

# JAPAN'S PLUTONIUM PROGRAM

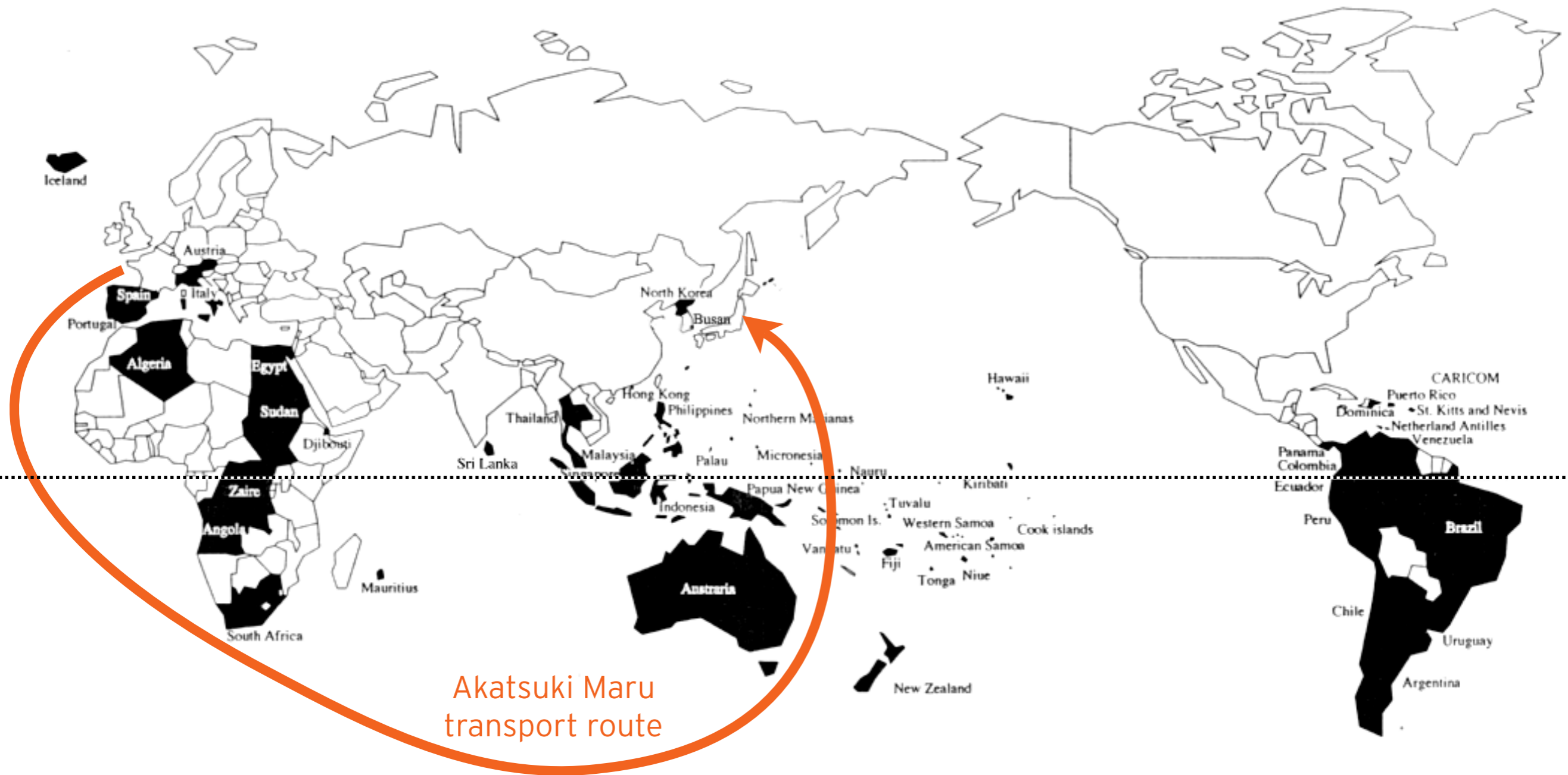


## **MOX FUEL SHIPMENT 2009:** Issues & Controversies

Presented to the Foreign Correspondents' Club of Japan by  
Aileen Mioko Smith, Executive Director of Green Action

