Transparency in Nuclear Disarmament

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Open-Ended Working Group on Nuclear Disarmament
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The role of transparency

- The 2010 NPT Action Plan on Nuclear Disarmament affirmed:

  “the importance of supporting cooperation among governments, the UN, other international and regional organizations and civil society aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament”
Transparency of nuclear arsenals

- US released data on its stock of operational warheads (2010)
- UK (2009-2011) and France (2008) declared planned upper limits on total and operational warhead stockpiles
- China declared (2004) its warhead stockpile was smaller than those of the other NPT weapon states
- Russia and US regularly exchange data as part of New START treaty
- India, Pakistan, North Korea did not officially declared their stocks
- Israel does not confirm or deny its nuclear status
Warhead declarations

- **United States:**
  - “[active and inactive] warheads”
  - New START “deployed warheads”

- **Russia:**
  - New START “deployed warheads”

- **United Kingdom:**
  - “operationally available warheads” and “overall nuclear weapon stockpile”

- **France:**
  - “warheads … in operational stockpile”

- **China:**
  - “[a]mong the nuclear-weapon states, China … possesses the smallest nuclear arsenal”
UNIDIR Project “Transparency and accountability in nuclear disarmament”

- A New START Model for Transparency in Nuclear Disarmament, Tamara Patton, Pavel Podvig & Phillip Schell – 2013


- Web site: NuclearForces.org
New START-type aggregate numbers

<table>
<thead>
<tr>
<th>Deployed ICBMs, deployed SLBMs, and deployed heavy bombers</th>
<th>China</th>
<th>France</th>
<th>Russia</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60</td>
<td>48</td>
<td>491</td>
<td>24</td>
<td>806</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Warheads on deployed ICBMs, on deployed SLBMs, and nuclear warheads counted for deployed heavy bombers</th>
<th>China</th>
<th>France</th>
<th>Russia</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>288</td>
<td>1,499</td>
<td>88</td>
<td>1,722</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Deployed and non-deployed launchers of ICBMs, deployed and non-deployed launchers of SLBMs, and deployed and non-deployed heavy bombers</th>
<th>China</th>
<th>France</th>
<th>Russia</th>
<th>UK</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>109</td>
<td>64</td>
<td>884</td>
<td>64</td>
<td>1,034</td>
</tr>
</tbody>
</table>

As of 1 September 2012
Global fissile material stock

**HEU, 1390±130 tonnes**
- Civilian, 40 tonnes
- Outside of civilian programs, 1350 tonnes

**Plutonium, 490±10 tonnes**
- Civilian, 260 MT
- Outside of civilian programs, 230 tonnes

Source: International Panel on Fissile Materials
Transparency of fissile material stocks

- US and UK released data on their total plutonium and HEU stocks

- Material in non-nuclear weapon states is placed under safeguards

- Civilian plutonium declarations (INFCIRC/549)
  - Belgium, China, France, Germany, Japan, Russia, Switzerland, UK, US

- Civilian HEU declarations (INFCIRC/549)
  - France, Germany, UK
Global fissile material stock: categories

- **Material in civilian programs, 298 tonnes**
- **Material declared excess, 212 tonnes**
- **Other material, 830 tonnes**
  - Weapon components
  - Material in bulk form
  - Defense-related research
  - Fundamental research

**In active warheads, 250 tonnes**
- Deployed warheads
- Active warheads in reserve

**In retired warheads, 200 tonnes**
- Warheads awaiting dismantlement

**In naval fuel cycle, 145 tonnes**
- In reserve
- In reactor cores
- Fresh and spent fuel

- **Other material, 830 tonnes**
- Weapon components
- Material in bulk form
- Defense-related research
- Fundamental research

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  - Active warheads in reserve

- **Material in civilian programs, 298 tonnes**
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- **Other material, 830 tonnes**
  - Fresh and spent fuel
  - Waste
  - Fuel for reprocessing

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Other transparency arrangements

- **United States and Russia**
  - Ballistic missile launch notifications

- **China and Russia**
  - Ballistic missile and space launch notifications

- **India and Pakistan**
  - Pre-notification of flight testing of ballistic missiles
  - Agreement on reducing the risk from accidents relating to nuclear weapons
  - Agreement on the prohibition of attack against nuclear installations and facilities
Conclusions

- There is no trade-off between transparency and security

- Existing arrangements provide a good starting point for greater transparency of nuclear arsenals and fissile material stocks

- Participation of non-weapon states is important