



Security Council

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Letter dated 4 June 2010 from the Permanent Representative of the Republic of Korea to the United Nations addressed to the President of the Security Council

I have the honour to bring to the attention of the Security Council the armed attack on 26 March 2010 by North Korea against the Republic of Korea Navy ship *Cheonan* (PCC-772) on patrol duties in the territorial waters of the Republic of Korea, 2.5 km off the south-western coast of Baekryong Island. The attack resulted in the sinking of the 1,200 ton corvette leading to the deaths of 46 Republic of Korea servicemen on board.

The attack by North Korea was substantiated in the investigation conducted by the Joint Civilian-Military Investigation Group of the Republic of Korea with the participation of international experts from Australia, Sweden, the United Kingdom and the United States, and the Multinational Combined Intelligence Task Force, comprising the Republic of Korea, Australia, Canada, the United Kingdom and the United States (see annex). Based on material evidence obtained through scientific and objective investigation, it was determined that the sinking was caused by an underwater explosion by a torpedo made in North Korea. The investigation result further established that additional evidence points overwhelmingly to the conclusion that the torpedo was fired by a North Korean submarine. This corroborates that North Korea is responsible for the armed attack.

The armed attack by North Korea against the Republic of Korea Navy ship is a flagrant violation of the Charter of the United Nations, the 1953 Korean Armistice Agreement and the 1992 Agreement on Reconciliation, Non-aggression and Exchanges and Cooperation between the South and the North. As such, the armed attack by North Korea constitutes a threat to peace and security on the Korean Peninsula and beyond.

My Government requests that the Security Council duly consider this matter and respond in a manner appropriate to the gravity of North Korea's military provocation in order to deter the recurrence of any further provocation by North Korea.

I should be grateful if you would have the present letter and its annex circulated as a document of the Security Council.

(Signed) **Park In-kook**
Permanent Representative of the Republic of Korea
to the United Nations



Annex to the letter dated 4 June 2010 from the Permanent Representative of the Republic of Korea to the United Nations addressed to the President of the Security Council

Investigation result on the sinking of Republic of Korea ship *Cheonan*

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I. Overview

1. The Joint Civilian-Military Investigation Group conducted its investigation with 25 experts from 10 top Korean expert agencies, 22 military experts, 3 experts recommended by the National Assembly, and 24 foreign experts, constituting 4 support teams from the United States, Australia, the United Kingdom and the Kingdom of Sweden. The Group is composed of four teams — scientific investigation, explosive analysis, ship structure management and intelligence analysis.
2. We provide the results obtained by the Korean and foreign experts through an investigation and validation process undertaken with a scientific and objective approach.
3. The results obtained through an investigation and analysis of the deformation of the hull recovered from the seabed (see attachment 1) and evidence collected from the site of the incident are as follows:

The Joint Civilian-Military Investigation Group assesses that a strong underwater explosion generated by the detonation of a homing torpedo below and to the left of the gas turbine room caused the Republic of Korea ship *Cheonan* to split apart and sink.

II. Basis of the assessment

4. The basis of our assessment that the sinking was caused by a torpedo attack is as follows:
 - (a) Precise measurement and analysis of the damaged part of the hull (see attachment 2) indicates that:
 - (i) A shockwave and bubble effect caused significant upward bending of the Centre vertical keel, compared with its original state, and the shell plate was steeply bent, with some parts of the ship fragmented;
 - (ii) On the main deck, fracture occurred around the large openings used for maintenance of equipment in the gas turbine room, and significant upward deformation is present on the port side. Also, the bulkhead of the gas turbine room was significantly damaged and deformed;
 - (iii) The bottoms of the stern and bow sections at the failure point were bent upward. This also proves that an underwater explosion took place;
 - (b) Through a thorough investigation of the inside and outside of the ship, we have found evidence of extreme pressure on the fin stabilizer, a mechanism to reduce significant rolling of the ship; water pressure and bubble effects on the bottom of the hull; and wires cut with no traces of heat (see attachment 3). All these point to a strong shockwave and bubble effect causing the splitting and the sinking of the ship;
 - (c) We have analysed statements by survivors of the incident and a sentry on Baekryong Island:
 - (i) The survivors made a statement that they heard a near-simultaneous explosion once or twice, and that water splashed on the face of a port-side lookout who fell from the impact;