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# 1992: International Concern\* Over Japan's Akatsuki Maru Plutonium Shipment



\* Communicated to Greenpeace International and/or in public statements on media record, as of October 27, 1992



# International Outcry Over Japanese Nuclear Shipments\*

## Caribbean Community (CARICOM)

The Heads of Government...[have] grave cause to reiterate their unwavering opposition and that of the people of the Caribbean to this blatant and persistent misuse of the Caribbean Sea for the transshipment of highly toxic nuclear material...

The Heads of Government were particularly outraged at the callous and contemptuous disregard of their appeals by the governments of France, the United Kingdom and Japan to desist from this dangerous misuse of the Caribbean Sea. They also bitterly regretted that their appeal to the United States to use its authority as the nation in control of the passage of vessels through the Panama Canal to prohibit such shipments, fell on deaf ears.

In light of these situations Heads of Government have vowed to take all necessary steps to protect their people and the fragile ecology of the Caribbean Sea from this highly dangerous threat to which they are now habitually exposed, as well as to safeguard the livelihood of the millions of people who depend on that unique resource for their well-being.

## SOUTH PACIFIC:

In 1999, South Pacific Forum protests shipments, stating "its view that shipments of radioactive materials and Mixed Oxide (MOX) fuel through the region posed a continuing concern...[and] reiterated the expectation that such shipments should be carried out in a manner which addressed all possible contingencies and the concerns of relevant countries, including coastal states of the region." Among Forum's expectations was that shipper would compensate "the region for economic losses caused to tourism, fisheries and other industries affected as a result of an accident involving a shipment of radioactive materials and MOX fuel even if there is no actual environmental damage caused."

## SOUTH AMERICA:

Argentina, Brazil and Chile ordered ship to remain outside coastal waters. Chile used gunboat in 1995 to force ship carrying Japanese VHWR to leave its 200-mile exclusive economic zone (EEZ). In 2002 Chile passed national legislation prohibiting Japanese nuclear transports from entering its EEZ.

## PANAMA CANAL:

The right of the canal-operator to prohibit transit of ultra-hazardous cargo is illustrated by refusal of United States (when it controlled Canal) to allow shipments of weapons-usable plutonium fuel to use Panama Canal. (See: "International Law Permits Panama to Prohibit Shipments of Ultrahazardous Radioactive Materials Through the Panama Canal" Van Dyke and Greenberg, NCI Counsel, January 14, 2000.

Japan has yet to grant any of these requests by nations.

\* Plutonium, MOX fuel, and high-level vitrified waste (VHWR) from France and UK to Japan

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# Statement by Congressman Eni F. H. Faleomavaega, March 18, 2009



## NEWS RELEASE

CONGRESSMAN

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FOR IMMEDIATE RELEASE

Date: March 20, 2009

Washington, D.C. -- **FALEOMAVAEGA STRONGLY OPPOSES SHIPMENT OF MOX NUCLEAR FUEL IN THE SOUTH PACIFIC**

Congressman Faleomavaega announced today that he strongly opposes the shipment of plutonium mixed-oxide (MOX) nuclear fuel in the South Pacific. In a statement he made on March 18, 2009 on the House Floor, Faleomavaega expressed his strong objection to the shipment of MOX nuclear fuel that left the port of Cherbourg France on March 6, 2009 bound for Japan. The shipment of 1.8 tonnes of MOX nuclear fuel, enough to produce 225 nuclear weapons, was scheduled to travel via the Cape of Good Hope, the Southern Ocean, the Tasman Sea between Australia and New Zealand and the south-west Pacific Ocean.

The latest shipment is part of an ongoing process involving several major countries with nuclear programs that are committed to utilizing recycled nuclear fuel. Using a procedure known as "reprocessing", plutonium and uranium are chemically extracted from highly radioactive products contained in spent fuel from commercial reactors. Most of the extracted plutonium along with the nuclear waste will eventually be returned to the country that provided the spent fuel. Since 1999, several major countries in Europe have been transporting MOX energy fuel to complement shipments of spent fuel from commercial reactors in Japan.

