

Siegfried Hecker on Two Decades of Missed Chances to Deal with North Korea's Nuclear Program

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From early 2004 until late 2010, former Los Alamos National Laboratory director Siegfried Hecker had unparalleled access to North Korean nuclear facilities and scientists and officials connected to them. During his many visits, taken with other scientists and scholars as a private citizen but with the knowledge of the US government, Hecker had a few nearly shocking experiences; at one point, he was shown a half-pound piece of plutonium in North Korea's Radiochemical Laboratory, apparently to document, for the world, the North's nuclear accomplishments. He also gained a nuanced appreciation for North Korea's negotiating strategy vis-a-vis the United States. That dual-track strategy—within which North Korean leaders simultaneously pursued a nuclear weapons capability and some form of rapprochement with the United States—serves as a through-line in Hecker's new book, [Hinge Points: An Inside Look at North Korea's Nuclear Program](#).

Via his visits to the North and subsequent research outside the country, Hecker came to believe that the standard US narrative about its various failed attempts to negotiate an end to the North Korean nuclear program was seriously askew. That US narrative portrays North Korea as unreliable, a serial violator of diplomatic agreements, a country that uses provocations to extort rewards from the West. Instead, Hecker found that the story of the growth of North Korea's nuclear arsenal in the 21st century can more accurately be told as a series of missed opportunities—what he calls “hinge points”—when diplomatic openings that could have led to controls on the North's nuclear program were undermined, sometimes by Pyongyang but at least as often (and perhaps more consequentially) by Washington.

I spoke with Hecker (who is also chair of the *Bulletin's* Board of Sponsors) at some length about his book and how three successive US presidential administrations failed to take advantage of an apparent willingness by the North Koreans to accept a fundamentally new relationship with the United States—along with significant controls on their nuclear program. Those failures, Hecker said, center on the US government's unwillingness to make what he

calls “technically informed risk-management decisions.”

Editor’s note: This interview has been edited for length and clarity. An excerpt from Hinge Points can be read [here](#).

John Mecklin: Your book, which I enjoyed a great deal, goes through a whole series of missed opportunities with North Korea that you call hinge points. I know you can’t go through all of them, because there were a lot, through history. But why don’t you go through one or two to give our readers a flavor of what you were talking about, in terms of what a hinge point is?

Siegfried Hecker: It’s a turning point where key decisions have serious consequences. These typically followed advances in North Korea’s nuclear enterprise—what Washington called provocations. Examples are missile or satellite launches, or the discovery of a covert uranium enrichment program. In the book, I describe that, at such key hinge points, the US government unfortunately did not make technically informed risk-management decisions.

The first big hinge point was at the beginning of the [George W.] Bush administration—at a meeting in October of 2002. Assistant Secretary of State James Kelly made the first Bush administration visit to Pyongyang. During the summer, the administration was made aware that North Korea was pursuing, clandestinely, a uranium enrichment centrifuge program, the second path to the bomb [the first path involved plutonium].

This was during the Agreed Framework, a Clinton-era deal that was consummated in 1994, in which North Korea agreed to freeze its plutonium production complex. In return, the US would provide two light-water nuclear reactors for the production of electricity. These would be paid for primarily by South Korea and Japan. The North Koreans did shut down their small plutonium-production reactor and the entire Yongbyon nuclear complex in 1994 in return for the promise of two light-water reactors.

When the Bush administration got word of North Korea’s clandestine efforts to develop uranium centrifuges, it confronted the North Koreans at the October 2002 meeting. In the book, I describe how the Americans walked away from the deal. John Bolton later said the uranium enrichment revelations were the hammer he needed to shatter the Agreed Framework. It was a hinge point because it had disastrous consequences. North Korea withdrew from the Nuclear Non-Proliferation Treaty, restarted the Yongbyon nuclear complex, built the bomb, and a few years later tested one.

Mecklin: Let me play just a little bit of devil’s advocate. Throughout the book, you say better integration of technical analysis would allow a rational, cost-benefit kind of assessment of dealing with North Korea. But they really did lie about uranium enrichment. Would better analysis of any kind affect the kind of hawkish people like [former State Department official and later national security adviser] John Bolton, who can pop in and ruin negotiations like this?

Hecker: You are right. Bolton was determined to kill the Clinton-era Agreed Framework because they believed it to be fatally flawed. North Korea, they asserted, should never be allowed to have a civilian nuclear program. There was no need for a risk-benefit analysis because there were no benefits in dealing with them. They believed the country shouldn’t even exist.

