

# OPEC Countries Develop Nuclear Power Sources

Keynoting the major international Conference on Transfer of Nuclear Technology, held in Persepolis, Iran April 10-13, the Shah of Iran told the gathering of top energy spokesmen from some 41 countries including the U.S. that "the developing countries also have a right to free access to the most modern nuclear energy." The Shah's remarks are an attack on the Carter policy for restricting international development of nuclear technology through U.S. control of technology transfer and fuel cycle facilities. Nuclear fission itself is not the final achievement, the Shah added. "Nuclear fusion which is a safer and more efficient form of energy is the energy of the future."

The Persepolis conference, the first such conference on nuclear technology transfer held in a developing sector country, marks a major change in the attitude of virtually every key member of the Organization of Petroleum Exporting Countries (OPEC). The reason for oil countries' investment of billions in nuclear energy resources is their increasing conviction that they must use their petroleum resources to develop petrochemical industry. If there is no substantial commitment today for the development of advanced nuclear energy and technological infrastructure, the OPEC countries will face exhaustion of their current energy resources, with nothing to replace them to fuel an actual program of industrial development. As one Aramco official commented: "The Saudis resent using their oil simply as a fuel source . . . They are very insistent on developing new alternative energy sources."

## *Iranian Plans*

To date, the most ambitious plans for development of peaceful nuclear energy resources exist in Iran which has the fourth largest program in the world in terms of planned nuclear capacity by 1990. The Iranian government is not unaware of the potential for strategic blackmail confirmed in recent months by U.S. "non-proliferation" embargos on crucial nuclear technology to export markets. Recently Dr. Akbar Etemad, head of the Iranian Atomic Energy Organization, warned that if the U.S. government tries to interfere with Iranian acquisition of nuclear capacity, Iran would turn to the USSR for crucial supplies.

Iranian actions since they began their nuclear program in 1975, have, in fact, confirmed a very deliberate political awareness of the potential of U.S. cutoff of crucial technology. As a result, contracts have been made with West German and French reactor firms for the initial reactors. Two pressurized water reactor units with 1200 MWe capacity are under construction at Bushire on the Persian Gulf in a "turnkey" contract with KWU of West Germany, the reactor manufacturer involved in the West German-Brazil deal. This is the first time a reactor has been built on a remote desert site and the first reactor is scheduled to be operational in 1980.

Two French Framatome reactor contracts are near agreement and Italy is a probable contractor for future plants.

U.S. government veto demands have just resulted in a breakdown of talks with U.S.-based reactor industries for construction of 10 nuclear reactors in Iran even though Iran is a full signatory to the Non-Proliferation Treaty and has the required safeguards in full force. Investigating further technology sources, Iranian Atomic Energy Organization head Etemad is scheduled to go to Moscow in June, to investigate further technology sources.

Iran is well aware that a major point of potential sabotage is reliance on U.S. supplies of enriched uranium fuel, with its consequent "strings," and made a shrewd buy in 1975 of a substantial interest in two large French uranium enrichment projects, Eurodif, now under construction, and Coredif. Iran thus secured safe supplies of enriched uranium fuel at a time when limited U.S. enrichment capacity is making many U.S. delivery contracts untenable. Iran also contracted with France to build a major used-fuel reprocessing plant, defeating U.S. attempts to stall the project on non-proliferation grounds. This will give Iran full fuel cycle options for future development of fast-breeder and related technology. At the just-concluded Persepolis conference a resolution was unanimously passed condemning the Carter Administration's decision to end development of the fast-breeder and plutonium reprocessing, which is essential for breeder fuel supply.

While Iran has by far the most extensive program for nuclear development, nearly every OPEC country is in the process of making a substantial commitment to nuclear power including Kuwait, Indonesia, Venezuela, and Libya. Kuwait has invited tenders to construct a dual-purpose power reactor to produce 50 MWe and substantial desalination capacity. Further plans include construction of a commercial 600 MWe plant by 1986. Facing a skilled manpower problem, Kuwait has stipulated the establishment of a small training reactor to provide Kuwaiti personnel with basic experience and training. A firm decision on the commercial reactor is expected in a few months. The International Atomic Energy Agency (IAEA) has been fully involved on all aspects of program, safety and siting.

At the present time, Venezuela has a small test reactor used to produce radioisotopes for research, but plans are underway to upgrade this capacity to include all areas of nuclear power development.

Indonesia is also investigating the development of a commercial reactor program.

With this OPEC commitment to nuclear power development and the realization in the developing sector that they cannot remain hostage to U.S. dictated terms of technology transfer, it is little wonder that the United States' policy is already backfiring and costing a loss of billions of dollars in contracts to U.S. reactor industries in the process. The same day that Iran announced its break-off of talks with the U.S. because U.S. veto stipulations were prohibitive and amounted to substantial Iranian surrender of sovereignty, Spain announced suspension of work on eight American-built reactors in protest of Carter's plutonium ban.