"The unnecessary and unjustifiable transshipment of nuclear waste and nuclear materials demonstrate once again the imperialistic behavior of these major countries often at the expense of others. At this critical point in history when the global community is confronted with tough decisions concerning energy resources for future generations, it is important to remind ourselves of the lessons of the past," said Faleomavaega.

"In 1995, I accompanied Mr. Oscar Temaru, the current President of French Polynesia, on the Green Peace Warrior which took us to Moruroa to protest French nuclear testing. At the time, while the world turned a blind eye, the newly elected

### Regarding 2009 MOX fuel shipment

*March 18, 2009: Statement opposing MOX fuel shipment made on floor of U.S. House of Representatives by congressman Eni F. H. Faleomavaega of Territory of American Samoa.*

Faleomavaega is a member of the House of Representatives, U.S. Congress since 1989, representing the territory of American Samoa. Member, House Committee on Foreign Affairs and the House Committee on Natural Resources.

The House Committee on Foreign Affairs has Congressional oversight responsibilities over, among other things: Export controls, including nonproliferation of nuclear technology and nuclear hardware; International commodity agreements including all agreements for cooperation in the export of nuclear technology and nuclear hardware.

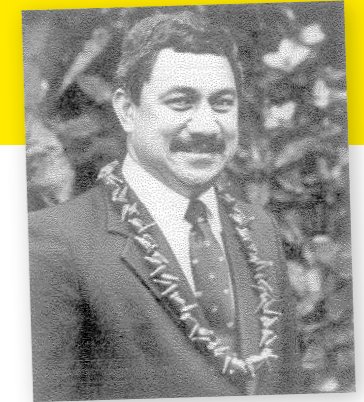
Faleomavaega is Chairman of the Foreign Affairs' Subcommittee on Asia, the Pacific, and the Global Environment. The subcommittee has broad oversight and jurisdiction over U.S. foreign policies affecting various countries including Pacific island states and Japan. The subcommittee also has jurisdiction over issues relating to the global environment, international fisheries agreements, and the law of the sea.

Faleomavaega served as a crew member of the famous Hawaiian-Polynesian canoe named Hokule'a which sailed from Tahiti to Hawaii in 1987.

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# Statement by Congressman Eni F. H. Faleomavaega, March 18, 2009



## STATEMENT OF THE HONORABLE ENI F.H. FALEOMAVAEGA IN A SPECIAL ORDER STATEMENT: TO CONDEMN SHIPMENT OF NUCLEAR WASTES AND MATERIALS ACROSS THE SOUTH PACIFIC

### Mr. Speaker:

On March 6, 2009, two ships named the Pacific Pintail and Pacific Heron, left the port of Cherbourg in France bound for Japan. The total cargo onboard the purpose-built ships amount to about 1.8 tonnes (1800 kilograms) of plutonium mixed-oxide (MOX) nuclear fuel....

...As usual, plans for this latest shipment, the largest so far, were covered in shrouds of secrecy without prior consultation or notification of en-route states. Yet, any accident involving the ships or their cargo could have catastrophic consequences on the environment and the population of en-route states. Moreover, with the increasing threat of piracy, the transported plutonium MOX fuel could easily fall in the hands of terrorists.

This unnecessary and unjustifiable shipment provides another example of the unacceptable risks and adverse impact the use of nuclear power and nuclear materials have on the environment and the lives of those involved. It demonstrates once again the imperialistic behavior of some major countries at the expense of others.

...History shows that for some 30 years, the French Government detonated approximately 218 nuclear devices at Moruroa and Fangataufa atolls in Tahiti. About 10,000 Tahitians are believed to have been severely exposed to nuclear radiation during French nuclear testing.

Our own U.S. government also contributed to this grim history of nuclear testing in the South Pacific.... It has been said that if one were to calculate the net yield of the tests conducted in the Marshall Islands, it would be equivalent to the detonation of 1.7 Hiroshima nuclear bombs every day for 12 years.