(ii) A sentry on the shore of Baekryong Island stated that he witnessed an approximately 100-meter-high “pillar of white flash” for 2-3 seconds. The aforementioned phenomenon is consistent with damage resulting from a shockwave and bubble effect;

(d) Regarding the medical examination of the deceased service members, no trace of fragmentation or burn injury were found, but fractures and lacerations were observed. All of these are consistent with damage resulting from a shockwave and bubble effect;

(e) The seismic and infrasound wave analysis result conducted by the Korea Institute of Geoscience and Mineral Resources is as follows:

(i) Seismic wave intensity of 1.5 degrees was detected by 4 stations;

(ii) Two infrasound waves with a 1.1 second interval were detected by 11 stations;

(iii) The seismic and infrasound waves originated from an identical site of explosion;

(iv) This phenomenon corresponds to a shockwave and bubble effect generated by an underwater explosion;

(f) Numerous simulations of an underwater explosion show that a detonation with a net explosive weight of 200-300 kg occurred at a depth of about 6-9 m, approximately 3 m left of the centre of the gas turbine room;

(g) Based on the analysis of tidal currents off Baekryong Island, the Joint Civilian-Military Investigation Group determined that the currents would not prohibit a torpedo attack.

III. Conclusive evidence

5. As for conclusive evidence that can corroborate the use of a torpedo, we have collected propulsion parts, including a propulsion motor with propellers and a steering section from the site of the sinking. The evidence matched in size and shape with the specifications on the drawing presented in introductory materials provided to foreign countries by North Korea for export purposes (see attachment 4). The marking in Hangeul (Korean alphabet), which reads “1번 (or No. 1)”, found inside the end of the propulsion section, is consistent with the marking of a previously obtained North Korean torpedo (see attachment 5). The above evidence allowed the Joint Civilian-Military Investigation Group to confirm that the recovered parts had been made in North Korea.

6. Also, the aforementioned result confirmed that other possible causes raised for the sinking, including grounding, fatigue failure, mines, collision and internal explosion, played no part in the incident.

IV. Conclusions

7. The following sums up the opinions of Korean and foreign experts on the conclusive evidence collected from the incident site: hull deformation; statements of

relevant personnel; medical examination of the deceased service members; analysis of seismic and infrasound waves; simulation of underwater explosion; and analysis on currents off Baekryong Island and collected torpedo parts.

8. The Republic of Korea ship *Cheonan* was split apart and sunk owing to a shockwave and bubble effect produced by an underwater torpedo explosion.

9. The explosion occurred approximately 3 m left of the centre of the gas turbine room, at a depth of about 6-9 m.

10. The weapon system used is confirmed to be a high explosive torpedo with a net explosive weight of about 250 kg, manufactured by North Korea.

11. In addition, the findings of the Multinational Combined Intelligence Task Force, comprising five States including the United States, Australia, Canada and the United Kingdom, and operating since 4 May, are as follows:

- The North Korean military is in possession of a fleet of about 70 submarines, comprising approximately 20 Romeo class submarines (1,800 tons), 40 Sango class submarines (300 tons) and 10 midget submarines, including the Yeono class (70-80 tons)
- It also possesses torpedoes of various capabilities, including straight running, acoustic and wake homing torpedoes, with a net explosive weight of about 200 to 300 kg, which can deliver the same level of damage that was delivered to the Republic of Korea ship *Cheonan*.

12. Given the aforementioned findings, combined with the operational environment in the vicinity of the site of the incident, we assess that a small submarine is an underwater weapon system that operates in these operational environment conditions. We confirmed that a few small submarines and a mother ship supporting them left a North Korean naval base in the West Sea 2-3 days prior to the attack and returned to port 2-3 days after the attack.

