

U.S. Nuclear Warhead Fuses in Taiwan: a Mistake?

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As the Taiwanese just elected a new President, Ma Ying-jeou, favorable to an improved dialogue with mainland China (see our previous note on the challenges for Taiwan's new President), the cross Strait strategic relations are once more under the spotlights as the U.S. recently revealed having mistakenly delivered nuclear warhead fuses to Taiwan.

The erroneous fuse shipment is the Pentagon's second embarrassing misplacement of nuclear or nuclear-related equipment announced in recent months. An Air Force bomber mistakenly carried nuclear warheads over the U.S. in August 2007. It was unclear what led to the fuse shipment and the Pentagon does not yet know who was responsible. However, the U.S. Defense Secretary Robert Gates has ordered an investigation into the incident and a comprehensive review of the U.S. inventory of all nuclear-related components as well as of policies and procedures.

Questions remain, however, whether this "mistake", as called by the U.S. President George W. Bush, was not intentional, in order to send a message to Beijing on the U.S. ability to provide any technology anytime to Taiwan, without any possibility for the Chinese authorities to detect it. Considering the complicated U.S.-China relations, such questions are relevant, if not with nuclear technology, at least with any other military device.

A TWO-YEAR OLD STORY

The nearly two-year saga of the fuse shipment began in August 2006. According to the U.S. Air Force Secretary Michael Wynne, the fuses, contained in four large shipping containers, had been sent from an Air Force base in the Western U.S. to a Defense Logistics Agency warehouse in a nearby state. The containers apparently ended up in an unclassified area, rather than a classified section where they belonged.

In August 2006, the cylindrical containers, which measured 84 cm high and 48 cm in diameter, were sent to the government of Taiwan. There they were placed in storage, U.S. officials said. In 2007, Wynne said Taiwanese authorities notified U.S. officials that they did not get the batteries they had ordered. Discussions ensued for

months, during which, “we, on our side, thought we were talking about different sorts of batteries. There was an effort to resolve and to reimburse them”, according to the U.S. officials. Finally, a few days before the March 22 Taiwan’s Presidential election, the U.S. military officials realized what had been shipped to Taiwan and worked immediately to get the fuses back.

Wu Wei-rong, director-general of Taiwan’s armaments bureau, said on March 25th that the U.S. demanded the return of the fuses only after it learned of the gravity of its error. “The U.S. recently informed us that the parts had been mistakenly sent to Taiwan, and they asked us to dispose the parts by ourselves”, Wu said. “The U.S. then realized the parts were sensitive, controlled items which Taiwan could not deal with, and soon the parts were returned”.

The White House stated that President Bush “appreciates that they are taking action, and that there is a full investigation under way”, reminding it was an accident. “We are being totally transparent. We have corrected the situation”, said the White House. “The U.S. stands up to its treaty obligations and we’re dealing with this in the most straightforward manner we can”, adding that an examination of the site in Taiwan where the components had been stored after delivery indicated that they had not been tampered with. Some U.S. officials also stated said the components were “quite dated”, as part of a system designed in the 1960s.

DESCRIPTION OF THE FUSES

The fuses that the U.S. mistakenly shipped to Taiwan are highly sensitive components designed to trigger the detonation of a nuclear warhead at a precise height over the Earth. They are housed in needle-shaped nose cones that fit atop the nuclear warhead of a Minuteman intercontinental ballistic missile, U.S. officials said.

“It’s very sensitive technology because it is essentially the brain of the re-entry vehicle”, said Hans Kristensen, an expert on nuclear weapons at the *Federation of American Scientists*, interviewed by *Associated Press*, adding that “as it comes toward the Earth, it determines when the bomb goes off and that it goes off at the right height and at the right yield”.

At exactly the right moment, an electrical signal from the fuse activates detonators on chemical explosives surrounding the sphere that contains the plutonium trigger of a thermonuclear weapon. “That has to be very, very, very precise, because if it's not then you would have some sort of a squish effect where the plutonium would be misformed by the explosion”, Kristensen said.

The chemical explosives ignite the plutonium detonation, releasing “this enormous bombardment of neutrons flying everywhere that bounce off reflectors

inside the weapon”, Kristensen said. The reflectors concentrate the neutrons to ignite hydrogen in a secondary, far more powerful explosion.

“The specific manufacturing of this is done to be mated specifically with this weapons package”, said Ryan Henry, a senior Pentagon official. “So you would not be able to use this in any other weapons system, nuclear or non-nuclear. But the mechanism itself is common to many, many different weapons”.

But Kristensen said these fuses are unique and their nose cone assemblies are also the product of years of costly development. “And for any country that develops such technology, it is a hugely important technology. Because this phase of the re-entry vehicle as it passes through the atmosphere at a very, very high speed and under enormous stress and turbulence you have to be able to set the height of burst very accurately if you want to have maximum capability out of your warhead. So for a country like China, that is trying to development more capable systems, that would be very important material to get. And for any country that is even lower on the nuclear threshold scale, having not quite gotten there, it would be potentially even more important”, he said.

TAIWAN RETURNED THE COMPONENTS

The Taiwan’s Ministry of National Defense (MND) issued a written statement on March 26th stating that the four nonnuclear ballistic-missiles components have already been returned to the U.S. According to the statement, Taiwan military only discovered the mistake last week following an inspection by the Army Command of the original shipment, which had been stored since delivery in a warehouse.

After notifying the pentagon about the mistake and filling proper compensation claims, Taiwan military turned the missile parts over to the American Institute in Taiwan on March 25th.

The U.S. shipped the missile components in place of batteries for Army helicopters that Taiwan had ordered and Taipei has asked the U.S. to provide the items originally purchased, MND’s Armaments Bureau Director Wu Wei-jung said at the Legislative Yuan. He added that Washington had initially asked the MND to handle the matter on its own; but, when Taipei found it did not have such capability, it eventually asked the pentagon to manage the return of the components.

CHINA’S REACTION

On the other side of the Strait, China expressed “grave concern” over the revelation that the U.S. had mistakenly sent Taiwan four nuclear warhead fuses in

2006. “We express our serious concern and strong dissatisfaction and demand the U.S. side investigate this incident”, foreign ministry spokesman Qin Gang said in a statement, adding that “we urge the U.S. to cease selling military hardware to Taiwan and end U.S.-Taiwan military ties, or risk harming stability in the Taiwan Strait and the healthy and stable development of China-US ties”.

Understanding the necessity to provide a clear response, the US President George W. Bush told his Chinese counterpart Hu Jintao that the Pentagon made a “mistake” by sending Taiwan four nuclear warhead fuses in 2006, a top White House official said. Bush told Hu in a telephone call “that a mistake had been made”, while national security advisor Stephen Hadley said that the issue “came up very briefly and that there was very little discussion about it”.

However, the recent strategic relations between the U.S. and China have been oscillating between suspicion and appeasement. Condoleezza Rice’s recent trip to Beijing focused on the partnership regarding the North-Korean issue, but at the same according to several Pentagon’s officials and scholars in the U.S., China remains a strategic competitor to Washington more than a partner. The Chinese defense budget, and its lack of transparency, is frequently questioned by the U.S. Among other issues, such as the missile tests, the Chinese navy modernization or the partnership with countries such as Sudan or Pakistan, this new incident may affect the already difficult confidence building between Beijing and Washington.

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