

and-maintenance state. Although there has been interest in reopening the plant, most assessments have concluded that it would be uneconomical to do so. With the renewed interest in nuclear power around the world, however, the Philippine Department of Energy in early 2008 asked the International Atomic Energy Agency to advise on the feasibility of rehabilitating the plant. Without making any firm recommendations, the IAEA did advise that the plant be thoroughly inspected by technical specialists and an expert economic evaluation be carried out.

JAPAN

Hamaoka-1 and -2 not to be restarted

Chubu Electric Power Company has decided not to restart the two oldest reactors at its five-unit Hamaoka station because of the cost of meeting higher seismic safety requirements. The company said that it will build a sixth unit at the station, with a start-up date of 2018.

Following the Niigata-Chuetsu-Oki earthquake on July 16, 2007, Japan's regulators made clear their intention to upgrade seismic design requirements for all Japanese nuclear power plants, including those currently in operation. According to Chubu, the expected seismic upgrading that would be necessary for the two oldest units would cost about \$3.3 billion, and the company decided that it would be more cost-effective

to decommission the two units and build a replacement reactor.

Hamaoka-1 was shut down in November 2001 because of a pipe rupture incident, after which cracks in the shroud were also discovered. Unit 2 was shut down in 2004 because of similar cracking problems. While the company was investigating these issues, the safety authorities became more concerned about the seismic capability of the plant. Although Chubu continued to consider possible options for the two oldest units, its main efforts became focused on ensuring that Units 3, 4, and 5 had sufficient seismic margins to continue operating.

In explaining its decision, Chubu said that it recognized the importance of nuclear power to Japan, both in terms of energy supply and the environment, but because nuclear is a relatively small part of the company's total capacity in comparison with other power companies, it decided that closing the two reactors permanently is the best course of action.

Chubu also said that it will build a new dry storage facility on the site to hold the spent fuel from all of the Hamaoka reactors.

IAEA

INIS database now available free of charge

The International Atomic Energy Agency's nuclear science database, the International Nuclear Information System (INIS), is now

accessible on the Internet at no cost in 10 countries and will soon be available free worldwide. The database, which was established in 1970, contains more than 3 million bibliographic records related to the peaceful uses of nuclear energy. Free access to the full text of more than 130 000 documents classified as nonconventional literature (NCL), consisting of reports and other noncopyrighted information, will also be available in the near future.

In his opening remarks at the 34th meeting of the INIS liaison officers, held November 3-5, 2008, in Vienna, Austria, IAEA Deputy Director General Yuri Sokolov, head of the Department of Nuclear Energy, predicted a doubling of present nuclear capacity worldwide by 2030. He noted that about 50 countries, including about 20 possible entrants into the nuclear arena, have informed the IAEA of their interest in constructing new power plants. Sokolov said that "a nuclear information infrastructure will be an important element of [these new] national nuclear power programs . . . and national INIS centers can contribute by providing guidance and sharing experience useful for new countries. . . . The accessibility of the INIS database should not be exclusionary. Locking content up behind a subscription wall prevents INIS from being visible to its potential user community."

Ruth Hahn-Weinert, head of the IAEA Library and acting head of the INIS and Nuclear Knowledge Management Section, told the 84 national liaison officers from 73 countries that INIS had three key drivers for developing the nuclear information system: free access, new content requirements, and Web technology. Members of the INIS secretariat described these drivers as follows:

Free access—Following a pilot test project, free access is now available in Argentina, Australia, Austria, Brazil, Canada, France, Japan, Sweden, Uruguay, and the United States. All member states will eventually have access to the program as it is expanded on a country-by-country basis.

Content—New INIS requirements are being identified by user studies. Liaison officers from China, Japan, and the Latin American/Caribbean region presented studies that revealed user preferences by subject categories, types of documents, classes of users, and other variables. For example, China indicated that its highest interest was in chemistry, while all three groups selected journal articles as the preferred type of document. The results of these studies, and similar research conducted by the INIS secretariat, will support a continual development of the system.

As a result of a recent policy of buying bibliographic records from scientific publishers, the INIS secretariat is now producing more than half of the database (70 000



Hamaoka: Closing Units 1 and 2 is the best course of action, according to Chubu Electric

records in 2007) from these sources, which include Elsevier and other scientific databases.

