issues and Lessons Learned

List of lessons learned

Engage Stakeholders and Provide Strategic Direction

External communication channel

Standardized SBD presentations

Training for regulators, designers, etc

Providing value to Agency and Member States

Other SBD activities

SG is involved several “Safeguards by Design” discussions with Member States involving advanced designs:

- ❖ Pyroprocessing technology (US, ROK)
- ❖ Pebble bed modular reactor (HTR-PM: China)
- ❖ “Floating” reactor (KLT-40S: Russia)
- ❖ Other SMR safeguards support tasks in the works (USA, Canada, ROK, China, Japan)

Questions?