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Nuclear Kingdom: Saudi Arabia's Atomic Ambitions

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Although Iran's nuclear potential will likely dominate talks between President Obama and King Abdullah on March 29, Riyadh's own nuclear plans should also be part of the discussion.

A major probable consequence of Iran achieving a nuclear weapons capability is that Saudi Arabia will seek to match it. With President Obama currently rating the chances of diplomatic success as 50-50 and Iranian Supreme Leader Ali Khamenei giving a "zero" probability, this weekend's U.S.-Saudi summit will be an opportunity to check whether Saudi planning can help the diplomacy rather than hinder it.

Riyadh's Nuclear Blueprint

In 2009, a Saudi royal decree announced that "the development of atomic energy is essential to meet the kingdom's growing requirements for energy to generate electricity, produce desalinated water and reduce reliance on depleting hydrocarbon resources." In 2011, plans were announced for the construction of sixteen nuclear power reactors over the next twenty years at a cost of more than \$80 billion. These would generate about 20 percent of Saudi Arabia's electricity, while other, smaller reactors were envisaged for desalination.

As such, Saudi Arabia's civil nuclear plans are similar in scope to Iran's admitted nuclear power program. Both countries can also claim the same economic rationale -- that providing electricity produced by nuclear power for the general population allows more oil and natural gas to be exported, contributing to export revenues and government income. But, unlike Iran, Saudi Arabia lacks any nuclear infrastructure. Its sole nuclear institution is the King Abdullah City for Atomic and Renewable Energy, which this week represented the kingdom at the Nuclear Security Summit in the Netherlands -- also attended by President Obama.

Since at least 2003, Saudi Arabia has consistently maintained a veiled military nuclear strategy. Reports have suggested that the kingdom is considering either acquiring its own nuclear deterrent or forming an alliance with an existing nuclear power that could offer protection, or else reaching a regional agreement on establishing a nuclear-weapons-free Middle East. It is noteworthy that discussion of these options coincided with increasing apprehension of Iran's nuclear plans, as contrasted with the posture of Israel, which is reported to have developed nuclear weapons in the late 1960s.

The Pakistani Option

The most publicly discussed strategy for the Saudis involves [acquiring nuclear weapons from Pakistan](#), either purchased or under some arrangement of joint control with Pakistani forces. In 1999, then Saudi defense minister Prince Sultan bin Abdulaziz visited Pakistan's unsafeguarded centrifuge enrichment site at Kahuta near Islamabad and also saw mock-ups of Pakistan's nuclear weapons. During the visit, Prince Sultan met the controversial Pakistani nuclear scientist A. Q. Khan, who was blamed for proliferating centrifuges to Iran, Libya, and North Korea, as well as then prime minister Nawaz Sharif, who was later exiled to Saudi Arabia after a military coup and is now once again Pakistan's prime minister. As well as transferring nuclear warheads to Saudi Arabia, Islamabad could provide missiles capable of hitting Iranian targets, though Saudi Arabia already has such missiles. Earlier this year, reports indicated that the kingdom had, in 2007, updated its previous arsenal of liquid-fueled Chinese CSS-2 missiles with more advanced, solid-fueled CSS-5 missiles. Both types are designed to carry nuclear warheads, but the newer missiles have been adapted, at reported U.S. insistence, so that they can carry only nonnuclear warheads.

Examining the Kingdom's Treaty Obligations

The kingdom's current nonproliferation-related diplomatic undertakings allow it some flexibility in pursuing alternative strategies, particularly if Iran were to "break out" from its Nuclear Nonproliferation Treaty obligations. Saudi Arabia ratified the NPT in 1988 but only concluded a Comprehensive Safeguards Agreement with the International Atomic Energy Agency (IAEA) in 2009. In doing so, it agreed to an earlier version of the "Small Quantities Protocol (SQP)" and has yet to accept the modified SQP adopted by the IAEA Board of Governors in 2005. In addition, Saudi Arabia, like Iran, has not yet signed the Additional Protocol, which allows for stricter inspections. Nor has it signed the Comprehensive Nuclear Test Ban Treaty, though it has consistently supported the establishment of a nuclear-weapons-free zone in the Middle East.