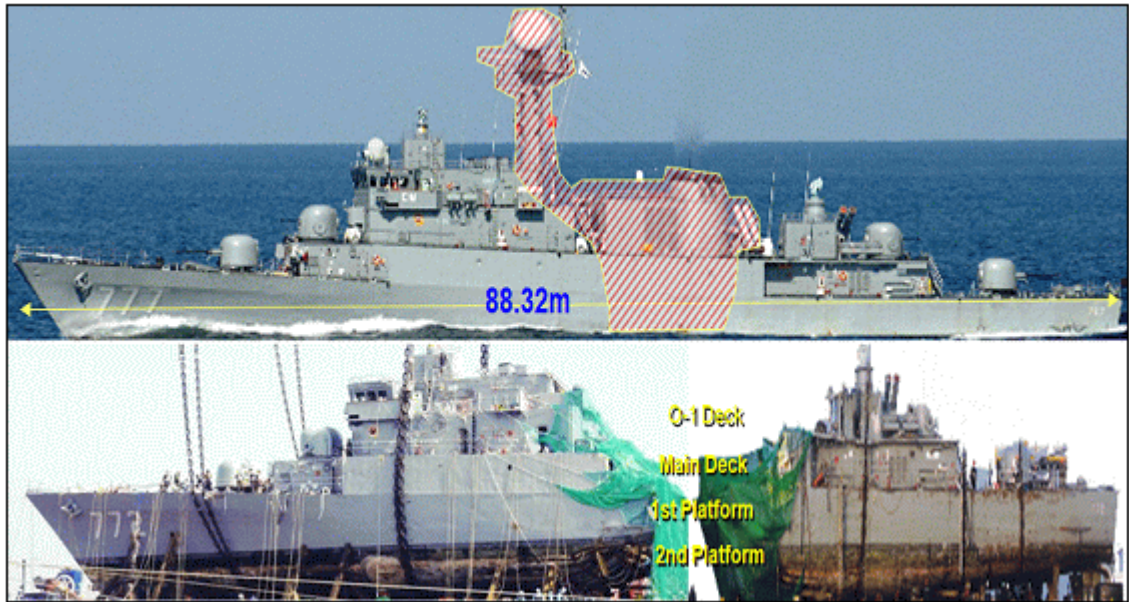
13. Furthermore, we confirmed that all submarines from neighbouring countries were either in or near their respective home bases at the time of the incident.

14. The torpedo parts recovered at the site of the explosion by a dredging ship on 15 May, which include the 5 x 5 bladed contrarotating propellers, propulsion motor and a steering section, perfectly match the schematics of the CHT-02D torpedo included in introductory brochures provided to foreign countries by North Korea for export purposes. The marking in Hangul, which reads “1번 (or No. 1)”, found inside the end of the propulsion section, is consistent with the marking of a previously obtained North Korean torpedo. Russian and Chinese torpedoes are marked in their respective languages. The CHT-02D torpedo manufactured by North Korea utilizes acoustic/wake homing and passive acoustic tracking methods. It is a heavyweight torpedo with a diameter of 21 inches, a weight of 1.7 tons and a net explosive weight of up to 250 kg.

15. Based on all such relevant facts and classified analysis, we have reached the clear conclusion that the Republic of Korea ship *Cheonan* was sunk as the result of an external underwater explosion caused by a torpedo made in North Korea. The evidence points overwhelmingly to the conclusion that the torpedo was fired by a North Korean submarine. There is no other plausible explanation.

