# Egypt's Mubarak Says: Let's Go Nuclear!

*Egypt has launched a renewal of its ambitious program to build nuclear plants to supply a growing need for electricity. Muriel Mirak-Weissbach reports.*

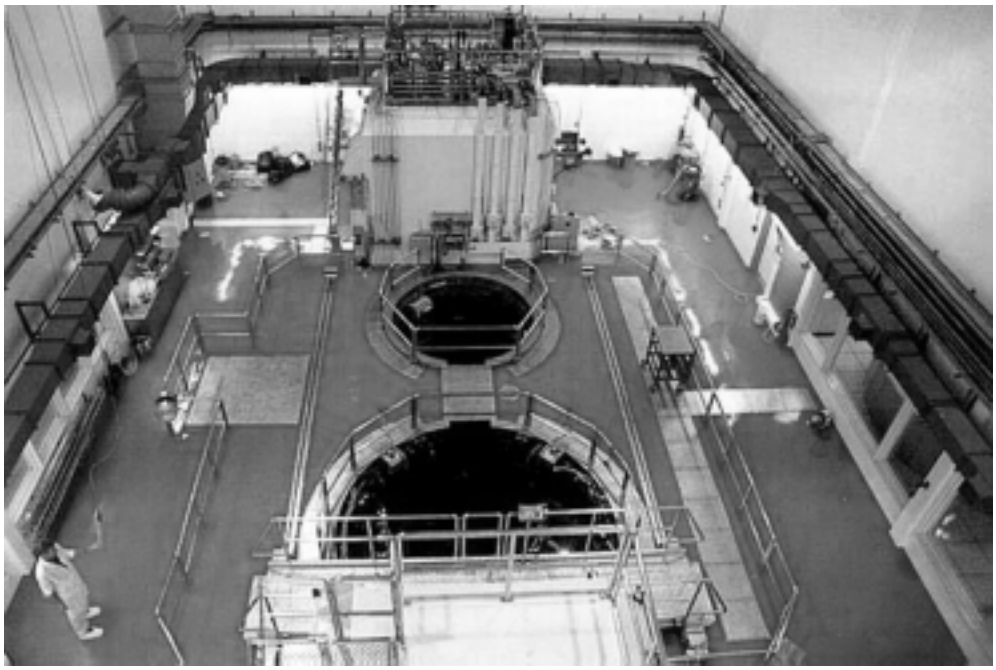
As the international tug-of-war around Iran's nuclear program entered a final round, and a chorus of military, intelligence, and political officials warned the Bush-Cheney regime not to hazard a military strike against the Persian Gulf nation, Egypt quietly announced its intention to go nuclear—not for a weapons capability, but for the peaceful use of nuclear energy.

The first to drop this quiet bombshell was Gamal Mubarak, son of the President, and his presumed successor. Speaking at the ruling National Democracy Party's annual conference on Sept. 19, Gamal said he thought the time had come for Egypt to harness nuclear energy. "The whole world—I don't want to say all, but many developing countries," he said, "have proposed and started to execute the issue of alternative energy. It is time for Egypt to put forth, and the party will put forth, this proposal for discussion about its future energy policies, the issue of alternative energy, including nuclear energy, as one of the alternatives."


His father, President Hosni Mubarak, seconded the call, in a speech a few days later to the same gathering. "We must take advantage of new and renewable energy sources," he stated, "including the peaceful uses of nuclear energy, and I call for a serious dialogue which takes into account the clean and cheap sources of energy available through nuclear technologies." He then pointed out that Egypt had a certain experience in the field. "We do not start from a vacuum," he said, "and we possess a knowledge of these techniques which enables us to proceed."

Just days later, on Sept. 25, the Supreme Council for Energy held a meeting, its first in 18 years (!), to discuss nonconventional energy sources, including nuclear energy. Headed by Prime Minister Ahmed Nazif, the Council decided that Egypt's energy demands were such that only nuclear technology could fulfill them. The meeting brought together ministers from various departments, including defense, finances, oil, electricity, economic development, foreign affairs, environment, housing, trade, and transportation. These participants then set up a group of five to meet after the month-long fasting period of Ramadan.