Such was the magnitude of the devastation that threatened the Marshall Islands....

Mr. Speaker, at this critical point in our history when the global community is confronted with tough decisions concerning energy resources for future generations, it is important to remind ourselves of the lessons of the past....

...one may infer that President Obama's decision to terminate funding to the Yucca Mountain project underlines the high risks and danger involve with the storage and transportation of nuclear wastes and nuclear materials.

Mr. Speaker, I believe a similar framework should apply to the international treatment of nuclear waste and nuclear materials. Each nation should be responsible for its own interim waste storage and avoid shipments of nuclear waste and nuclear materials across oceans and territorial waters of other nations.

I support a moratorium on all international shipments of nuclear fuel and nuclear waste until the international community has in place an agreement to ensure the protection of our oceans and the environment, economy and population of coastal and small island states. Such an agreement should include prior notification and consultation of en-route states before shipment of all hazardous and radioactive materials, environmental impact assessments, a satisfactory liability mechanism and protection from terrorism attacks.

Until such system is in place, Europe, Japan and all nuclear states, should keep their nuclear materials and waste in their own backyard, and not endanger the lives of others.

– Eni F.H. Faleomavaega



# Are these ships safe?



## **Pacific Pintail** (built 1987)

Still operating despite having been built to the same design and construction standards as predecessor vessels decommissioned or scrapped following discovery of “run away” corrosion.

