

PANEL SESSION 3: Infrastructure, Technology and Institutional Development – the Way Forward

SUMMARY REPORT

MODERATOR: Pal Kovacs

SPEAKERS: G. Park, HA AlKaabi, M. Mercan, E. Harmala

Nuclear power is expected to increase in the future. It has been nearly three decades since a country has started construction on its first nuclear power plant. Starting a nuclear programme today is different than in the past because many things have changed--energy markets, the strategic environment, and international obligations. A nuclear power programme is a major undertaking requiring careful planning, preparation and investment in time and human resources. While nuclear power is not alone in this respect, special consideration is required for the use of nuclear material. National decision-making should involve long-term commitment to safe, secure and peaceful use of nuclear technology, and to the development of a sustainable national infrastructure that provides governmental, legal, regulatory, managerial, technological, human and industrial support for the nuclear programme throughout its life cycle.

Countries today are responding to these developments in new and interesting ways. The panel discussion highlighted some successful solutions to some institutional and infrastructure challenges faced by countries currently embarking on or expanding nuclear power programmes. These include development of competent human resources, starting construction on a first nuclear power plant, financing, and spent fuel and waste management.

Mr Park, President of KINGS from Republic of Korea, explained the lessons Korea learned about how to establish human resource development programme for the future, highlighting the cooperation between industry, government, and universities. It was recognized that recruiting developing the workforce of the future is an important focus for countries with operating plants and those who are planning for future operations. One way to meet this demand is through international cooperation .

Ambassador Alkaabi from the United Arab Emirates presented the UAE's experience in making national decision, cooperating with vendors and the international community, and lessons learned for other embarking countries. He described the importance of having a national policy that informs strategic decisions as well as a roadmap for all of the involved institutions to follow.

Mr Mercan, Deputy Minister of Energy and Natural Resources, presented the Turkish experience and strategy for future nuclear power development. The Build-Own-Operate financing model used by Turkey and Russian Federation for the Akuyyu project may have the advantages of not only investment, but also financial risk management and experienced operation. The Akuyyu project is the first time that this arrangement has been used for a nuclear power plant.

Mr Harmala presented the 40-year Finnish experience in developing a repository for radioactive waste. What to do with radioactive waste has long been an issue raised by opponents of nuclear power. Nuclear waste can be disposed safely and economically. Stability in the national nuclear policies regarding waste has been a factor contributing to the progress Finland has made in waste management. Taking national responsibility for waste is a key factor in public acceptance for new projects.

The panellists discussed that different countries have different approaches to the level of government involvement, from very limited involvement to encouraging private sector investment or providing government guarantees in the form of power purchase agreements.

The panellists also discussed the need for qualified personnel to be involved not only in operations and maintenance for nuclear power plants, but also in a range of other areas such as nuclear law and

radiation protection. Examples of human resource development activities were given by each panellist.

The concept of regional or international repositories was raised, though the panellists discussed that for the foreseeable future, waste management will be a national responsibility, possibly with international cooperation through bilateral agreements.

The IAEA's "Milestones" document was found to be a useful guide for UAE and other countries to follow. It was pointed out that the guidance must be applied in the national context through a roadmap or action plan. The IAEA is an important source of international expertise and advice for newcomers and those countries expanding existing programmes.

In summary, the development of nuclear power entails many complex and interrelated issues over a long duration. Governments have a role in ensuring the sustainable infrastructure to support the programme. Countries introducing nuclear power today are approaching it differently than in the past.