Nuclear Power and the Spread of Nuclear Weapons

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 Also by the Nuclear Control Institute
Civil commerce in HEU presents a particular concern because such
the risk of their acquisition by terrorist groups for weapons
it prevents continuous civil commerce in fissile materials. Proliferating
materials under safeguards. This short on two grounds: it prevents con-
posses that could later be quickly converted by states into weapons and
induced production of weapon-useable fissile materials. For civil pur-
non-proliferation production of fissile materials has allowed uninterrupted production and use of such
use problems only the non-proliferated production of fissile materials can
limit the production of, and access to, such materials. A convention
prohibit the spread of nuclear weapons technology. Actors on the ability
news that a fissile material convention can
weapon-useable fissile materials—plutonium or highly enriched ur-
weapon-useable fissile materials is the acquisition of such materials
weapon in the open literature and even on the Internet. The main obstacle
because of the unavailability of basic nuclear-weapons design informa-

Introduction

by Alvin J. Knuteman

Research Reactors
Conduction the Phase-Out of Bomb-Grade Fuel for
The Fissile Material Convention
Civilians, Highly Enriched Uranium and

Appendix Z
When viewed historically, this article has made a profound impact on the field of nuclear weapon proliferation. The underlying message of the article is clear: the proliferation of nuclear weapons and the potential for nuclear conflict is a serious concern that requires global attention and action. The article highlights the importance of understanding the historical context of nuclear proliferation and the role that strategic decision-making plays in shaping international relations. The authors argue that a comprehensive approach is needed to address the issue, including diplomatic efforts, arms control agreements, and technological advancements. The article concludes with a call to action, emphasizing the need for continued research and collaboration to address the complex issues surrounding nuclear proliferation.
The key to the RERTR Program's success has been two core factors:

1. The key to the RERTR Program's success has been two core factors:

   - Developing a high-speed, high-capacity transport system
   - Establishing a strong partnership with HEU suppliers

2. In recent years, the U.S. has made great progress in converting HEU to LEU, with significant reductions in HEU inventories.
... [Text continues unaltered]
Germany's 2002 Military Procurement Policy

2. New HEU-Fielded Reactions

Since 2002, Germany's new HEU fielded in 2002, which is also known as the "nuclear fielded in 2002," has been a major concern for international non-proliferation efforts.

1. Steps Needed to End HEU Commerce

In order to combat the proliferation of HEU, additional steps must be taken, including:

- Enhanced inspections and monitoring of HEU facilities
- Strengthening of international non-proliferation agreements
- Increased transparency in the HEU trade

2. Concluding Remarks

The challenge of ending HEU commerce is substantial, but with concerted international efforts, it is possible to achieve a significant reduction in the global HEU stockpile.
Figure A3. International Moratorium on Building HEU-Fueled Reactors since 1980
(Germany Stated to Join Libya and China as Violator)

Note: Research reactors of at least one megawatt. Construction start date for two Russian reactors that went critical in 1983 and 1984 is uncertain; included in graph during 1975–1979 period.

Figure A4. Status of Conversion of U.S. Reactors and Foreign Reactors Using U.S. Fuel
(Does Not Include Chinese- and Russian-Supplied Reactors)

<table>
<thead>
<tr>
<th>Location</th>
<th>No. of Reactors</th>
<th>Converted, Converting or Shut Down</th>
<th>Unable to Convert to Existing LEU Fuel</th>
<th>Able to Convert to Existing LEU Fuel but Refusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States (at least 1 MW and all university reactors)</td>
<td>22</td>
<td>17</td>
<td>5*</td>
<td>0</td>
</tr>
<tr>
<td>Foreign (at least 1 MW) using U.S.-origin HEU</td>
<td>42</td>
<td>38</td>
<td>3**</td>
<td>1***</td>
</tr>
</tbody>
</table>

Notes:
* DOE's ATR reactor (at INEL) and HFIR (at ORNL), the Department of Commerce's NIST (formerly NBSR) reactor, and the university reactors at MIT and University of Missouri–Columbia.
** Belgium's BR-2 reactor and France's ILL-Grenoble and Orphee reactors. The first two have pledged to convert as soon as suitable LEU fuel is available.
*** South Africa's Safari I reactor.
N.b. U.S. university reactors are being converted even if they had low-power (less than 1 MW) and lifetime HEU cores that did not require fresh fuel. This is in recognition of the extreme vulnerability of university reactors to theft, due to traditionally lax security on most campuses. Other low-power reactors in the United States and elsewhere are not now planned for conversion under the RERTR program, because they do not require fresh shipments of HEU.
Conclusion

have not
its intention to convert to LEU, but so far the other major producers
world's largest LEU producer, Canada's Nordion Inc., has indicated
mean, and several producers are awaiting the universal adoption. The
have worked with the REFT.R program, the U.S. State Depart-
see LEU. The Nuclear Control Institute proposes such a pledge
that no producer can gain a competitive advantage by continuing to
General producer is convert is not to stop all sign a pledge to convert, so

HEU-related reactors.

commercial and the international consensus against construction of new
abating the proposed conversion to cold, which he pursues of HEU
opportunity to look at the facilities of the REFT.R program—by broad-
ally in support of the increased international non-proliferation efforts.
HEU production, HEU commerce could soon follow. Any unnecessary commerce in
HEU, however, would be strongly underwritten and a precipice of
REFT.R program would be entirely undermined and a precipice of
the

has the intention to convert their processes to LEU reactors, the progress of the
has learned how to convert their reactors to available LEU fuel, or medium-Scope products.
Germany, that is, a new reactor with HEU fuel, South Africa, Russia
Germany operation at the economic. only the decade ahead, the full
the REFT.R program can within the decade ahead, the full
influence, the REFT.R program as if the international comminute provides its full
because, since 1978, the program has made great progress in making
under a non-proliferation regime and a major breakthrough achieving under

The REFT.R program is one of the major pillars of the international
Appendix Z

The Veterans Administration (VA) has been a leader in the implementation of evidence-based mental health treatment approaches. In 2000, the VA launched the VetInfo program, which provided veterans with access to a comprehensive database of evidence-based practices. This program has since been expanded to include a variety of other mental health treatments, including cognitive behavioral therapy (CBT), mindfulness-based interventions, and dialectical behavior therapy (DBT).

In addition to providing access to evidence-based treatments, the VA has also been at the forefront of research on the effectiveness of these interventions. Their research has contributed to the development of new treatments and has helped to refine existing ones. For example, the VA has conducted studies on the effectiveness of CBT for post-traumatic stress disorder (PTSD), which has led to the development of new treatment protocols.

The VA has also been proactive in addressing the mental health needs of veterans who have been exposed to traumatic events, such as combat. They have implemented a number of programs, including the VA National Center for PTSD, which provides treatment and support for veterans with PTSD.

Overall, the VA has played a significant role in advancing the field of mental health treatment and in providing evidence-based care to veterans.