In parallel, the Egyptian Council of Foreign Affairs endorsed the government move. Abdel Ra'ouf el-Ridi announced that the Council would establish its own commission of experts to prepare a detailed report on the matter. Electricity and Energy Minister Hassan Younes told the daily *Al-Ahram* about plans to achieve an operational 1,000-megawatt nuclear power plant within ten years. The plant, slated for al-Dabaa, on the the Mediterranean coast, will cost $1.5 billion, and could, according to Ahmed al-Qadi, former chairman of Egypt's nuclear security center, produce



INVAP

*The reactor hall of Egypt's ETRR-2 research reactor, including the reactor pool, an auxiliary pool, and a testing facility. The 22-megawatt reactor at Inshas is a turn-key facility built in Egyptian companies by the Argentine company INVAP. The research reactor, which came on line in 1998, produces medical isotopes and is used in cancer treatment.*

more electricity than the Aswan High Dam.

It was also reported in the independent daily *Al-Masry Al-Youm* that the government plan envisions three reactors, for a total capacity of 1,800 megawatts, to be built by 2020.

Immediately, questions were raised in Egypt and abroad, as to the thinking behind the announcements. Is Egypt serious about developing nuclear energy? Or is the regime merely capitalizing on the debate sparked by the Iranian case, to assert its legitimacy, and reap the domestic political rewards that such a step would entail?

Prof. Mohammad El-Sayed Selim, of the University of Cairo, raised the ironical point, that the same President, Hosni Mubarak, and the same government, who are now calling for nuclear energy, had cancelled a nuclear program back in 1986, ostensibly in response to the Chernobyl disaster. Mohammad Sayed Said, of the Al-Ahram Center for Strategic Studies in Cairo, thought it was a serious prospect. "Of course," he said, "it comes at a time when Iran has shocked the region with its nuclear activities. Egypt needed to establish a sense of legitimacy." He added that he thought it would be implemented, since "All you need now is to revive an existing program."

Whatever the motives behind the government's announcement, any move on the part of Egypt to join the worldwide renaissance of nuclear energy, can only be applauded—at least, by those concerned about the future of the world economy.

## Twenty—Or Rather, Fifty Years Later

When President Mubarak said that Egypt was not starting from scratch, he was understating the matter. In fact, Egypt had had an ambitious nuclear program, the first in the Arab world, which was shut down in 1986, allegedly because of concerns raised by the Chernobyl disaster.

Interest in nuclear energy was first sparked in Egypt by the Atoms for Peace program launched by U.S. President Dwight Eisenhower in 1953. As soon as the U.S. Atomic Energy Act was passed in 1954 (which allowed the U.S. authorities to enter cooperative arrangements with other countries), the Egyptian Revolutionary Command Council (RCC) opened talks with the United States.[1] This led to the installation of a radioisotope laboratory in Egypt's National Research Center in June 1956, and a training program for Egyptian scientists. One year earlier, Egypt had founded the Atomic Energy Commission under Col. Kamal El-Din Hussein, a member of the RCC.

U.S. cooperation in this period was genuine; as then-U.S. Ambassador to Egypt, Henry A. Byroade emphasized, the United States was eager to help other countries enlist nuclear technology and upgrade living standards. It was official U.S. policy, to proliferate the technology for peaceful uses.

Political differences between the United States and Egypt regarding other matters (like relations with China, and the High Dam project, financially backed by the Soviet Union), according to Prof. Mohammad El-Sayed Selim, were respon-

1. "Egypt," by Mohammad El-Sayed Selim, in *Nuclear Power in Developing Countries: An Analsis of Decision Making,* eds. James Everett Katz and Onkar S. Marwah (Lexington, Mass.: Lexington Books, D.C. Heath and Co., 1982), pp. 135-159.

Most of this historical background to Egypt's nuclear program has been drawn from this source. See also, by the same author: "Egypt and the Middle Eastern Nuclear Issue," *Strategic Analysis,* January 1996, pp. 1388-89.

