



NUCLEAR INFRASTRUCTURE COUNCIL SPECIAL SUMMIT ON GLOBAL NUCLEAR ENERGY MARKETS

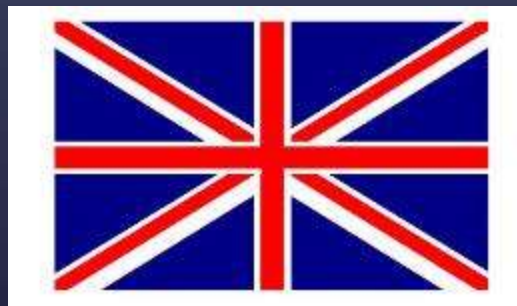
NUCLEAR TRADE AND LICENSING ISSUES AND OPPORTUNITIES IN THE GLOBAL NUCLEAR INDUSTRY

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Key Global Trade Issues and Opportunities in the Nuclear Power Industry

- This presentation focuses on two recent developments that may have significant implications for global nuclear power-related commerce
- Implications of the UK's "BREXIT" decision and
- Prospects for multinational used fuel repositories in light of the recent report by the South Australian Nuclear Fuel Cycle Royal Commission



Possible Nuclear Commerce Implications of the UK's "BREXIT" Decision

- Will the UK's withdrawal from the European Union (EU) result in the UK's withdrawal from the European Atomic Energy Community (Euratom)?
- 1957 – Euratom was established through the Treaty of Rome
 - 5 initial Euratom members (Belgium, Federal Republic of Germany, Italy, Luxembourg and the Netherlands)
- 1958 – President Eisenhower's message to Congress noted that Euratom is a "major step toward a United Europe"
- 1973 – The UK becomes a member of Euratom
- 2016 – 28 countries are currently members of Euratom

Member States of the European Union and Euratom

■ Member States of the EU/Euratom

■ UK's Euratom membership may terminate upon the UK's withdrawal from the EU



Analysis of Whether the UK's Exit From the EU Will Result in the UK's Exit from Euratom

- Euratom relies on some of the EU's administrative mechanisms
- However, Euratom predates the EU and is based on a Treaty that is separate from the EU Treaty and the European Community (EC) Treaty
- Article 50 of the EU Treaty (governing withdrawal from the EU) expressly mentions only the two treaties of Lisbon
 - The “Lisbon Treaties” are (1) the Treaty on the European Union (TEU) and (2) the Treaty on the Functioning of the European Union (TFEU)
 - The Euratom Treaty is not mentioned in the TEU or TFEU

Reasons Why the UK's Withdrawal from the EU May Require Withdrawal from Euratom as well

- The European Union (Amendment) Act of 2008 states that “a reference to the EU in an Act or instrument made under the Act includes ... a reference to the European Atomic Energy Community”
- The UK's “BREXIT” decision was based on the European Union Referendum Act of 2015, requiring a referendum on “whether the United Kingdom should remain a member of the European Union”
- Therefore, the referendum's reference to EU arguably includes Euratom
- Currently, all of the members of Euratom are also members of the EU

Potential Impediments to U.S. Nuclear Trade Following a UK Withdrawal From Euratom

- Cessation of U.S. exports to the UK of “source material” (natural uranium), special nuclear material (“enriched uranium”) and major reactor components
 - A new U.S.-UK Agreement for Cooperation (“123 Agreement”) would be necessary for such exports to take place
- Case-by-case U.S. authorizations would be necessary for retransfers of U.S.-obligated nuclear material from Euratom countries to the UK
 - Movement within Euratom of items subject to the U.S.-Euratom Agreement is not a retransfer
- Examples of commerce that could be adversely affected:
 - U.S. exports of natural UF₆ to URENCO’s UK enrichment facility
 - Retransfers of U.S.-obligated enriched uranium from France, Germany and the Netherlands to the UK, for fabrication into nuclear fuel

