



Sudan/Russian Nuclear Power Cooperation Poses Proliferation Risks

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Reuters reported on March 13, 2018 that Russia has agreed to sign a “roadmap” with Sudan on building nuclear power stations.¹ However, Sudan has poor export controls, no adherence to nuclear power safety or nuclear terrorism conventions, and weak safeguards standards. Its neighbors also maintain poor implementation of these preventions against nuclear material and commodity theft or diversion. Russia should not build nuclear reactors in Sudan. Sudan should instead bolster its infrastructure so that it can at some point in the future underpin a well safeguarded nuclear power program backed by robust, internationally-acceptable strategic export controls.

After reviewing data from the Institute’s *Peddling Peril Index (PPI) for 2017*,² which ranks the efforts of 200 countries, territories, and entities to implement export controls and prevent trafficking in strategic commodities, Sudan and its bordering countries, such as the Central African Republic, Chad, Egypt, Eritrea, Ethiopia, Libya, and South Sudan, are seen to pose a high proliferation and safety and security risk.

Basic Standards for Development of Nuclear Power

Receiving a nuclear power reactor from an international supplier requires considerable preparation and the establishment of infrastructure. The state must create a regulatory regime to ensure that the reactor is operated safely, nuclear waste is handled properly, and in general, that the environment is protected. The procedures for the physical protection of the nuclear material and equipment have to be enshrined in national laws in order to prevent nuclear terrorism. The state needs to apply International Atomic Energy Agency (IAEA) safeguards to nuclear material and activities to assure the international community that the undertaking is related to exclusively peaceful purposes.

Often overlooked, but also critical, is the need for robust export controls that ensure that newly gained nuclear know-how, designs, technology, and materials are protected from entering a

¹ “Sudan, Russia to sign accord to develop nuclear power: SUNA agency,” Reuters. March 13, 2018: <https://af.reuters.com/article/topNews/idAFKCN1GPOME-OZATP>

² Albright, Burkhard, Lach, and Stricker, *Peddling Peril Index for 2017*, Institute of Science and International Security, January 31, 2018: <http://isis-online.org/ppi/detail/peddling-peril-index-ppi-2017/>

potentially unregulated market in which sensitive goods and intellectual property easily cross borders. Those countries that intend to supply nuclear reactors should fulfill a higher standard in creating robust export controls than those that do not intend to export them. However, there are basic standards that all these countries should meet.

Findings and Analysis

The PPI assigns points to the overall performance of countries' export control systems to determine a ranking. Overall, the highest-ranked country in this group of eight countries is Ethiopia (it ranks 108 out of 200 countries in the PPI, with 423 points out of a possible 1,300). It is the only country to achieve at least 25 percent of the possible points allotted by the PPI (see figure 1). Six of the eight countries rank in the bottom 20 of the PPI, including Sudan, which ranks 194 and has a total of -20 points (negative points are possible in the ranking).

Only Libya has in place somewhat comprehensive export control legislation but it overall has to be viewed as a failed state. Sudan and bordering countries lack the basic legal basis to enforce export controls. This alone demonstrates the high proliferation risk posed by nuclear supply.

While Sudan has acceded to the Convention on the Physical Protection of Nuclear Material (CPPNM), it has not yet accepted the 2005 Amendment to the convention. Additionally, five of its neighboring countries have not yet signed or ratified either the original or the amended convention. They are: Chad, Egypt, Eritrea, Ethiopia, and South Sudan.

Sudan and four neighboring countries have also yet to sign or ratify the IAEA Additional Protocol. Those four countries are Egypt, Eritrea, Ethiopia, and South Sudan.

Only two states of this group, Libya and Central African Republic, have signed and ratified the Convention for the Suppression of Acts of Nuclear Terrorism. Egypt signed but has yet to ratify. Sudan, Chad, Eritrea, and South Sudan have not signed the convention.