TABLE 1

## Egypt's Proposed Generating Installations (1977)

| Year | Site Location | Type* | Number of Units and Megawatt Rating | Total Megawatts: Nuclear | Total Megawatts: Thermal |
|---|---|---|---|---|---|
| 1977 | Helwan | GT | 6 x 20 | | 120 |
| 1977 | Kafr El Dawar | T | 2 x 110 | | 220 |
| 1978 | Talkha | GT | 9 x 20 | | 180 |
| 1979 | Cairo West, Unit No. 4 | T | 1 x 87 | | 87 |
| 1980 | Abu Kir | T | 4 x 150 | | 600 |
| 1981 | Ismailia | T | 2 x 150 | | 300 |
| 1981 | Suez (1) | T | 2 x 150 | | 300 |
| 1982 | Suez (11) | T | 2 x 150 | | 300 |
| Total added generation for short- and long-term plans 2,707 | 1983 | Sidi-Kreir, Unit No. 1 | N | 1 x 600 | 600 | |
| 1985 | Sidi-Kreir, Unit No. 2 | N | 1 x 600 | 600 | |
| 1986 | Cairo, North, Unit No. 6 | T | 1 x 600 | | 600 |
| 1987 | Cairo Zone/Qattara 1 | N/H | 1 x 600 | | 600 |
| 1988 | Lower Egypt Zone | T | 1 x 800 | | 800 |
| 1989 | Upper Egypt Zone | N | 1 x 600 | 600 | |
| 1990 | El Arish No. 1 | N | 1 x 600 | 600 | |
| 1991 | El Arish No. 2 | N | 1 x 600 | 600 | |
| 1992 | Cairo Zone | T | 1 x 600 | | 600 |
| 1993 | Cairo Zone/Qattara 11 | N/H | 1 x 600 | 600 | |
| 1994 | Upper Egypt Zone | T | 1 x 800 | | 800 |
| 1995 | Cairo Zone | N | 1 x 1,000 | 1,000 | |
| 1996 | Cairo Zone | T | 1 x 1,000 | | 1,000 |
| 1997 | Upper Egypt Zone | N | 1 x 1,000 | 1,000 | |
| 1998 | Upper Egypt/Lower Egypt Zones | T | 2 x 800 | | 1,600 |
| 1999 | Cairo Zone | N | 1 x 1,000 | 1,000 | |
| Total added generation for short- and long-term plans | | | | 14,707 | |

Source: K. W.A. Effat et al., "Projected Role of Nuclear Power in Egypt and Problems Encountered in Implementing the First Nuclear Power Plant," in *Nuclear Power and Its Fuel Cycle*, 8 vols. (Vienna: International Atomic Energy Agency, 1977), 6:152.

aGT = gas-turbine, H = hydro, N = nuclear, T = oil or gas-fired conventional steam plant.

*Egypt, like many other nations during the Atoms for Peace period, planned on nuclear energy as the power source for the future, with eight nuclear plants producing 6,000 megawatts of electricity scheduled to be online by 1999.*

sible for a shift in Cairo, away from cooperation with Washington, and towards cooperation with Moscow.[2] In January 1956, an Egyptian delegation travelled to the Soviet capital to seal an agreement whereby the Soviets would construct an experimental 4-MW reactor and a nuclear physics lab, at a minimal cost to Egypt. Egyptian scientists were trained in the Soviet Union to run reactors, and in 1961, a research reactor was set up.

Egypt thus became the first Arab country to access nuclear technology, as a by-product of Cold War rivalries, which saw Moscow seeking to establish a position in the region. Egypt, obviously dependent on Russia for the technology, training, and fuel, sought to establish cooperation with other countries as well in the nuclear field. The Egyptian Atomic Energy Corporation (EAEC) made contact with Britain, and a commission, led by the Egyptian Minister of Scientific Research, explored two important factors related to the country's future program: thorium as a potential local source, and a means of financing the program.

In 1965, it was decided to buy a commercial-scale 150-MW plant at Borg El-Arab, for the purposes of desalinating Mediterranean seawater, 2,000 cubic meters per day. However, deteriorating political relations with the West hindered adequate financing and halted cooperation, for example, with West Germany, such that Egypt then turned to China for help. Nasser's appeal to Chou En-Lai for a share in China's knowledge of the technology, was met with the Chinese leader's recommendation that Egypt be self-reliant.

Under Nasser, the Atomic Energy Corporation did outline a program for Egypt's energy needs, to be met through nuclear technology, through the year 2000. In the projection of one nuclear scientist working on the program, Egypt should have had eight nuclear power plants, with a capacity of 5,400 megawatts, in operation by the turn of the century. The plan did not come into being, however, because of the lack of financial backing and an inadequate scientific infrastructure (see **Table 1**).