Photo: CORE, UK

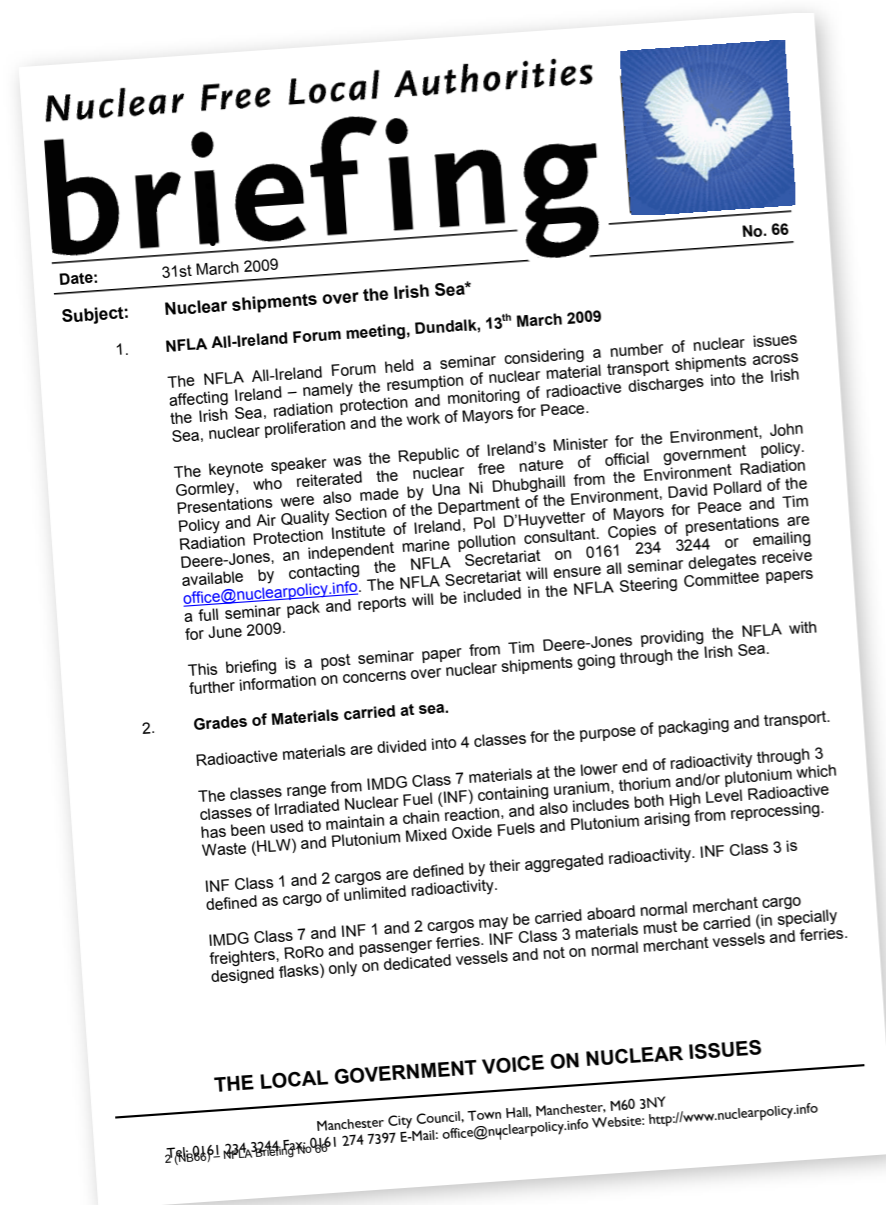


## **Pacific Heron** (built 2008)

Only small modifications from original design of earlier ships. Available details of these modifications do not describe measures to prevent “run away” corrosion.

Photo: Greenpeace

# Are these ships safe?



## PNTL Ships:

### Design Flaws Increase Risk of Accidents

Findings of a report\* issued April 2009 and commissioned by a coalition of more than 70 local authorities in the UK.

## Pacific Pintail and Pacific Heron:

- Vulnerable to build-up of gas or moisture in their double-skinned hulls, "run away corrosion."
- 40% only single-skinned hull
- Claims ships are unsinkable "lack scientific and technical credibility."
- Emergency plans for coping with accidents non-existent.

\*Report by independent marine pollution consultant, Tim Deere-Jones. (April 2009)

# Japan ignores international calls for shipment\* safety.

## **FULL ENVIRONMENTAL IMPACT ASSESSMENT:**

Despite repeated requests from en route country governments, the Japanese government refuses to conduct international environmental impact assessments of plutonium/MOX fuel shipments as required under customary international law and the U.N. Convention on the Law of the Sea (articles 204, 205, 206).

## **PRIOR NOTIFICATION:**

No prior notification to en route countries of intended route and contingent routes, and expected dates of passage.

## **EMERGENCY CONTINGENCY PLANS:**

No emergency contingency plans including plans to salvage cargo. No consultation with the maritime authorities of en route States to develop and facilitate such plans.

## **ASSURANCE OF NO EEZ TRANSIT:**

Lack of assurance and/or secured agreement that ships will not transit the EEZ of coastal states. (During the 1992 plutonium shipment, the Japanese government promised to keep the shipment more than 200 miles away from other nations' coasts. Those promises were not honored. The 1992 transport, as well as nuclear shipments since then, have sailed inside EEZ waters of a number of countries.)

## **LIABILITY AND COMPENSATION REGIME:**

No liability and compensation regime negotiated with en route countries that includes a fund for providing compensation, and recognizes the need to provide compensation for all types of damages, including those that may result from incidents involving the shipping of radioactive cargoes even if no measurable release of radioactivity occurs.

## **SUITABLE SECURITY MEASURES:**

The IAEA categorizes non-irradiated MOX fuel as direct use nuclear weapons material: the IAEA does not differentiate between separated plutonium and MOX (mixed plutonium and uranium oxide) fuel as far as safeguards are concerned. (See: <http://www.iaea.org/Publications/Documents/Infcircs/1998/infirc549.pdf>)

MOX fuel shipments lack dedicated purpose built armed escort as there was for Akatsuki maru plutonium shipment in 1992. (The US approves the transport plan for MOX fuel shipments.)