Trade-Related Implications of a UK Withdrawal from Euratom

- Exports of Nuclear Material to the UK from the United States and several other countries take place under the exporting country's agreement for cooperation with Euratom
 - e.g., U.S.–Euratom Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy
 - Australia, Argentina, Canada, Japan, Kazakhstan, South Africa, Ukraine, and Uzbekistan also have agreements for cooperation with Euratom
- If the UK withdraws from Euratom, the UK will no longer be covered by Euratom's peaceful nuclear cooperation agreements with the U.S. and other countries
- Exporting countries may be unable to continue their supply of nuclear material, and major nuclear components to the UK until they negotiate new bilateral agreements with the UK

U.S. Exports to the UK Pursuant to US Bilateral/Multilateral Agreements for Cooperation

- 1958 – 1973 – U.S.-UK Agreement for Cooperation was the basis for U.S. Exports of nuclear material/major nuclear components to the UK
- 1958 – U.S.-Euratom Agreement for Cooperation enters into force
- 1973 – U.S.-UK bilateral was terminated when the UK joined Euratom
- April 12, 1996 – A new U.S.-Euratom Agreement for Cooperation entered into force
 - U.S. exports to Euratom member states of natural and enriched UF₆ and major nuclear reactor components take place under that Agreement
 - That agreement is the basis for the UK's status as a “generally authorized” country for purposes of DOE's rule governing “assistance” to “foreign atomic energy programs” (10 CFR Part 810)

Actions to Avoid a Hiatus in Peaceful Nuclear Commerce with The UK if the UK Withdraws from Euratom

- The UK could negotiate bilateral agreements for cooperation to replace the Euratom Agreement, as legal “channels” for peaceful nuclear commerce between the UK and other countries
- Negotiating and bringing such agreements into force could require a year or more
 - At least 2-3 years typically has been required to negotiate and bring into force U.S. 123 Agreements
- Other EU members are pressing the UK to withdraw promptly
- New bilateral agreements between supplier nations and the UK may not be in place by the time a UK withdrawal from Euratom takes effect

Nuclear Commerce with the UK Under Agreements for Cooperation with Euratom



Status of Proposals for a Multinational Facility for the Permanent Disposition of Used Fuel

- This concept dates back to the 1970's
 - The Nuclear Non-Proliferation Act of 1978 (NNPA) contains Congress' direction that the President endeavor to negotiate agreements to establish multinational nuclear fuel cycle facilities
 - 1980 – The Report of the International Nuclear Fuel Cycle Evaluation (INFCE) includes an evaluation of multinational facilities for storing/disposal of used fuel
- A detailed evaluation of the feasibility of a Multinational Used Fuel Disposition Facility, sited in Australia, is a key element of a recent report by the South Australia Nuclear Fuel Cycle Royal Commission

Illustration of Used Fuel Disposal Facility in Australia



WTF-01-NDA
Image courtesy of Radioactive Waste Management

Report by South Australia's Nuclear Fuel Cycle Royal Commission

- Chapter 5 of the Commission's May 15, 2016 Report deals with "Management Storage and Disposal of Nuclear Waste"
- The Report identifies an "international consensus" that "geological disposal is the best technical solution for the disposal of used fuel"
- The Report concludes that "South Australia has a unique combination of attributes that offer a safe, long-term capability for the disposal of used fuel in a disposal facility"
- The Report also identifies "an accessible market of sufficient size to make it viable to establish and operate a South Australian disposal facility"

Possible Means of Dealing With Used Fuel in “New Build” Countries: Multinational Used Fuel Storage Facilities

- Provide used fuel storage for nations that lack suitable sites for long-term storage of used fuel
- Enable nations that are developing new nuclear power programs (“New Programs”) to enter into long-term storage arrangements
- Potential Advantages Include
 - Give New Programs a long-term means of dealing with used fuel discharged from power reactors
 - Provide an alternative to long-term on-site storage
 - Provide an alternative to economically inefficient disposition solutions in each country establishing new nuclear programs

Questions?



Thank You
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