Notwithstanding, the EAEC continued its planning, and in 1974, with Anwar Sadat in the Presidency, the EAEC projected the need for 6,600 megawatts of nuclear-produced electricity by the year 2000. The EAEC moved to build a 600-MW plant at Sidi-Kreir, near Alexandria, by 1984. As U.S.-Egyptian relations improved after the 1973 Yom Kippur war, the Nixon Administration, a year later, offered to help both Egypt and Israel with nuclear energy programs. But Israel balked at the stringent inspection procedures which the United States demanded of both countries, and because

2. *Ibid.*, p. 135.

Israel's agreement was a precondition for the Egyptian program to go through, the project was terminated. The United States did maintain a commitment, however, to provide enriched uranium to Egypt.

Again, the Egyptians maneuvered in the Cold War environment, seeking to achieve their national interest for energy independence, and announced an agreement with the Soviets for supply of a 460-MW reactor, in 1975. This prompted the United States to rethink its conditionalities, and led to a November 1975 agreement for the sale of reactors to Egypt. In the agreement, it was stipulated that:

> None of the assistance provided will be employed for any military purposes, including the manufacture of any nuclear explosive device.
>
> The materials and facilities to be supplied as well as the produced plutonium will be subjected to international safeguards, administered by the IAEA, designed to assure their continued uses for peaceful purposes.
>
> Facilities utilizing relevant nuclear technology obtained from the United States will be under effective safeguards.
>
> Egypt guarantees to apply effective physcial security measures to the facilities and nuclear material covered by the agreement.[3]

*One 1,000-megawatt nuclear plant will supply Egypt with as much electricity as does the Aswan High Dam, shown here.*

Professor Selim elaborated on this: "The statement also included an unprecedented condition that obliged Egypt to reprocess, fabricate, and store the plutonium produced by the U.S. reactors or derived from the U.S. fuel supplied for their facilities outside of Egypt."[4]

According to the agreement, Egypt was supposed to buy two reactors, and 1978 was the date set for the transaction. But the demand by the U.S. Non-Proliferation Treaty (NPT), that all activities be subjected to U.S. inspection, was rejected by Egypt—and that was that.

## A Debate and Ambitious Plans

Egypt was motivated not only by its national energy needs, to seek to possess nuclear technology, Professor Selim said, but also, by its awareness that Israel was ready to deploy nuclear weapons against the Arabs.

Sadat had set up a Higher Council for Atomic Energy in 1975 (the same body that has just recently reconvened), bringing together all the relevant personnel and groups, to study a national nuclear effort. The Higher Council, which became the highest authority for decision-making on nuclear policy, included the President and Vice President, the Prime Minister, the Ministers of Defense, Foreign Affairs, and Electricity, and the head of the General Intelligence Agency.

A lengthy debate ensued in Egypt, as to whether or not it should sign the NPT, also because of the military option. But Egypt did sign and ratify the NPT on February 26, 1981. Once this hurdle had been overcome, Egypt signed a deal with France on March 21, 1981 for two reactors, of 1,000 megawatts each. In July 1981, it signed a deal with the United States for two reactors, and in September 1981, Egypt contracted with West Germany for another two reactors. All the deals called for the seller to provide the fuel.

The French reactors, at a cost of $1 billion each, were slated for El-Dabaa near Alexandria, and Za'afrana, 140 km west of Alexandria. The first was to start operating in 1985, the second, in 1986.

None of these exciting plans reached implementation, however. President Sadat was assassinated on Oct. 6, 1981, and was succeeded by Hosni Mubarak, who was elected in a referendum. The United States pulled out of the project, followed by France and West Germany, and so Egypt had to issue an international bid for the eight 1,000-MW plants that it hoped to build. In August, the U.S. Export-Import Bank, which had been committed to provide $200 million for the program, made known its intention to refuse any financing, because it said, "the proposal did not offer reasonable assurance of repayment."[5]

3. Quoted by Selim, *Ibid.,* p. 142.

4. Selim, *Ibid.*

5. "NTI: Country Overviews: Egypt: Nuclear Chronology," (Monterey Institute of International Studies, The Center for Nonproliferation Studies, 2003), p. 3.

