Electricity Generation and Transmission Company (TEAŞ) included a nuclear power plant project in its 1993 investment programme. After starting the bidding process in 1997, a series of delays lead to the government's decision to postpone the project in July 2000.[7]

Turkey lacks significant domestic energy resources and highly depends on foreign gas imports.[8] In 2004, Turkey had a total installed electricity generating capacity of 35.6 GWe which constitutes a 36% increase since 2000. Conventional thermal sources (coal, gas, oil and geothermal) composed 68% of Turkey's electricity supply in 2004; hydroelectricity generation makes up almost all of the remainder. Taking into consideration diversity and energy supply security, nuclear energy is seen as an important alternative to fossil resources. ■

Notes:

1. Law No. 5710 – an unofficial translation of the text has been reproduced in the *Nuclear Law Bulletin*, No. 80, page 105.
2. Available in English at www.taek.gov.tr/olcutler/taekcriteria_final_211207.pdf.
3. Published in the Turkish Official Gazette No. 26821 on 19 March 2008.
4. Articles 4(1)(a) and 3(5) of the law.
5. Article (5)(5) of the law.
6. Article (5)(6) of the law.
7. www.nea.fr/html/general/profiles/turkey.html.
8. Two-thirds of gas is imported from the Russian Federation and the rest mainly from Iran.

Phase IV of the TDB project

The NEA Thermochemical Database (TDB) project is a long-standing co-operative effort to assemble a comprehensive, internally consistent and quality-assured chemical thermodynamic database of selected chemical elements to meet the predictive modelling requirements for the performance assessments of radioactive waste disposal systems. The data are used, for example, to calculate the migration of radioelements across engineered barriers and the geosphere.

The TDB project combines a scientifically sound review methodology and a stable organisational framework in line with its long-term objectives. The main products of the review exercises are the books published in the Chemical Thermodynamics Series, providing in the open literature:

- access to critical judgement of existing literature and data, reviewed by world experts in the field;
- knowledge transfer between TDB review teams and the performance assessment community;
- identification of areas needing further research.

The project was established in the 1980s following the realisation that existing databases at that time lacked internal consistency or were not sufficiently documented to allow the tracing of the original data sources. The chemical thermodynamics of uranium, americium, technetium, neptunium and plutonium were the first elements to be reviewed and published. The data for these elements were updated during the second phase of the project (1998-2003), and new reviews were undertaken for inorganic species and compounds of fission and activation products, such as selenium, nickel and zirconium. In addition, reviews of organic compounds and complexes (oxalate, citrate, EDTA and iso-saccharinic acid) of all of the previously cited elements (U, Np, Pu, Am, Tc, Se, Ni and Zr) were completed and published in 2005.

In the third phase of the TDB project (2003-2008), it was decided to review:

- thorium (Th), chosen for reasons of chemical consistency within the database for actinides;
- tin (Sn), present as a fission product in nuclear waste and whose thermochemical properties present substantial gaps and inconsistencies for solubility limiting species;
- iron (Fe), a key element in determining the redox (oxidation-reduction) conditions in repositories for which a consistent chemical thermodynamic database is lacking.

Participants also agreed to prepare guidelines for the evaluation of thermodynamic data for solid solutions. These solids have not been systematically examined for database work so far, but they may provide more accurate information in relation to waste migration as well as the performance of engineered and natural barriers. The book on solid solutions was published in 2007 as volume 10 in the series of TDB books. The review of thorium data is expected to be issued in 2008, followed by the reviews of tin (Sn) and iron (Fe) in early 2009.

A fourth phase of the NEA TDB project was started in February 2008 and is planned to be completed in 2012. The project is, as in the two previous phases, guided by a Management Board, which consists of representatives from 17 organisations[1] with responsibilities in radioactive waste management in 13 OECD member countries. The Board has decided to perform:

- complementary studies of inorganic species and compounds of iron (Fe);
- a review of auxiliary data;
- an update of the selected value database accrued during the first three phases of the project;
- a review of inorganic species and compounds of molybdenum (Mo).

The first year of the project will be devoted to preparatory work and to establishing the review team, consisting of world experts in each field. The following two years will be devoted to reviewing available literature and data and to recommend selected values. The final year of the project will include peer reviews and editing for publication.

Further information on the TDB project, its database and publications is available at www.nea.fr/html/dbtdb. ■

Note:

1. The following organisations are participating in the fourth phase of the TDB project: NIRAS/ONDRAF (Belgium), NWMO (Canada), RAWRA (Czech Republic), POSIVA (Finland), ANDRA (France), CEA (France), FZK INE (Germany), JAEA (Japan), KAERI (Korea), ENRESA (Spain), SKB (Sweden), HSK (Switzerland), NAGRA (Switzerland), PSI (Switzerland), Nexia Solutions (UK), NDA (UK) and the Department of Energy (USA).

Einar SAELAND (1915-2008)

NEA Director-General 1964-1977

It is with great sadness that we learned that Einar Saeland passed away on 25 May 2008.

Einar was born on 3 April 1915 in Trondheim, Norway. His father was Sem Saeland, physicist and President of the University of Oslo, and his mother Gudrun Schöning Saeland, one of the first female Medical Doctors in Norway. Einar graduated in Physical Chemistry from the University of Oslo in 1939. In 1951, he married Elsebe Stoltenberg (1921-2000). They had two children: Sem (born 1952) and Nanna (born 1956).

In the early 1950s, Einar helped establish the Norwegian Nuclear Energy Research Institute at Kjeller, Norway. In 1955, he represented Norway at the 1st International Conference on the Peaceful Uses of Atomic Energy. He served as a Norwegian representative to the European Atomic Energy Society between 1951 and 1956. In 1958, he joined the OECD as NEA Deputy Director. He served as NEA Director-General from 1964 until his retirement in 1977.

All those who knew Einar will undoubtedly remember an exceptional human being, whose intelligence, modesty, generosity, and sense of humor, served as a model to many. He will be greatly missed.

Uranium: Resources, Production and Demand

World demand for electricity is expected to continue to grow rapidly over the next several decades to meet the needs of an increasing population and economic growth. The recognition by many governments that nuclear power can produce competitively priced base-load electricity that is essentially free of greenhouse gas emissions, combined with the role that nuclear can play in enhancing security of energy supplies, has increased the prospects for growth in nuclear generating capacity.

With several countries building nuclear power plants and many more considering using nuclear power, uranium supply issues have become the focus of considerable attention. In response to rising demand and declining inventories, uranium prices have surged upward in recent years. As a result, the uranium industry is undergoing a significant revival, bringing to an end a period of over 20 years of underinvestment.

As the market price for uranium increases, worldwide uranium exploration and mine development