Key Takeaways from 2018 update of North Korea nuclear history study Siegfried S. Hecker, Robert L. Carlin, and Elliot A. Serbin February 11, 2019

Dramatic reductions in tension create space and time for diplomacy Rapid North/South rapprochement and the Singapore Summit in 2018 dramatically lowered tensions and the threat of war on the Korean Peninsula – creating space and time to pursue diplomatic solutions.

Singapore summit pledges normalization and denuclearization

Washington and Pyongyang pledged to work toward normalization <u>and</u> denuclearization at the summit. Expectations for progress were high, yet negotiations failed to gain traction in 2018, partly due to the US fixation on denuclearization without commensurate steps to reduce its "maximum pressure and sanctions" policy. Nevertheless, both sides left all avenues open for progress in 2019.

The North halts and rolls back part of its nuclear program

The North took significant steps to halt and roll back key parts of its nuclear program even in the absence of formal negotiations. In 2018, Kim took the extraordinary step of ending nuclear tests and missile tests, not just declaring a moratorium. These actions, taken at a time during which North Korea had been rapidly increasing the sophistication of its nuclear weapons and missiles and their destructive power and reach, not only halted that rapid advance but also rolled back the threat we judged the North's nuclear and missile programs to pose in 2017.

In absence of negotiations, North Korea maintained nuclear and missile sites and produced fissile materials

Although the North took some steps to disable or dismantle a few nuclear and missile facilities (such as exploding nuclear test tunnel entrances), absent a negotiated agreement, North Korea unsurprisingly continued to operate and, in some cases, expand the nuclear weapons complex infrastructure. It continued to operate its nuclear facilities to produce plutonium and highly enriched uranium that may allow it to increase the number of nuclear weapons in its arsenal from roughly 30 in 2017 to 35-37.

A risk-based framework for a phased approach to rolling back and eventually eliminating the nuclear weapon program

A "halt, roll back, and eliminate" phased approach that will stretch over a decade or so will be required to eliminate North Korea's nuclear weapons and weapons program because of the enormity of its nuclear weapon enterprise and the huge trust deficit between Washington and Pyongyang. We suggest that North Korea, South Korea, and the US explore cooperative efforts to demilitarize North Korea's nuclear and missile programs and convert them to civilian nuclear and space programs. Such cooperation will, in the long term and in conjunction with IAEA monitoring and safeguards implementation, make adequate verification much more likely and possibly accelerate the denuclearization timeline.