Mecklin: But you state in the book that they should have looked at the tradeoffs before they walked away.

Hecker: Absolutely, because without assessing the technical risks of walking away, their decision put North Korea on a fast track to build the bomb. When Bush came into office, North Korea had no nuclear weapons. The plutonium path to the bomb was frozen, because the Yongbyon nuclear complex had been shut down since 1994. They were, indeed, covertly pursuing a nascent uranium enrichment program.

John Bolton's view was, they cheated, and we hammered them. In the book, I explain what they got in return. North Korea expelled the international inspectors and American technical teams and restarted the nuclear reactor to make more plutonium. They removed the used reactor fuel rods that had been stored in a spent fuel pool for eight years and extracted some 25 to 30 kilograms of weapon-grade plutonium, enough for five or six bombs. They built the bomb and tested a nuclear device in October 2006. As for the uranium centrifuge program, they had greater freedom to scale it up.

The bottom line was that the Bush administration, which was determined to get tough on North Korea to keep it from the bomb, left office with North Korea likely possessing five bombs or so.

Mecklin: There were a couple of attempts during the last two years of the Bush administration to restart negotiations, but they didn't really work. You state in the book that North Korea had a dual-track strategy. Was North Korea ever really serious about diplomacy?

Hecker: Yes, as the North's political support collapsed at the end of the Cold War, Kim Il-sung decided it was better to seek strategic accommodation with the United States. The Russians had deserted them after the breakup of the Soviet Union. China, which the North always felt wielded a heavy hand in its support, decided to recognize South Korea as well. North Korea's economy was collapsing, and Kim sought normalization with Washington to improve its external security environment and focus on the country's dire economic situation.

The dual-track strategy that Kim, and later his son and grandson, pursued was to engage in diplomacy *plus* nuclear development—variously emphasizing one or the other but never completely abandoning either. Which one was prioritized depended on the external environment, the domestic situation, and their technical advances. Even during times of diplomacy, they hedged with continued nuclear developments because they were never certain that the US would follow through on its commitments. These, in turn, often led to the hinge points I describe.

The Bush administration did attempt diplomacy a couple of times during its second term, but it remained largely mired in indecision, repeatedly short-circuiting itself. That happened in September 2005 when the United States signed the Six-Party agreement but immediately issued a unilateral statement that walked back key provisions. North Korea responded with the nuclear test in 2006. Following the test, the administration again returned to diplomacy in 2007 and 2008 with Ambassador Chris Hill. I witnessed some of the disablement actions the North Koreans took in the Yongbyon nuclear complex in those years, but in the end, time ran out.

Mecklin: When Obama came in, one would think that the difference in political point of view would have made a difference, that there could have been some sort of meeting of minds during the Obama years. But there wasn't. Why is that? What happened?

Hecker: I don't know, but perhaps someday when North Korea opens up its archives, we'll get the real answer. I expected President Obama to pursue greater diplomatic outreach to North Korea in the spirit of his early pronouncement to countries like Iran and North Korea, "I will reach out my hand if you unclench your fist." Instead, the North Koreans greeted Obama with a rocket launch on April 4, the day before his famous Prague disarmament speech.

Near the end of Bush's term, in August 2008, the game had changed because Kim Jong-il suffered a stroke. With Kim's life in danger, the North's decision making was driven by putting succession planning on strong footing. That likely included having to demonstrate a credible deterrent with a second nuclear test, since the first one didn't work so well. Obama considered that part of Pyongyang's play book—a cycle of provocation, extortion, and reward—which he was determined to end.

He responded by orchestrating a UN Security Council condemnation of the launch. That was just what Pyongyang expected, which it used as a pretext to move its nuclear program forward. It expelled the international inspectors and Americans who had been allowed back in the nuclear complex during the last two years of Bush administration diplomacy. It restored the disabled Yongbyon facilities to their original state. And, six weeks later, Pyongyang detonated its second nuclear device, this one successfully. It was another hinge point.

Mecklin: You also wrote about a Leap Day hinge point. Can you explain?

Hecker: On February 29, 2012, the Obama administration struck its first deal with the North. It would have frozen the Yongbyon nuclear complex, which by then also housed a uranium centrifuge facility that the North Koreans showed me and Stanford University colleagues in late 2010. It also called for a moratorium on nuclear and long-range missile tests. The deal was negotiated during Kim Jong-il's reign and signed by Kim Jong-un after his father's death in December 2011.

