

CO-ORDINATED RESEARCH ACTIVITIES IN THE FIELD OF THE OECD/NEA CSNI

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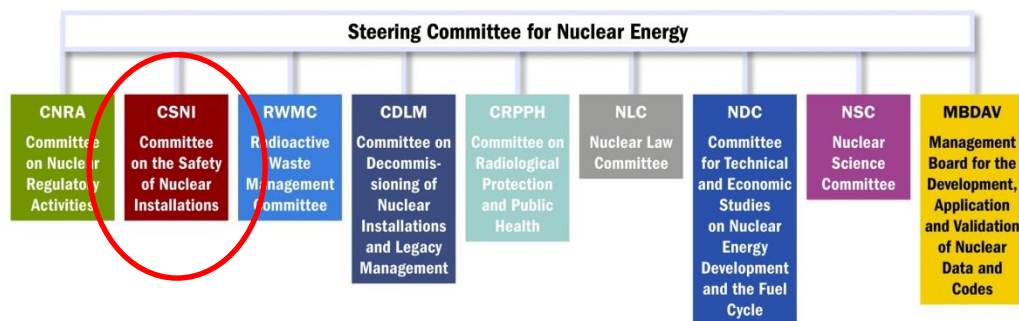
Division of Nuclear Safety Technology and Regulation
at the Nuclear Energy Agency (NEA)

<http://www.oecd-nea.org/>

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The NEA: A Forum for Co-operation for the Most Advanced Countries in the World

- Founded in 1958
- 33 member countries
- 8 standing technical committees
- 71 working parties and expert groups*
- 22 international joint projects*



*As of January 2018

CSNI Operating Plan (2017-2022)

- **Mission (Joint with CNRA):** to assist member countries in ensuring adequate safety of existing and future nuclear installations in their respective territories, through maintaining and further developing the knowledge, competence and infrastructure needed to regulate and support the complete life cycle, including the design, construction, operation, decommissioning and waste management of nuclear reactors, fuel cycle facilities, and other nuclear installations.
- **Vision:** to sustain excellence in the safety and regulation of existing and future nuclear installations
- **Challenges:**
 - Adequate nuclear skills and infrastructure
 - Effectiveness and efficiency of activities related to safety
 - Safe operation of current nuclear installations
 - Safety in new nuclear installations and in advanced reactor designs
 - Human aspects of nuclear safety

Committee on the Safety of Nuclear Installations (CSNI)

CSNI Programme Review Group (PRG)

Working Group on Risk Assessment (WGRISK)

Working Group on Analysis and Management of Accidents (WGAMA)

Working Group on Integrity and Ageing of Components and Structures (WGIAGE)

- Subgroup on the Integrity of Metal Components and Structures
- Subgroup on the Ageing of Concrete Structures
- Subgroup on Seismic Engineering

Working Group on Human and Organizational Factors (WGHOE)

Working Group on Fuel Safety (WGFS)

Working Group on Fuel Cycle Safety (WGFCSS)

Working Group on External Events (WGEV)

Working Group on Electrical Power Systems (WGELEC)

Senior Expert Group on Safety Research/Capabilities & Facilities 2 (SESAR/CAF2)

OECD/NEA joint projects in the nuclear safety area:

- ATLAS-2
- BIP-3
- BSAF-2
- Cabri Water Loop
- CADAK
- CODAP
- FIRE
- Halden Reactor
- HEAF-2
- HYMERES-2
- ICDE
- LOFC
- PKL-4
- PreADES
- PRISME-3
- SCIP-3
- STEM-2
- THAI-3

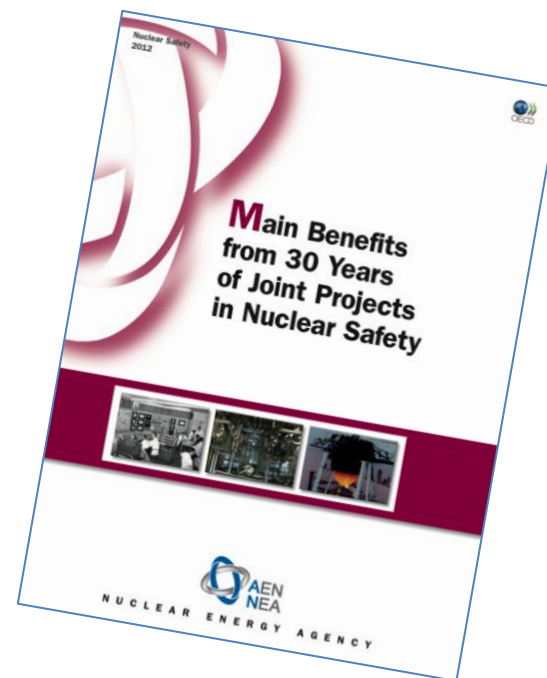
CSNI Output and Benefits

- CSNI products are generally one of the following:
 - Technical or collective opinion papers
 - Technical reports, including state-of-the-art reports
 - Workshop or seminar proceedings
- CSNI typically approves about 15 products per year
<http://www.oecd-nea.org/nsd/docs/indexcsni.html>
- Forum that brings together the world's leading experts in a wide variety of technical areas
- Identification and closure of safety knowledge gaps
- Technical bases to inform regulatory decisions
- Opportunities for joint projects to close research gaps

