Can Congress keep U.S. nuclear exports peaceful?

A presentation by
Henry Sokolski
Executive Director
Nonproliferation Policy Education Center
www.npolicy.org

© Nonproliferation Policy Education Center
1. Is the line between generating “peaceful” nuclear and bomb making clear?

2. Have US civilian nuclear energy exports avoided being used or viewed as bomb starter kits?

3. Aren’t US nuclear export controls primarily geared to prevent nuclear proliferation?

4. What more might be done to tighten U.S. nuclear controls?
ANSWERS

1.

2. NOT SO MUCH

3.

4. Have Congress approve US nuclear cooperative agreements if they don’t require states lacking nuclear weapons to forswear enrichment and reprocessing. Require similar approvals for and overseas processing of US special nuclear materials.
1. How clear is the line between generating “peaceful” nuclear to bomb making?
2 MAJOR PATHS TO THE BOMB CAN START PEACEFULLY

**PATHS TO THE BOMB**

- **URANIUM ORE**
  - U-238 99.3%
  - U-235 0.7%
  - Found naturally worldwide

- **CENTRIFUGES** → **ENRICHED URANIUM**
  - Uranium bomb used at Hiroshima

- **REACTOR** → **PLUTONIUM**
  - Plutonium bomb used at Nagasaki

**URANIUM BOMB**

**PLUTONIUM BOMB**
2. Have US civilian nuclear energy exports avoided being used or viewed as bomb starter kits?
1960: CIRUS reactor commissioned—heavy water supplied by the United States

1963: Tarapur reactor built under 123 Agreement between United States and IAEA

1964: Construction of reprocessing plant at Trombay

1974: “Peaceful” test of Smiling Buddha
US STRIKES NUCLEAR COOPERATION AGREEMENT WITH IRAN WITHOUT ANY CONGRESSIONAL HEARINGS, 1957
US SUPPLIES TEHRAN RESEARCH REACTOR, WHICH GOES OPERATIONAL IN 1967
US AND TEHRAN PLAN ON 20 POWER REACTORS

GUESS WHO’S BUILDING NUCLEAR POWER PLANTS.

The Shah of Iran is sitting on top of one of the largest reservoirs of oil in the world.
Yet he’s building two nuclear plants and planning two more to provide electricity for his country.
He knows the oil is running out—and time with it.
But he wouldn’t build the plants now if he doubted their safety. He’d wait. As many Americans want to do.
The Shah knows that nuclear energy is not only economical, it has enjoyed a remarkable 30-year safety record. A record that was good enough for the citizens of Plymouth, Massachusetts, too. They’ve approved their second nuclear plant by a vote of almost 4 to 1. Which shows you don’t have to go as far as Iran for an endorsement of nuclear power.

NUCLEAR ENERGY. TODAY’S ANSWER.
U.S. INITIALLY BACKS IRAN’S NUCLEAR AMBITIONS

MIT

German form Kraftwork begins construction of Bushier in 1975
AFTER BUSHIER POWER REACTOR, IRAN PUSHED URANIUM ENRICHMENT AND PLUTONIUM REACTOR PROJECTS
SAUDI “PEACEFUL” NUCLEAR POWER PLANS

16 AP 1000 Westinghouse Reactors?
2009 **UAE-U.S. NUCLEAR COOPERATION**: HOW THE US HOPED TO LIMIT THE RISKS

---

**Equal Terms and Condition for Cooperation**

The Government of the United States of America confirms that the fields of cooperation, terms and conditions accorded by the United States of America to the United Arab Emirates for cooperation in the peaceful uses of nuclear energy shall be no less favorable in scope and effect than those which may be accorded, from time to time, to any other non-nuclear weapon State in the Middle East in a peaceful nuclear cooperation agreement. If this is, at any time, not the case, at the request of the Government of the United Arab Emirates the Government of the United States of America will provide full details of the improved terms agreed with another non-nuclear-weapon State in the Middle East, to the extent consistent with its national legislation and regulations and any relevant agreements with such other non-nuclear weapon State, and if requested by the Government of the United Arab Emirates, will consult with the Government of the United Arab Emirates regarding the possibility of amending this Agreement so that the position described above is restored.

