

Committee for Nuclear Energy Competence in Finland

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Nuclear Energy in Finland

- Two nuclear power plants (4 units) in operation
- One unit (Olkiluoto 3) under construction; commercial operation starting in 2013/2014
- Decisions-in-Principle on two further units in 2010
 - Next step: construction license
 - A new operator (Fennovoima) and site (Pyhäjoki)
- Readiness for spent fuel final disposal by Posiva around 2020



Background

The reasons behind establishing the Committee for Nuclear Energy Competence were:

- the increasing demand for experts in nuclear energy field,
- the Decisions-in-Principles concerning new nuclear facilities, and
- the statement by the Finnish Parliament on 1 July, 2010.

In the statement, the Parliament required that the Government will, for its own part, create the preconditions for utilising Finnish labour, knowledge and business life as far as possible in nuclear power projects.



Organisation of the Committee

- The Ministry of Employment and Economy appointed the committee in October 2010.
- The Committee was chaired by Mr. Riku Huttunen, the Committee's secretary general was Mr. Jorma Aurela, and the secretaries were Ms. Eriika Melkas and Ms. Jaana Avolahti from MEE.
- The Committee's members were invited from the Ministry of Education and Culture, Ministry of Social Affairs and Health, Radiation and Nuclear Safety Authority (STUK), VTT, universities, nuclear power companies, and Posiva.
- The work was mainly carried out in six sections. Over 100 experts were involved. The final editing of the report is on-going. The report will be published also in English.



Tasks of the Committee

The tasks of the committee were:

- to define the current human resources of the actors in the nuclear energy sector,
- to survey widely the needs for basic education, post-graduate studies, and further education,
- to discover the potential for Finnish participation in the large nuclear new build projects in the future,
- to map the existing research infrastructures available to the actors in nuclear energy sector,
- to survey Finland's participation in international research, and
- to chart the situation of VTT's research reactor.

In addition, the Committee was asked to give recommendations for actions to be implemented towards 2020's.



Six sections

The sections and the section leaders:

- Human resources: Jorma Aurela, TEM
- Education and training: Jarmo Ala-Heikkilä, Aalto University
- Finnish enterprises' participation potential in the future large nuclear projects: Juhani Hyvärinen, Fennovoima
- Research Infrastructures: Heikki Purhonen, Lappeenranta University of Technology (LUT)
- Research: Eija Karita Puska, VTT
- VTT's Research Reactor: Jaana Avolahti, TEM.



Main results and recommendations (1)

- A strong Finnish competence base is needed also in the future.
- The legislation and regulation need to respond to the highest nuclear safety requirements.

Human resources needed

- Personnel in the nuclear energy sector will increase from the current 3 300 persons to about 4 500 persons by 2025.
- In total, about 2 400 new experts with high level of education will be needed, e.g. due to retirements.



Main results and recommendations (2)

Education and training

- More university teachers are needed for major and minor subject studies and for further education and training.
- International cooperation in education and training is a must.

Research

- The main responsibility for funding research will rest on the nuclear energy sector companies; the State shall ensure on its part that the inputs are sufficient.
- Research needs in nuclear energy to be considered on an equal footing with other energy sources.
- National priorities of nuclear energy research should be defined in a long-term strategy.
- Participation in international research is absolutely necessary. The participation complemented by related national projects is preferred in order to promote dissemination of knowledge.



Main results and recommendations (3)

Research infrastructures

- require long-term national investments.
- VTT's Nuclear Technology House would be to the advantage of the whole nuclear energy sector (research on radioactive materials).
- The operation of the VTT research reactor should be continued and developed , including research and training activities.

STUK – Radiation and Nuclear Safety Authority

- The strong competence of STUK benefits the nuclear energy sector as a whole.
- The competence is beneficial also internationally.



Main results and recommendations (4)

National cooperation

- The cooperation between national actors e.g. in training is highly recommendable (e.g. national nuclear safety and nuclear waste management courses).
- Regional needs and synergies need to be taken into account.
- Competence related to regulatory oversight is needed.

Exploitation of the competence of industrial actors

- Networking of companies (suppliers) is beneficial for participation in nuclear projects in Finland and abroad.
- From the Finnish new build perspective, it is important to ensure that the authorities have appropriate resources and competence also at regional and local level.



***Ennakoivaa energiamarkkinoiden valvontaa
Aktiivista markkinoiden edistämistä
Asiantuntevaa palvelua***

Thank you!