But the two sides had different understandings of what constituted a missile test. Two weeks after the Leap Day signing, Pyongyang attempted to launch an Earth observation satellite, which they claimed was permitted. The Obama administration viewed that as a disguised missile test and walked away. To them it proved that Pyongyang was not a reliable negotiating partner—which lasted to the end of the administration. By walking away, the Americans remained locked out of Yongbyon, and the North Koreans stepped up their nuclear program to have enough bomb fuel for 25 nuclear weapons by the time Obama left office. It was another hinge point.

Mecklin: Not to rush too quickly through the Obama years, but the overview of all of this is a whole series of presidents failed to really make progress. But when Donald Trump came into office, everybody thought, "Oh, this is terrible. This is just going to get terrible with North Korea." And for a while it did, but actually he did some things that I think you assessed fairly positively in the book. And I was just wondering: Can you take us through the hinge points in the Trump era?

Hecker: As you said, President Trump’s first year—2017—was probably the most dangerous year with North Korea. When Trump threatened Kim Jong-un with “fire and fury,” they likely had an arsenal of more than 25 nuclear weapons and a much more potent missile force with the means to destroy a good part of South Korea and/or Japan. However, the point I make in the book is that each of the Kims had a serious interest in diplomacy to seek diplomatic accommodation with the United States. I demonstrate that, in the latter half of 2017, going into 2018, Kim Jong-un also turned in that direction. Trump reciprocated after the fire-and-fury comment, and after calling Kim Jong-un the “little rocket man.”

By this time, Kim Jong-un had tested what was likely a hydrogen bomb, more than 200 kilotons of yield, their sixth nuclear test. He fired an intercontinental ballistic missile capable of reaching the United States, although it was done in a lofted trajectory. At the time of this enormously dangerous situation, both decided to try diplomacy. They did so in Singapore at their first summit in June of 2018. In the book, I give Trump credit for reaching out and doing just that—setting the stage.

When Trump and Kim Jong-un sat down in Singapore, they laid out the right framework, although without details, to achieve both normalization of relations between the United States and North Korea—which is what North Korea had been wanting for the better part of 30 years—and denuclearization. It was to be a path for North Korea giving up its nuclear weapons toward a nuclear weapon-free Korean peninsula. They instructed their people to develop the steps to move in that direction.

Trump was widely criticized for giving Kim Jong-un the visibility on the international stage to meet with the US president. I thought it was precisely the right thing to do. Before the Singapore summit, we knew so little about Kim Jong-un. Here was a guy who had his finger on the nuclear button, and we knew almost nothing about him. We knew even less about his military.

We learned a lot more about Kim Jong-un at the summit. In the book, I show in detail how both sides failed between Singapore and the February 2019 Hanoi Summit. They should have been able to agree on steps the United States would take toward normalization and steps North Korea needed to take to denuclearize. Both Trump and Kim Jong-un erred by not doing so.

Trump, in my opinion, let himself be influenced by John Bolton not to make a deal. This isn’t just my opinion; John Bolton explains in his book that he was quite proud of it, actually. He convinced Trump that it was better for him to walk away. Kim Jong-un made the mistake that he did not allow his diplomats to work with US special envoy to North Korea Steve Biegun, a very accomplished diplomat working under Trump, to negotiate these details before the summit so that positive steps could be taking taken at Hanoi.

So, they both made these mistakes. But the bottom line, the hinge point, is Trump walked away. He said he hoped to keep good relationships with Kim Jong-un. But for Kim, it was an enormous embarrassment. When Trump returned home, he was congratulated by both sides of the political spectrum for walking away. It was said that no deal was better than a bad deal. It was generally believed that Kim did not offer enough to get the kind of sanctions relief he was apparently requesting. Yet I believe that Kim was willing to take big steps to scale back the nuclear weapons program, although he told Trump it couldn’t be done all at once and had to be done in parallel with US steps toward normalization. These steps included shutting down the Yongbyon nuclear complex again. In one of Kim’s letters to

Trump, he also offered to shut down the Nuclear Weapons Institute.

Mecklin: That was my question. Did they really not understand what was offered?

Hecker: In most likelihood, Bolton understood, but as he stated in his book, he did not want any deal with North Korea. The Yongbyon complex was called old and used up by critics of a deal, but it wasn't. The Nuclear Weapons Institute, as I've tried to explain in the book, is their Los Alamos, their Lawrence Livermore laboratory, the brain center of their nuclear weapons program. If you take away Los Alamos and Livermore in the US program, you don't have nuclear weapons for the future.