Additionally, all eight countries score poorly in the 2016 Corruption Perceptions Index produced by Transparency International.³

Several of these countries also pose proliferation concerns given their skirting of United Nations Security Council sanctions on North Korea and their on-going military or trading relationships with the country.⁴ According to an unpublished report of the UN Panel of Experts overseeing

³ Transparency International, *Corruption Perceptions Index 2016*, January 25, 2017: https://www.transparency.org/news/feature/corruption_perceptions_index_2016

⁴ Albright, Burkhard, Lach, and Stricker, "52 Countries Involved in Violating UNSC Resolutions on North Korea throughout most of 2017," *Institute for Science and International Security*, March 9, 2018: <http://isis-online.org/isis-reports/detail/52-countries-involved-in-violating-unsc-resolutions-on-north-korea-througho>; Albright, Burkhard, and Lach, "Countries Involved in Violating UNSC Resolutions on North Korea," *Institute for Science and International Security*, December 5, 2017: <http://isis-online.org/isis-reports/detail/countries-involved-in-violating-unsc-resolutions-on-north-korea/10>

implementation of UN sanctions resolutions on North Korea, Sudan continues to violate sanctions and cooperate militarily with North Korea. Having a nuclear power capability of its own would increase the risk that violations could escalate to include trading or sharing of nuclear, strategic, or dual-use goods with North Korea.

Egypt and Eritrea are violators of North Korea sanctions according to Panel of Experts reports. Ethiopia has previously violated North Korea sanctions, but is not listed as a violator in the Panel of Experts' January 2018 report. Libya, which previously had not violated sanctions, appeared as a new violator in the report.

Sudan's proposed nuclear cooperation partner, Russia, also ranks poorly in the PPI and has a historical reputation of violating Security Council sanctions on North Korea as well as not adequately implementing its own export control regime. This proposed nuclear relationship poses a high risk of proliferation on its own.

Recommendations

Russia should not sell nuclear reactors to Sudan or entertain the prospects of such sales to comparably poor-performing countries with regard to export controls and other safety and proliferation safeguards. The risks are too high.

Sudan should improve significantly its export control legislation and create a roadmap to effectively implement it.

Sudan should ratify and adapt into national legislation the key conventions on physical protection such as the CPPNM and Convention for the Suppression of Acts of Nuclear Terrorism.

Unless Sudan's neighbors also take the same steps, supply of nuclear power to this region poses an unacceptably high proliferation and safety risk.

In general, the PPI finds that nuclear suppliers should consider not providing nuclear power reactors to states that received fewer than 25 percent of the available points in the total PPI score until such time as they significantly improve their export control and regulatory systems.

PPI Points achieved by Sudan and its border countries

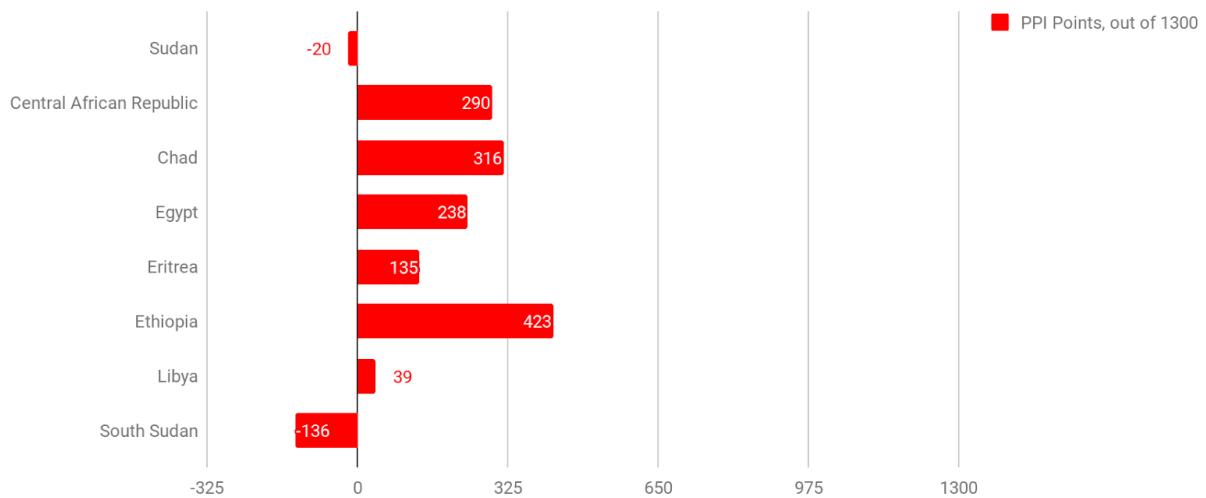


Figure 1. All countries achieved fewer than half the possible points in the PPI (see 650-point marker). Only Ethiopia received more than one-fourth of the possible points (see 325-point marker). Most notably, Sudan had more points subtracted than allotted, resulting in its negative score.