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市　議　会　議　員　　様

企　画　調　整　部　長

原子力潜水艦「ヒューストン」の放射能漏洩事案に係る
外務省からの報告について

標記ついて、別紙のとおり外務省より報告がありましたので、お知らせいたします。

（担当は、基地対策課　　046（822）8140）

# 原子力潜水艦「ヒューストン」の放射能漏洩事案
## （米側の最終報告通報）

平成20年8月29日
外務省北米局

１．　米原子力潜水艦「ヒューストン」の放射能漏洩事案に関し、米側より、日本側の累次の申し入れを受け、本２９日午後、在京米大ズムワルト首席公使から西宮北米局長に対して、途中報告（８月７日）後も継続していた原因究明及び再発防止策等に関して説明があるとともに、現時点で日本側に提供できるすべてのものであり、更なる情報提供を行う予定はないとしつつ、最終報告（インフォメーション・シート）の通報があった。

２．　ズムワルト公使の説明及び報告の概要をとりまとめれば以下のとおり。

（１）　今回、「ヒューストン」から微量の放射能が放出された可能性があるとされた原因は、閉じられたバルブの１つからの水の染み出しであった。これは、米海軍の厳格な設計基準を上回る少量の染み出しであり、設備の状態に関する極めて詳細な記録を２００４年まで遡って検証した結果、２００６年６月から２００８年７月まで起こっていたとの結論に至ったものである。こうした例は過去５０年以上存在しなかった。

（２）　染み出た水に含まれる放射能は、微量の酸化金属（コバルト）によるものであり、その濃度は、海水中に自然に存在する放射能の濃度と同程度である。このような微量の放射能は、人間の健康、海洋生物あるいは環境に対して悪影響は及ぼさない。日本への寄港の際に放出された可能性のある放射能の総量は、一回のＸ線胸部撮影から受ける放射能の量を下回る。

（３）　米海軍は、「ヒューストン」が再出港する前に、バルブの厳格な性能基準が満たされることを確実にすべく措置を講じている。

（４）　米国政府は、原子力艦の安全に関する従来のコミットメントを厳格に遵守し続けることを再確認し、すべての原子力艦について具体的な措置及び厳格な基準によりこれを維持することを改めて確約する。

３．　政府としては、今回の報告により、我が国の平和と安定に重要な役割を果たす米原子力艦の安全性が再確認されたと考えており、引き続き、その安全性確保のため万全を期する考えである。

別添：２９日、米側から通報のあった最終報告（インフォメーション・シート）

（了）

(別添)

**Information Sheet – USS HOUSTON - Japan**

Executive Summary:

The U.S. Navy has determined that trace levels of radioactivity may have been released into the environment during USS HOUSTON visits to Yokosuka, Sasebo, and Okinawa, Japan between July 2006 and April 2008. The total amount of radioactivity that may have been released into the environment as a result of visits to Yokosuka, Sasebo, and Okinawa is 3.5 Kilobecquerels, 13 Kilobecquerels, and 6.3 Kilobecquerels, respectively for each of these ports. The trace levels of radioactivity would have no adverse effect on human health, marine life, or the environment.

To put this information in context, the amount of naturally occurring radioactivity in the seawater of a harbor is millions of times greater than the radioactivity released during these visits. Additionally, the total amount of radioactivity released into the environment as a result of all the port visits to Japan over this time period added together is less than the amount of radioactivity contained in a common household smoke detector. Hypothetically, if an individual drank the entire amount of radioactivity contained in the water that wept from the HOUSTON valve while in these Japanese ports, the radiation exposure dose to the individual would be less than that same person would receive in 10 days from natural background radiation (natural cosmic and earth sources of radiation that surround humans every day). Put a different way, the radiation exposure dose would be less than that received from a routine chest x-ray.

Extensive environmental monitoring conducted by the U.S. Navy since the 1960's has confirmed that U.S. nuclear-powered warship operations have had no discernible effect on the radioactivity in the environment. This includes monitoring conducted at Yokosuka, Sasebo, and Okinawa over the period of time that HOUSTON visited these ports between July 2006 and April 2008.

Background:

- On 17 July 2008, when USS HOUSTON (SSN 713) was in dry dock at Pearl Harbor Naval Shipyard for scheduled maintenance, about one gallon of water spilled into the dry dock when a temporarily installed mechanical fitting came loose. The water, which potentially contained trace levels of radioactivity, spilled on the leg of a HOUSTON sailor in the dry dock.

- Trained shipyard personnel quickly responded to the situation and the spill was contained on site. Using sensitive instruments, no detectible radioactive contamination was found on the sailor or in the dry dock. In accordance with standard practice, the U.S. Navy called the State of Hawaii, Department of Health to inform them of the small spill on 17 July 2008.

- During the time between 17 and 24 July 2008, Pearl Harbor Naval Shipyard performed the engineering and preparatory work necessary to perform leak checks on HOUSTON's closed valves. Additionally, they were also actively preparing HOUSTON for maintenance while in dry dock.

- On 24 July 2008 the U.S. Navy completed formal valve leak tests and identified that one of HOUSTON's shut valves was weeping water at a small rate above the Naval Nuclear Propulsion Program's stringent design specifications.