Web technology—New technology includes computer-assisted indexing software, which has doubled productivity and has been transferred to INIS inputting centers. Another is the Metadata Extraction Tool, which has automated the creation of INIS records from full-text documents in PDF format. It reformats content based on INIS bibliographic rules. It will be transferred to member states by the end of 2009.

Innovations

Also discussed at the meeting were various innovations introduced by INIS:

■ The International Nuclear Library Network links nuclear libraries in member states in cooperative activities. The network is expected to grow to 22 libraries in 2009 (from 10 in 2007). Projects will include cross-catalog searching, shared cataloging, and open access.

■ Based on the results of a study carried out in 2007, IAEA integrated the INIS and the IAEA Library, which are now linked by a federated search engine that simultaneously searches the INIS database, the IAEA Library catalog, the IAEA Waste Management Database, and nuclear science journals.


■ Since 2002, more than 40 percent of the NCL collection of approximately 600 000 reports has been digitized using optical character recognition methods, allowing full-text search and retrieval. These include reports previously held on microfiche. The conversion process is expected to continue through the end of 2010. Full-text searches can now be performed in Latin, Cyrillic, Chinese (simplified), Japanese, and Korean alphabets, and tests are being conducted in Arabic, Armenian, Thai, and Hebrew.

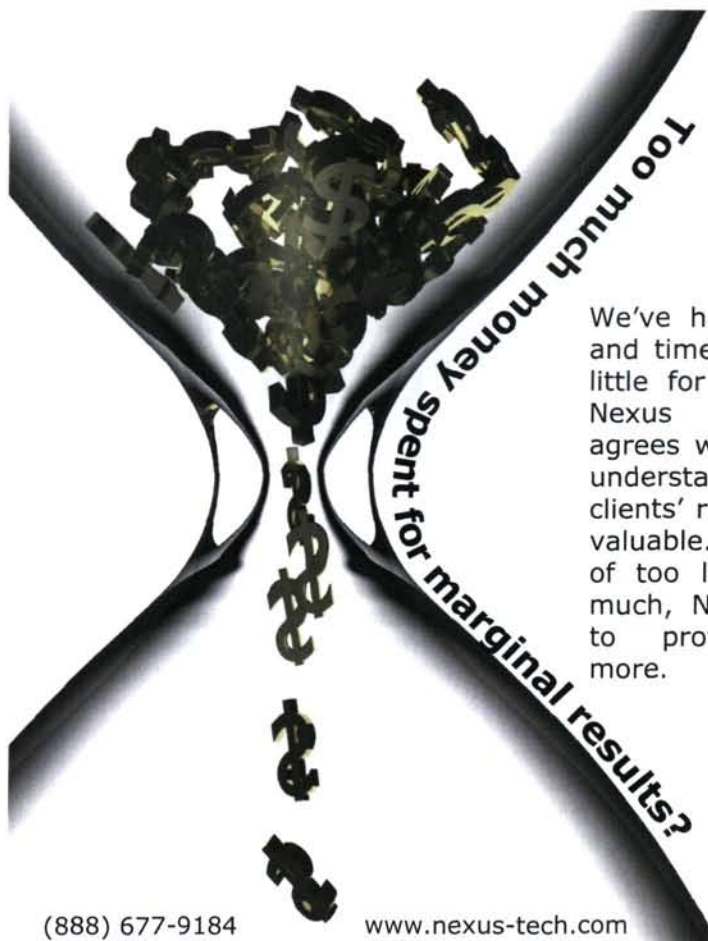
■ An Arabic user interface was introduced for the INIS database in 2008. Other interfaces include German, Japanese, English, Portuguese, and Spanish.

■ The International Energy Agency's Energy Technology Data Exchange (ETDE)/INIS Joint Thesaurus has been converted to PDF and is available online in English, French, German, Spanish, Chinese, Russian, and Arabic.

Partnerships

Besides its relationship with the IEA's ETDE, which allows access to both databases, INIS has entered into partnerships with other organizations, including the International Centre for Scientific and Technical Information in Russia, the U.S. Department of Energy's Office of Scientific and Technical Information, and the OECD Nuclear Energy Agency.

Additional information on INIS and free access to the database can be found at inisdb2.iaea.org.—*Emil Levine* 



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