In its latest Safeguards Implementation Report, the IAEA secretariat listed Saudi Arabia among those countries where it could find no apparent diversion of declared nuclear material from peaceful activities. This conclusion is based on analysis of open-source information given that Saudi Arabia does not have any declared facility and that, consequently, the IAEA has no inspections or visits to the country. According to the report, the IAEA reached this view after only limited efforts, spending just \$12,000 on monitoring the kingdom. By comparison, the amount spent for IAEA activities in neighboring Jordan was \$153,000.

Washington's past readiness to allow the export of advanced military aircraft and weapons systems to Saudi Arabia has been justified in part by an apparent understanding

allowing the kingdom to defend itself and seek to deter Iran without recourse to nuclear weapons. Discussion of this principle could constitute one part of this weekend's meetings between President Obama and King Abdullah. However the discussion unfolds, the Saudis will, at the very least, resist any commitment to not enrich uranium as part of a prospective deal to buy U.S. nuclear technology for its projected power program. In the past, Washington has insisted on a so-called 123 agreement, named after the section of the U.S. Atomic Energy Act of 1954, banning enrichment as a condition for cooperation. Such a condition was part of a deal with the United Arab Emirates when Abu Dhabi announced plans to buy nuclear power plants. But if Iran is allowed to enrich uranium as the current diplomacy suggests, the kingdom would probably demand the same right.

King Abdullah has already made clear to his U.S. counterparts that if Iran gets a nuclear bomb, the kingdom will do so as well, whatever its NPT obligations. Defining such a status -- whether through an actual nuclear weapon or a more loosely defined military nuclear capability -- is one difference in the respective diplomatic approaches of Washington and Riyadh toward Iran's nuclear ambitions. Despite the IAEA's apparent equanimity regarding the kingdom's nuclear activities, the 1988 initial purchase of Chinese missiles, the 1999 Kahuta visit, and the 2007 upgrade of the Chinese missile fleet suggest a long-term and well-developed strategy. The United States is already aware of desert facilities claimed by the Saudis to be oil-related even though there are no nearby pipelines. Also, North Korean personnel have previously been spotted in the kingdom.

Options for Enrichment

If Saudi Arabia decided to build its own uranium enrichment plant, citing the need to fuel its planned nuclear power reactors, it would have two options: either establish a joint venture with a current technology holder or develop its own technology. According to the latest IAEA Nuclear Technology Review, there will be excess worldwide uranium supply for enrichment over the next decade; only Pakistan, among the technology holders, would possibly be attracted to establishing an enrichment plant in the volatile Middle East. If the kingdom opted to develop its own enrichment technology, designing a centrifuge and building a commercial-scale operation would take a decade. And even then the Saudis would not have achieved energy independence, since the country's known uranium resources are scarce, and insufficient to support such a nuclear program.

Worryingly, even for a small research and development facility, the Saudis -- under their SQP obligations -- can build the installation in secret and must only tell the IAEA 180 days before introducing nuclear material. The R&D, mechanical testing of centrifuges, and testing with surrogate materials need not be revealed.

Recommendations for U.S. Policy

Experience suggests that military nuclear programs are best stopped at their earlier stages. Inaction, as the world has seen with Pakistan and North Korea and, more recently, Iran and Syria, leads to wicked problems. Saudi Arabia should thus be encouraged to sign the Additional Protocol to its NPT Safeguards Agreement and implement it provisionally until ratified. The Saudis should also be urged to rescind their SQP and conclude up-to-date subsidiary arrangements to the Safeguards Agreement with the IAEA. These gestures would oblige the kingdom to give the IAEA design information about nuclear

installations as soon as the decision is made to build them. The IAEA would likewise have access to all nuclear-fuel-cycle-related installations, even if they did not use nuclear material. Such provisions should be included in any U.S.-Saudi 123 agreement and are initial steps toward a nuclear-weapons-free Middle East.

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