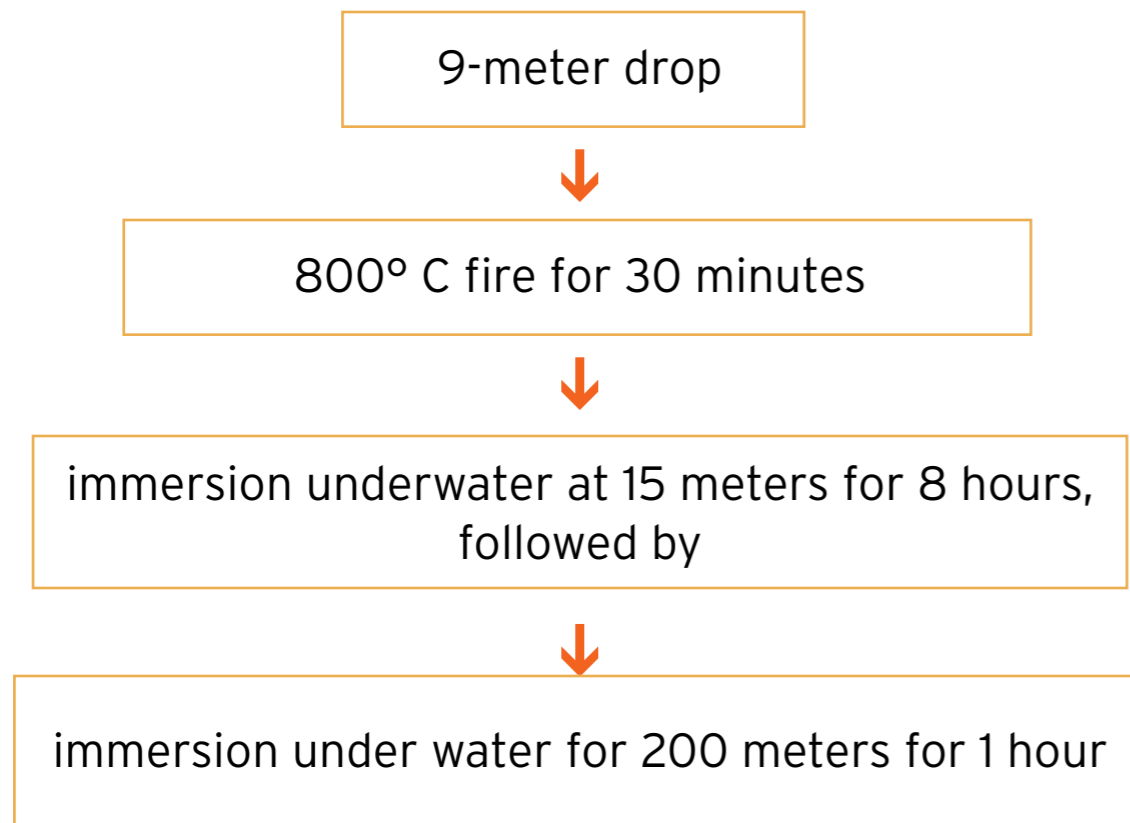
\* Plutonium, MOX fuel, and high-level vitrified waste (VHLW) from France and UK to Japan

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# IAEA's Regulations for Sea Transport of Radioactive Material inadequate.

**According to Japanese regulations Concerning Sea Transport and Storage of Hazardous Materials, Clause 81, MOX shipments' transport casks are required to be able to withstand the following in sequence:**



(Ocean depth along most of the shipping route is over 2000 meters.)

The Japanese government's standards are based on the IAEA's regulations. The IAEA regulations were originally developed for land transports which did not envisage long-distance sea transport.

Sea transports may be subject to more severe accident conditions, including more energetic collisions, long-duration, high-temperature fires and long-term immersion or immersion at greater depths.

The hazard of shipping radioactive material by sea is very real. In 1997, a ship, the MSC Carla, carrying highly radioactive cesium was split in two in a storm in the Atlantic Ocean. The radioactive cargo sank 3,000 meters to the bottom of the ocean. French regulatory authorities acknowledged the containers would rupture but said they would not salvage them.

# Japanese government, ignoring Diet members, approves 2009 MOX fuel shipment.

**Twenty Diet members issue joint statement** to Ministry of Land, Infrastructure, Transport and Tourism (MLIT) on eve of MOX fuel departure from France, February 26, 2009.

“...it cannot be claimed that the safety of the MOX fuel shipment has been assured. Doubts concerning safety are undoubtedly shared not only by those in Japan but also by citizens of the nations along the shipment route. No shipment not which has not fulfilled Japan's legal testing requirements should take place.

