COVID-19 Lessons for Next-Gen Nuclear Governance

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The novel coronavirus has inflicted massive damage across the global landscape that will take years to repair. But its surge has underscored the enduring importance of transparency, trust, and international cooperation in addressing severe transnational security challenges. Beyond biology, these three concepts also are central to the governance regime required for the rapidly developing next generation of nuclear energy.

Small modular and advanced reactors (SM&ARs) are being pursued by a number of countries, including democratic allies like the U.S., Canada, U.K., and South Korea. They are facing off against the authoritarian governments of Russia and China. Both Russia and China are using their nuclear exports to actively shore-up their international spheres of influence. A new strategy document produced by the U.S. Department of Energy (DOE) states a "commitment to competing in contested markets and repositioning America as the responsible nuclear energy partner of choice" including promoting "strong" non-proliferation, safety, and security standards.

The policy framework for the governance of these new technologies needs to be developed early, be demonstrably effective, and generate strong support from responsible nuclear nations. Missing the opportunity to build this policy framework now will open the door to future problems and bad policy.

The trustworthiness of the leaders in the development of the nuclear governance and policy framework and the degree of international cooperation, or competition, are particularly important.

COVID-19 is relevant in this context because it is a real-world example of how nations prioritize transparency and international responsibility in managing a transnational security crisis. The

responses to the coronavirus offer an indication of how nations might prepare for, and respond to, nuclear challenges, including in nations to which they have exported next-gen reactors.

In the COVID-19 crisis, South Korea has proven to be a leader in responding to the pandemic, a valuable ally in the dissemination of best practices from its experience, and a willing provider of coronavirus testing kits. Hundreds of thousands of test kits have been provided by Seoul to the U.S. and state governments.

South Korea also has been very transparent about the intensive testing and contact tracing that it used to successfully manage coronavirus cases without major lockdowns of the population. Part of this successful response was based on the country's experience with the MERS virus in 2015. This has helped to bolster South Korea's international standing and proven the value of true international cooperation in managing transnational crises.

China, by contrast, has faced serious questions about how transparent it was with the international community about the timeline, severity, and origin of the novel coronavirus. This is impacting its international credibility and its economy. The apprehension about China is intensified by studies that have identified a confluence between China and Russia in promoting distortions related to the pandemic.

As next-gen nuclear technologies move from development to deployment, relying on two nations that have demonstrated their willingness to intentionally obscure information, deflect responsibility, and misdirect blame in an international crisis will not serve the global community well. As COVID-19 has illustrated, disinformation and delay can result in greater international danger and deaths. The handling of the virus outbreak and the communications distortions of the centrally controlled governments raise worries about how much trust can be placed in their willingness to act transparently should a nuclear crisis arise involving their technology.

All nations in the next-gen reactor race are trying to lock up future export markets. An important target market of these reactors is decentralized, small grid, developing economy nations, most of which do not have deep preexisting experience with nuclear technology or operations. There are real concerns about how nuclear inexperienced nations will be supported and how effectively nuclear proliferation, security, terrorism, safety, and other challenges will be addressed.

The Middle East and Africa fit many of the target market criteria. Africa is the world's fastest-growing continent and one-third of its nations are considering nuclear power. This has fueled growing alarm about Russia's and China's increasing economic ties with Africa and the potential that they will become the continent's preferred nuclear supplier. But, other nations, including South Korea and the U.S. are providing outreach to Africa and COVID-19 may be reversing China's gains in the region.

South Korea has an ongoing strategy for engaging with Africa and it has been helpful in responding to that continent's needs during the COVID-19 crisis. It also has an agreement with the Kingdom of Saudi Arabia (KSA) to commercialize the SMART 100 megawatt small reactor. Jordan also has shown interest in the technology. South Korea also is the provider of three large light-water reactors (LWRs) to the United Arab Emirates (UAE), the first nuclear power installations in the Arab world.

The U.S. is reversing its retreat from fostering nuclear power in Africa. One step is the use of executive branch-originated non-binding nuclear cooperation memorandums of understanding. This will precede the negotiation of a formal agreement for nuclear cooperation which requires congressional approval. This strategy requires cooperation among multiple U.S. agencies, including the State, Energy, and Commerce departments and is designed to assist newcomer nuclear nations with the development of the governance and operating infrastructure that is required for safe operation of nuclear power. The U.S. also is elevating nuclear cooperation as an issue in high-level bilateral discussions.

Beyond the battle over technologies and markets, COVID-19 also is illustrating how nations exercise their muscle with major international institutions responsible for global well-being. In the COVID-19 case, there has been serious criticism about the influence China has exerted over the World Health Organization (WHO) and its pronouncements about the virus. This has eroded confidence in the objectivity and mission of the global health organization, despite its value. But, the issue is bigger than WHO, as China's influence extends into many corners of the United Nations (U.N.).

The nuclear corollary to WHO is roughly the International Atomic Energy Agency (IAEA). As U.S. and allied nation nuclear exports have significantly decreased, Russia has picked up the slack and China is nipping at its heels. These nations have significant nuclear export advantages across large and small technology platforms because they finance their nuclear industry, integrate their exports into their geopolitical strategies, and offer nuclear neophytes a one-stop shop. This package offers the potential for Russia and China to corner the global market for smaller next-gen reactors.

If successful in that strategy, they may exert increased influence in the IAEA commensurate with their civil nuclear strength. That is how the U.S. and allied nations operated when they were in control of the global nuclear market. And that is why it's vital for them to remain viable in the next phase of the global nuclear power game. Without a balance of influences in the IAEA, next-gen nuclear governance may be less effective and comprehensive than global circumstances demand. And that can lead to very unfortunate results.

COVID-19 is a nasty wake-up call that in a globally interwoven world, crises cannot be contained by borders alone. It illustrates that serious gaps remain in the ability of the international community to collaborate in the face of transnational challenges. And it underscores that not all nations embrace the transparency that is required to build trust. These

are important lessons from a painful period. They need to be incorporated into an effective, new framework for next-gen nuclear governance. That process should begin now.

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