

What They'll find in North Korea

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North Korea has pledged to disable its nuclear facilities by the end of the year, and the United States is sending a team of technical experts to Yongbyon to begin the process of putting Pyongyang's bomb machine to sleep.

The more lengthy process of dismantling the full complex will come later.

Few Americans have been to the remote and heavily guarded complex. I was one of a group of Department of Energy employees that served as on-site monitors at Yongbyon. And far from the advanced complex depicted in so many James Bond thrillers, what we found were a collection of crumbling cement structures with inadequate heat and power. The water and electricity work only sporadically. There are no lasers or modern computer complexes with flashing lights; the site is frozen in the 1950s and more closely resembles a junk yard than an evil regime's nuclear nerve center.

Top on the disablement list is the North's 5 megawatt nuclear reactor.

Built in the 1980s, the plant is capable of producing up to one bomb's worth of plutonium every year. The U.S. team will find antiquated computer control equipment scavenged from the international market and cobbled together from so many spare parts. Rusting parts and broken windows dominate the outside view. While safe to visit for short periods, the levels of radiation on the site would force its closure in any state in America. U.S. experts will have to wear nuclear detection equipment, known as dosimeters, at all times for their safety.

The U.S. teams also have to de-activate the fuel reprocessing center where North Korea extracted plutonium from spent nuclear fuel for its nuclear weapons, as well as the fresh fuel production site. The condition of the reprocessing facility is not well known. However, reprocessing spent fuel is among the most radioactive activities there is and levels of radiation are likely to be very high. Only short periods of exposure will be permitted by the U.S. or Korean health physicists tasked with ensuring the health of those working in radioactive environments.

Locking down the fuel fabrication site may be the easiest task due to its poor condition, but will pose some of the greatest health challenges. It is likely that the damage to the site, as well as the standards of safety at the plant, has led to the dispersal of uranium at the site making day to day work difficult and dangerous.

In all three sites, US personnel will have to wear protective clothes, including overalls, masks, surgeon hats, and gloves. Dressing and undressing and being checked for radiation at every entry will take time and will get frustrating very quickly. Just ensuring there are enough sets of protective wear is a major logistics exercise, as most of the equipment needed by the American teams will have to be flown in from outside of the country. There are no Home Depots in North Korea. Ensuring they have the reliable electricity and heat, as well as necessary equipment to carry out their jobs, will take months to arrange and endless hours of haggling with North Korean engineers who will not be enthusiastic about helping the U.S. take apart the nuclear complex they spent their lives building. Even getting basic tools to complete their work will be a challenge.

Aside from the work at hand, the teams will have to face some of the most isolating and demoralizing work conditions anywhere. U.S. teams will literally be behind enemy lines, as the United States and North Korea remain technically in a state of war with each other. U.S. teams will sleep at a guest house guarded by AK-47-toting guards (for their own protection, they will be told). Driven over dirt roads, each morning and evening they will pass through no less than four police and army check points, manned with machine gun nests and humorless North Korean officers. This winter the temperature will reach 20 degrees below zero every night.

Staying warm will be among the first of the challenges the technical teams face. Not losing their minds to boredom will be another. No outside T.V. or communication is possible, as North Korea will likely ban the use of satellite phones for communication with the outside world. Perhaps some of the hundreds of paper back books left by the U.S. government teams who worked there in the 1990s are still on site, but forms of entertainment for their resting hours will be few and far between.

In short, the U.S. experts heading to North Korea are going to a place unlike anywhere else on earth. Rugged and strangely compelling, the high mountains and dirt roads that surround Yongbyon will reinforce a sense of isolation hard to overcome. Only by concentrating on and remembering the importance of the difficult tasks at hand will they be able to maintain their morale and confidence. Any success they achieve will aid the process of disarmament on the Korean peninsula, but their time in country will likely go unnoticed and unappreciated by most. A shame, for their work could not be more important and deserves thanks.

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