Nuclear Safety Research “Joint Projects”

- Experimental research experiments and databases
- Independent legal framework
- Among interested countries on a cost-sharing basis
- Usually related to the CSNI programme of work

<https://www.oecd-nea.org/jointproj/>



Component Integrity

PRISME-3
HEAF-2
SMILE
HARVEST

Advanced Reactors

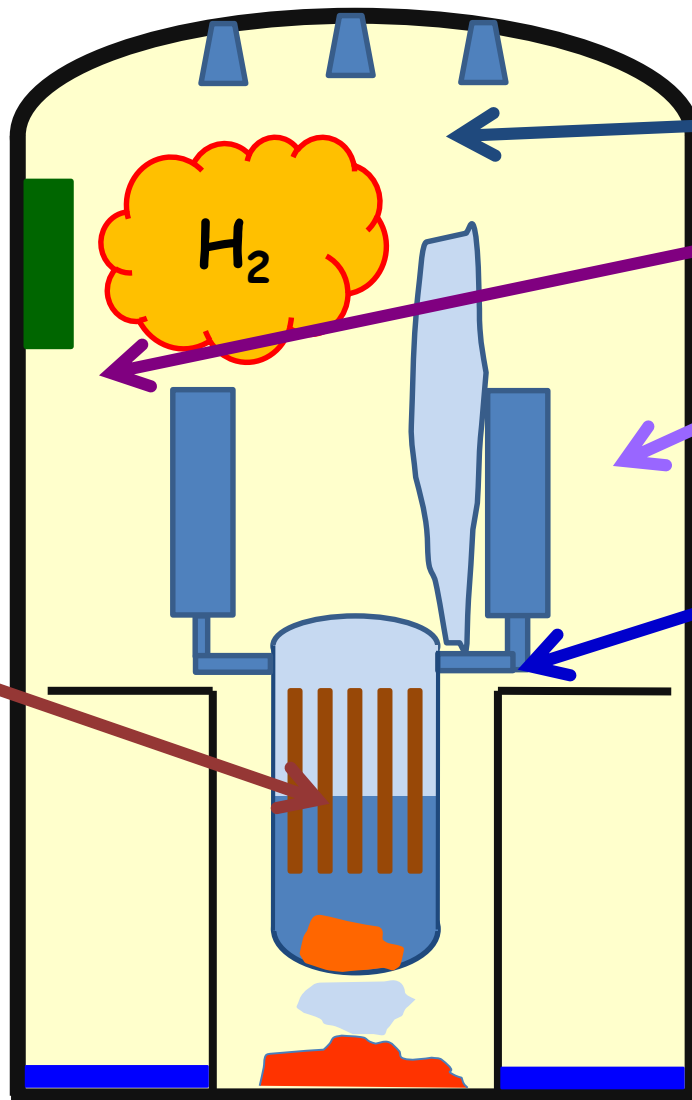
LOFC

Fuel Safety

Halden
SCIP-3
CIP
ROSAU

Post-Fukushima:

1. BSAF-2
2. PreADES
3. ARC-F



Containment issues

THAI-3
BIP-3
STEM-2
HYMERES-2

RCS Thermal-Hydraulics

PKL-4
ATLAS-2
CFD
RBHT

Databases:

1. FIRE
2. ICDE
3. CODAP

CSNI Cooperation – within NEA

- **CNRA**
 - Significant collaboration between CSNI and CNRA on key activities and projects
 - Mechanisms in place to suggest work activities to the other committee
- **CRPPH**
 - Coordination on areas of mutual interest – particularly in emergency preparedness
 - Part of 3-committee follow-up to Fukushima
- **NSC**
 - Exchanging information – e.g. accident-tolerant fuels

CSNI Cooperation – beyond NEA

- IAEA
 - Represented at all levels (CSNI, group, activity, etc.)
 - Numerous joint or complementary activities underway (e.g. WGFCs - FINAS system, WGRISK – workshop on multi-unit risk, WGIAGE – aging of materials, WGAMA – severe accidents)
- EC
 - Sharing of information in areas of mutual interest such as Euratom reactor safety research activities and the European Clearinghouse for operational experience feedback

OECD/NEA Membership



- **Argentina**
- **Australia**
- **Austria**
- **Belgium**
- **Canada**
- **Chile**
- **Czech Republic**
- **Denmark**
- **Estonia**
- **Finland**
- **France**
- **Germany**
- **Greece**
- **Hungary**
- **Iceland**
- **Ireland**
- **Israel**
- **Italy**
- **Japan**
- **Korea**
- **Latvia**
- **Lithuania**
- **Luxembourg**
- **Mexico**
- **Netherlands**
- **New Zealand**
- **Norway**
- **Poland**
- **Portugal**
- **Romania**
- **Russia**
- **Slovak Republic**
- **Slovenia**
- **Spain**
- **Sweden**
- **Switzerland**
- **Turkey**
- **United Kingdom**
- **United States**

OECD and NEA member
OECD member, not NEA
NEA member, not OECD