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

FOR THE GOVERNMENT OF THE UNITED ARAB EMIRATES:

[Signatures]
Saudi Arabia does not want to acquire any nuclear bomb, but without a doubt, **if Iran developed a nuclear bomb, we will follow suit as soon as possible.**

- Crown Prince Mohammed bin Salman, March 18, 2018, 60 Minutes
SAUDIS REFUSE TO FORSWEAR ENRICHING OR REPROCESSING AS THE UAE DID IN 2009

REUTERS

Saudi Arabia Flags Plan to Enrich Uranium as US Seeks Nuclear Pact

Saudi Arabia’s new Energy Minister, Prince Abdulaziz bin Salman
3. BUT AREN’T U.S. NUCLEAR EXPORT CONTROLS PRIMARILY GEARED TO PREVENT NUCLEAR WEAPONS PROLIFERATION?
SEC. 10. (a) POLICY. -- :

(1) That until Congress declares by joint resolution that effective and enforceable international safeguards against the use of atomic energy for destructive purposes have been established, there shall be no exchange of information with other nations with respect to the use of atomic energy for industrial purposes.
AFTER 1953, NOT SO MUCH

“Atoms for Peace,” December 8, 1953 by President Eisenhower
Congress delegates its nuclear trade deal making powers in 1954

Congress allows materials, hardware, and restricted data transfers to foreign countries if:

1. There are safeguards against military transfers
2. A pledge by the recipient that the materials or information would not be used for nuclear weapons
3. A pledge by the recipient that they would not retransfer to any unauthorized parties
4. That the agreement would sit before Congress for 30 days of continuous session before coming into force
AFTER INDIA’S 1974 EXPLOSION & REVELATIONS OF U.S. HELP—CONGRESS TRIES TO TIGHTEN THE RULES
(2) the Secretary of Energy may not enter into any subsequent arrangement for the reprocessing of any such material...unless...such reprocessing or retransfer will not result in a significant increase of the risk of proliferation beyond that which exists at the time that approval is requested. Among all the factors in making this judgement, foremost consideration will be given...under conditions that will ensure timely warning to the United States of any diversion well in advance of the time at which a non-nuclear weapon state could transform diverted material into a nuclear explosive device.

- Section 128, NNPA, MAR. 10, 1978
1. No reprocessing of U.S.-origin spent fuel if it significantly increases the risk of proliferation
   • Foremost consideration of timely warning “of any diversion well in advance” of any bomb being made

2. Recipient must:
   a. place safeguards on all transferred nuclear goods in perpetuity
   b. has a comprehensive IAEA safeguards agreement
   c. no retransfers, enrichment, or reprocessing without prior U.S. approval

3. Executive to keep Congress “currently and fully informed”
1985 **U.S.-CHINA NUCLEAR COOPERATION**

Not enacted until 1998 due to Congressional objections
India was neither a member of the NPT nor did it all complete international inspections of its nuclear activities and holdings.
BUT CONGRESS TOOK A PASS ON

1. Enforcing the NNPA’s reprocessing requirements for timely warning in Japanese, Indian, and EU cases

2. Raising any objections to renewing nuclear cooperation with Turkey or even holding hearings to review the agreement.

3. Objecting to the renewing nuclear cooperation with China despite evidence Beijing violated its pledge not to divert US civilian technology to military purposes.
4. WHAT MORE MIGHT BE DONE TO TIGHTEN U.S. NUCLEAR CONTROLS?
CONSIDER THE SAUDI CASE

1. Congress has bridled about not being “currently and fully” informed on certain tech transfer authorizations.

2. Also has proposed but not moved legislation that would require majority votes in both houses for nuclear deals that don’t require recipients to forswear reprocessing and enrichment if they lack nuclear weapons.
ONE FIX: TREAT ALL US NUCLEAR COOPERATIVE AGREEMENTS AS IF THEY WERE AT LEAST AS IMPORTANT AS TRADE AGREEMENTS

1. All trade agreements currently require majority approval by each house of Congress.

2. Nuclear cooperative agreements now have become like a poor man’s mutual security pact—i.e., It is at least as important as a trade agreement.
ANOTHER FIX: HR 5357 THE NUCLEAR COOPERATION REFORM ACT OF 2018
(c) The Department of State, the Arms Control and Disarmament Agency, the Department of Commerce, the Department of Energy, and the Commission shall keep the Committees on Foreign Relations and Governmental Affairs of the Senate and the Committee on International Relations of the House of Representatives fully and currently informed with respect to their activities to carry out the purposes and policies of this Act and to otherwise prevent proliferation, and with respect to the current activities of foreign nations which are of significance from the proliferation standpoint.

- Sec 602, NNPA, MAR. 10, 1978
U238 & U235: 2 IMPORTANT URANIUM ISOTOPES

**U238**
- Has 146 neutrons
- Constitutes 99.3% of uranium in nature
- Is not prone to fission

**U235**
- Has 143 neutrons
- Constitutes .7% of uranium found in nature
- Is prone to fission
URANIUM CENTRIFUGE ENRICHMENT SEPARATES THE HEAVY URANIUM FROM THE LIGHT URANIUM
URANIUM TRANSMUTES TO PLUTONIUM IN A REACTOR
SPENT REACTOR FUEL CONTAINS PLUTONIUM THAT CAN BE CHEMICALLY STRIPPED OUT (REPROCESSED)