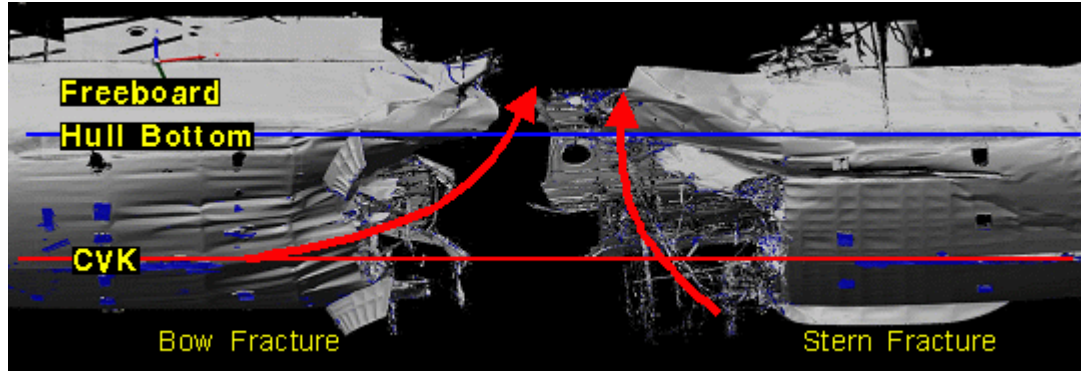
Attachment 1

***Cheonan* before sinking (above) compared with recovered hull (below)**



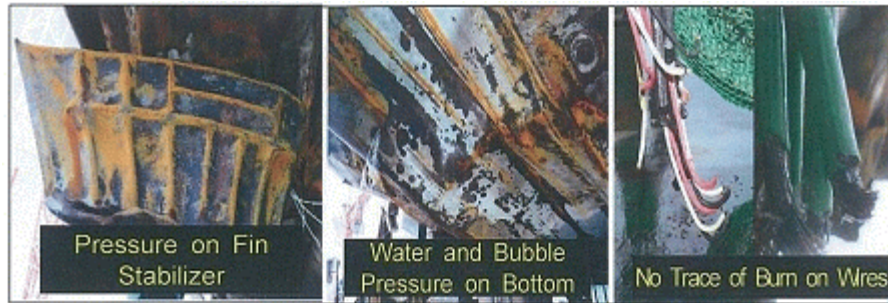
Attachment 2

Upward bending of the hull caused by a shockwave and bubble effect



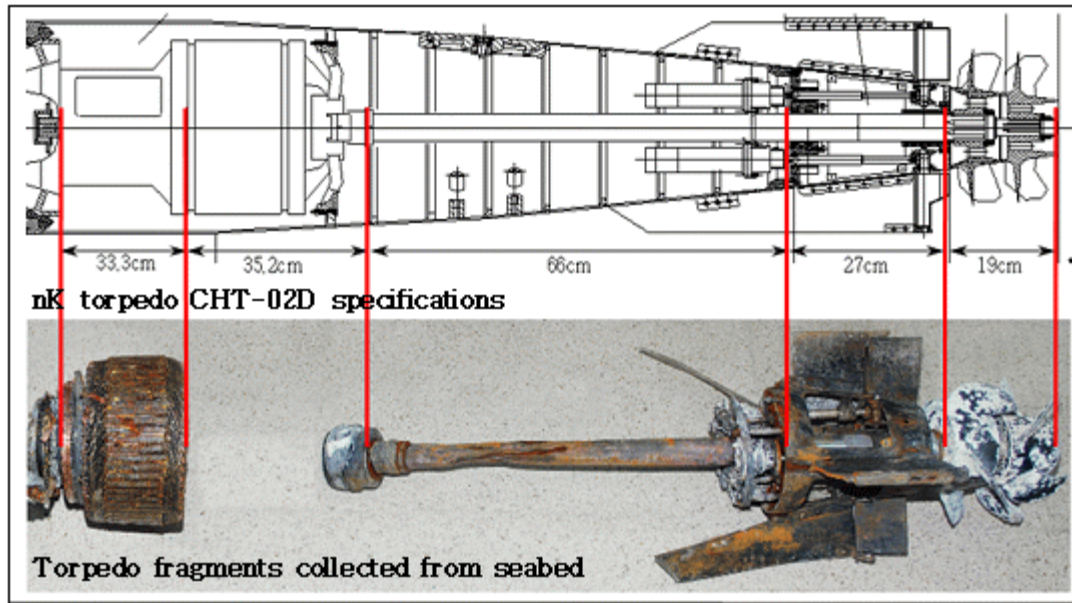
Attachment 3

Various traces of damage caused by a shockwave and bubble effect



Attachment 4

Torpedo fragments collected from seabed matching North Korean torpedo specifications



Picture of CHT-02D torpedo in the North Korean brochure for export purposes



Diameter: 21 inch (59.4 cm), length: 7.35 m, charge: 250 kg

Attachment 5

Comparison of Hangeul (Korean alphabet) marking found on North Korean torpedo fragments



Hangul marking on propulsion section of CHT-02D



Hangul marking on a previously obtained North Korean torpedo