- After the valve problem was discovered in dry dock, extensive analysis by a government nuclear laboratory, Knolls Atomic Power Laboratory (KAPL), determined that there was very small weepage past this valve above its tight specification while the HOUSTON was operating. As part of normal operations, U.S. nuclear-powered warships maintain highly detailed records of plant conditions, such as temperature and pressure. Data analysis by the ship is complicated by changes in reactor plant power due to ship's operations and other factors that are normal during plant operations. Based on an extensive review of HOUSTON's detailed records, the laboratory determined that there was a very small weepage of water past this valve. From 24 through 31 July 2008 the Navy conducted an assessment to determine the extent and duration of the weepage of water.

- On 31 July 2008, KAPL and Pearl Harbor Naval Shipyard determined that the shut valve may have been weeping water at a small rate and may have released trace amounts of radioactivity into Pearl Harbor, Guam, and Sasebo during HOUSTON's most recent visits to these ports. The total amount of radioactivity potentially released into all three harbors during the most recent visits to these ports was less than 19 Kilobecquerels. The Government of Japan was notified on 31 July 2008 EDT (1 August 2008 JST). Subsequently, KAPL and Pearl Harbor Naval Shipyard continued the assessment to determine the extent and duration of the weepage of water.

- On 6 August 2008 EDT the Navy determined that the valve had been steadily leaking a small amount of water above the stringent design specification from June 2006 until HOUSTON was placed in dry dock in July 2008. HOUSTON visited Yokosuka, Sasebo, and Okinawa, Japan between July 2006 and April 2008. The Government of Japan was notified of this additional information on 6 August 2008 EDT (7 August 2008 JST).

- The Navy conclusion that the valve had been steadily leaking from June 2006 until HOUSTON was placed in dry dock in July 2008 was based on extensive analysis and supported by review of the ships highly detailed records of plant conditions dating back to 2004 when the valve was shown to meet the tight specification by testing.

- The total amount of radioactivity that may have been released into the environment as a result of visits to Yokosuka, Sasebo, and Okinawa from July

2006 to April 2008 is 3.5 Kilobecquerels, 13 Kilobecquerels, and 6.3 Kilobecquerels, respectively for each of these ports. This radioactivity was released in liquid water that wept past a shut valve into harbor water. The concentration of radioactivity in the liquid, from trace levels of oxidized metals in the water (i.e., Cobalt), was so low that it was similar to the concentration of natural radioactivity in seawater. These trace amounts of radioactivity would have no adverse effect on human health, marine life, or the environment. To put this information in context, the amount of naturally occurring radioactivity in the seawater of a harbor is millions of times greater than the radioactivity released during these visits. Additionally, the total amount of radioactivity released into the environment as a result of all the port visits to Japan over this time period added together is less than the amount of radioactivity contained in a common household smoke detector. Hypothetically, if an individual drank the entire amount of radioactivity contained in the water that wept from the HOUSTON valve while in these Japanese ports, the radiation exposure dose to the individual would be less than that same person would receive in 10 days from natural background radiation (natural cosmic and earth sources of radiation that surround humans every day). Put a different way, the radiation exposure dose would be less than that received from a routine chest x-ray.

- The calculations of the total amount of radioactivity that could have been released into each of the three Japanese ports during HOUSTON's visits since July 2006 are based on the calculated weep rate for in-port periods, the length of time HOUSTON was in each port, and HOUSTON's measured radioactivity concentration in onboard water samples. The Navy is highly confident that the calculated weep rate as well as actual plant data accurately depict the amount of radioactivity that may have been released into the environment.

- Such an extremely small weep rate is below the level of detection by normal ship systems. These systems reliably detect larger leakage from the propulsion plant in order to protect the reactor plant, the safety of the crew, the safety of the public, marine life, and the environment. Because the weep rate was so extremely small, it was indistinguishable by the crew from no leakage at all.

- Extensive environmental monitoring conducted by the U.S. Navy since the 1960's has confirmed that U.S. nuclear-powered warship operations have had no discernible effect on the radioactivity in the environment. This includes monitoring conducted at Yokosuka, Sasebo, and Okinawa over the period of time that HOUSTON visited these ports between July 2006 and April 2008. Results of this monitoring are forwarded to appropriate Government of Japan officials for review. In addition, the Government of Japan has independently conducted environmental monitoring since the 1960's.

- While weepage from the HOUSTON valve was extremely small and poses no danger to the reactor plant, the crew, the public, marine life, or the environment, the Navy takes this weepage very seriously. The cause of the potential release of

radioactivity was weepage of water past a shut valve. The Navy has successfully operated nuclear reactor plants for over 50 years and experience with these valves is such that weepage as occurred with the HOUSTON valve has not been previously observed. These valves are tested during fabrication and repeatedly throughout the life of each ship during routine maintenance periods to maintain the Navy's stringent performance standards. The Navy is taking action to ensure the stringent performance standard for the HOUSTON valve is met before returning HOUSTON to sea.

- All U.S. Navy nuclear propulsion plants are monitored continuously and maintained regularly to ensure they meet the stringent safety standards of the Navy. The Navy's periodic valve testing, rigorous performance standards, and policy and longstanding practice of immediately addressing even minute anomalies when they are discovered is effective in protecting Navy reactor plants, Navy crews, the public, marine life, and the environment.