All these things were in play at Hanoi, but Trump didn't pursue them. Instead he walked away. Would these have led to the denuclearization of the Korean peninsula? The answer is, we don't know. It would have taken a lot of work to get there. But what I've tried to explain is that, at each hinge point, we were in a position to take the risk to see how far we can get. Whether it would have been possible required a technically informed risk/benefit analysis. Instead, the decisions were made strictly on a political basis—in Trump's case, because it looked better for him. As I show in the book, in each case the North Koreans took advantage of the Americans walking away to beef up their nuclear and missile programs. These were a disaster for our country.

Mecklin: That disaster has had implications up to the current day. I can't perceive that there's much if any actual focus in the Biden administration on North Korea right now. But I'm going to appoint you as President Biden's lead advisor right now. What would you tell them about what we ought to be doing regarding North Korea now, given this history that you've lived through?

Hecker: Let me start with the ramifications of Hanoi for today. Kim Jong-un walked away greatly embarrassed. I wrote a piece right after the Hanoi Summit to counter those people who said Trump was right to walk away, and I said, "Was he really?" I described the concerns I had.

Since then, Pyongyang has again put its nuclear program at the top of its priorities. Diplomacy was not only put on the back burner, but it appears Kim has disengaged from Washington. Trump tried again after Hanoi. He met Kim Jong-un at the DMZ; but it was too late. And then the pandemic hit, which also made it more difficult to get back together.

I have worked with every administration since I first went to North Korea in 2004. It didn't matter whether they were Republican or Democrat; I was trying to help them, to provide technical input and share what I had learned. Shortly after the elections, I gave my input to the Biden administration. It was talk to Kim quickly to see if they could change the game.

One of the game-changers that I suggested was to drop Washington's refusal to allow North Korea to have civilian nuclear and space programs. The technical risks of such programs were manageable. The political benefits would flow from the fact that it would demonstrate to North Korea that we are taking their concerns seriously. I suggested that we engage the North Koreans in what I called cooperative conversion—that is, together work with them to convert their military nuclear and missile programs to civilian programs. By doing it together, step by step, we could do it in a verifiable manner.

But like every administration, they took many months to do a North Korea policy review

while the opportunity for re-engagement slipped away. At the Yongbyon nuclear complex, which Hanoi Summit critics called “used up,” North Korea continued to produce more highly enriched uranium and restarted the 5-megawatt electric nuclear reactor to produce more plutonium and tritium, required for much more destructive hydrogen bombs. They increased the pace of missile development and last year conducted a record number of missile launches. Pyongyang matched the technical advances with more aggressive nuclear weapons postures.

My greatest concern is that following the February 4, 2022, Xi-Putin summit in China, North Korea moved away from the United States and closer to both Russia and China. Every indication since, including Pyongyang’s open support of Russia’s unprovoked invasion of Ukraine, is that Kim Jong-un has given up on North Korea’s 30-year quest of serious diplomacy with Washington to seek normalization with the United States.

So today we’re in a situation where the North Koreans aren’t interested. I don’t think there’s much we can do right now. It is a pity that the Biden administration has paid so little attention to North Korea in its first two years. At least, it has underscored the strength of its alliance with the South. That’s where we are.

One ray of hope is that the North Koreans tend to be pragmatic and quick on their feet to adapt to changing circumstances. Should Russia continue to fare poorly in Ukraine, and should North Korea’s economy continue to suffer—be it because like the Soviet Union, it spent too much on defense or because of the lingering effects of the COVID pandemic—will Washington be ready if Kim Jong-un turns back to diplomacy? Kim Jong-un knows that to revive the North’s economy he needs a change for the better in the external security environment—for that he must push for a less hostile relationship with the United States.

I think the administration needs to be prepared with something different than what the previous three administrations did. It needs to learn from the mistakes of the past. The book provides many lessons learned from those mistakes. Over the years, North Korea’s position has strengthened, not weakened. For Washington, even the first steps toward denuclearization have become longer and more difficult. We’ve had the opportunities before when it was easier. Now, it’s going to be really difficult.

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Featured image: Donald Trump and Kim Jong Un shake hands at the Hanoi Summit in Vietnam, February 27, 2019. Photo credit: White House

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