In the following years, Egypt continued to pursue partners for its program, and signed several agreements with Niger, a uranium producer (1983), Switzerland (1984), Pakistan (1985), Iraq (1985), Australia (1985), and South Korea (1985). On Aug. 11, 1985, *Al-Ahram* wrote that Egypt would begin operations at its first uranium mine, and that further shafts would be opened to explore deposits.

Then, in 1986, the Chernobyl disaster hit in Ukraine, and buried the Egyptian nuclear program (along with the programs of other countries) for 20 years. Immediately after Egypt announced the suspension of its program because of the safety concerns raised by the Chernobyl accident, the United States made an offer to build conventional power plants, on condition that Egypt mothball its nuclear ambitions—which Egypt did.

DoD photo/R.D. Ward

*Egyptian President Hosni Mubarak has enthusiastically backed a renewal of the nation's nuclear energy development, which was dropped in 1986, after the Chernobyl accident.*

## Can Egypt Do It Today?

Although the inside story of how Egypt's ambitious nuclear energy program was killed has to be filled out and documented beyond the rough sketch provided here, there is every reason to suspect that the program was deliberately sabotaged, as part of the general anti-nuclear campaign launched, especially against nations of the developing sector, by the neo-malthusian crowd which gained preeminence beginning in the 1970s. Henry Kissinger's infamous threat to Pakistani leader Ali Bhutto, that he would "make an example of him," because Bhutto strove to give his nation nuclear energy, should be kept in mind. Bhutto was brutally assassinated in 1979. Additionally, in 1974, Kissinger oversaw the drafting of the National Security Study Memorandum 200, which specifically listed Egypt as one of the developing sector countries in which the United States had a "strategic interest" in cutting population growth, and hence industrial development, in order to preserve the raw materials of those nations for the United States. The NSSM 200 was declassified in 1990.[6]

Since then, the world has changed. Not only Pakistan, but also India, have joined the nuclear club, this time with tested weapons capabilities. As for civilian applications of nuclear energy, there is a veritable renaissance taking place worldwide, and this includes in the Middle East.

Two months prior to the first official announcement by Gamal Mubarak of Egypt's intent to go nuclear, an important article appeared in *Al-Ahram,* by Makram Muhammad Ahmad, entitled, "Nuclear Plants and Egypt's National Security." The author stated that the 21st Century "will be the century of nuclear energy," for widely acknowledged reasons: the rising costs of petroleum and gas, and the fact that they are not unlimited, and the proven safety and efficiency of nuclear technology. "For this," he went on, "it has become the responsibility of Egypt toward its future generations to start, now and not tomorrow, conducting a wide-scale review of its decision to suspend its nuclear program. It should do so because the reasons that led to this suspension are over, and the international demand requires the expansion of the construction of nuclear plants, and the average time for building a nuclear plant is more than ten years or perhaps longer due to the increase in world demand."

Ahmad went on to tick off the number of plants being planned by countries in the region over the next 20 years: Iran wants to have 12; Turkey wants as many, to provide 20% of its needs; Israel wants a desalination facility in Shafta near the Egyptian border; Libya also wants a desalination facility. Ahmad also argued that Eygpt, with a population of 70 million, can provide energy from its own resources only for three decades, after which it would become import-dependent.

Finally, the author argued that possessing nuclear technology would "enhance the status of any regional country in the international arena, increase the country's negotiation ability, and help protect its national security." Without aspiring to a military program, he wrote, Egypt could use its nuclear capability to push for regulations on Israel's nuclear arsenal, in the context of regional demands for a zone free of weapons of mass destruction.

This *Al-Ahram* article is one of many in Egypt contributing to the lively debate that has been sparked by the Mubaraks, around reviving the country's nuclear program.

One question raised, given the ongoing anti-Iran crusade, which uses the pretext of its nuclear program, is: How will Washington respond? U.S. Ambassador Francis J. Ricciardone was quoted on Sept. 25, in remarks made to Al-Mehwar television, that "the U.S. encourages the peaceful use of nuclear power for civilian purposes throughout the world." It will take a political fight to make such a statement stick, but it appears that there are forces in Egypt ready to make a bid for it.

6. Excerpts from NSSM 200 can be found in *The Genocidal Roots of Bush's 'New World Order,'* EIR Special Report, 1992, p. 53 ff.