“It is a prerequisite before shipment begins that assurances can be given that Japanese laws and regulations have been adhered to. The MOX fuel shipment must not be approved until these questions have been clarified.”

原口 一博 重野安正 衆議院議員 日森文尋 前原誠司  
大島 光男 福島みずほ 参議院 岡上真雄 松野信夫  
大串博志 又市征治 伊藤 展人 参議院議員 山内徳信 衆議院議員 阿部知子

**Hours after the release of this statement, MLIT approved the MOX fuel transport.**



# Is no one responsible for MOX fuel shipment safety?

**Section Chief Masato Mori**, the official responsible for the transport cask safety at MLIT stated on On February 13, 2009:\*

“The Japanese Ministry of Transport, Land, and Infrastructure is not the party which is fully in charge of this transport... The primary party responsible is the [Japanese] electric utilities. We’ve told them time and time again that they should put more effort into the safety of sea transports, just like they put into the safety of their nuclear power plants.”

MLIT concluded that the effort by Japanese electric utilities is not sufficient, yet approved the MOX fuel transport on February 26th.

# A Failed Program: Plutonium Shipped But Not Used

Over the last 25 years, over 2.5 tons of plutonium has been shipped from Europe to Japan. Most of the plutonium has never been consumed. It remains stored in Japan or has been returned to Europe.

Date	Ship/Shipment	Contents	Consumed
Oct-Nov 1984	Seishinmaru (plutonium oxide)	<b>253 kg</b> plutonium	<b>30 kg</b> (in Monju fast breeder reactor prototype) <b>88% UNUSED</b>
Nov 1992- Jan 1993	Akatsuki Maru (plutonium oxide)	<b>1,509 kg</b> plutonium	<b>0 kg</b> <b>100% UNUSED</b>
Jul-Oct 1999	Pacific Teal and Pacific Pintail (MOX fuel)	<b>555 kg</b> (approx.) plutonium	<b>0 kg</b> (approx. 335 kg returned to Europe) <b>100% UNUSED</b>
Jan-Mar 2001	Pacific Teal and Pacific Pintail (MOX fuel)	<b>195 kg</b> (approx.) plutonium	<b>0 kg</b> <b>100% UNUSED</b>
Total Shipped: <b>2512 kg</b>			Total Consumed <b>30 kg</b>



# Japan's Plutonium Program: Half a Century of Failure

## Fast Breeder Reactor Commercialization Program:

Commercialization of fast breeder reactor delayed 8 times.

**DELAYED 80 YEARS**

- Originally, commercialization of FBR: "by around 1970."
- Today, commercialization is to be achieved "by around 2050."
- No date set for restart of prototype fast breeder reactor Monju (as of May 2009)

## Rokkasho Reprocessing Plant Operation:

Will it ever operate?

**DELAYED 18 TIMES**

- Originally, Rokkasho was to start full time commercial operations in 1997.
- Completion of construction now set for November 2009.
- The Rokkasho reprocessing plant currently facing serious problems with its high-level waste vitrification process.

## Plutermal (MOX fuel utilization) Program:

Delayed from 1999 start-up date due to quality control data scandal, citizen referendum, nuclear inspection data falsification, and nuclear accident.

**DELAYED 1 DECADE**

**Total electricity produced in program's 50 years:**

102,325 MWh\*

\*Monju in 1995

# May 10, 2009: Anti-MOX Meeting in Shizuoka Prefecture



Chubu Electric's Hamaoka Unit 4 slated to use MOX fuel in Shizuoka Prefecture is currently facing technical problems.



# May 10, 2009: MOX Protest in Saga Prefecture



Photo: May 10th Saga Stop Plutermal! Hitomoji Festa

“May 10th Saga Stop Plutermal! Hitomoji Festa” organized by citizen/food co-op/  
consumer/peace groups.

**NEXT GOAL:** Citizens aim to gather 400,000 signatures in Saga by end of  
September 2009 opposing use of MOX fuel.

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