

Nuclear Subs

meltdown, and a massive release of radioactivity.

This radioactivity would inevitably rise to the surface and drift with the current till it eventually entered the food chain and resulted in widespread contamination. If such an accident were to happen in the Irish Sea, the entire body of water and the shoreline on both coasts would be contaminated for generations to come.

Dr. Jackson Davis, a professor at the University of California, has done an analysis of a theoretical meltdown in a submarine's nuclear reactor in the San Francisco Bay area.

He found that, even by conservative estimates, there would be thousands of casualties within the first year, and significant casualties every year following that for decades.

For an evacuation to be in any way effective, he found that it would have to be completed within one to two hours. This would be virtually impossible. The cost of decontaminating the surrounding land is unknown. However a US government report in 1986 indicated that in a worst-case situation, the cost could rise to 150 billion dollars, approximately one sixth of the annual US federal budget.

No one knows the exact number of accidents which have taken place involving nuclear submarines since the first nuclear powered vessel was launched in the mid 1950s. But we do know that they have run aground, sunk, suffered fires, floods, breakdowns and had regular collisions with other vessels; and there has been at least one reactor meltdown, five nuclear reactors abandoned on the seafloor and over 20 nuclear missiles lost in the oceans.

As mentioned in our last issue, EARTHWATCH is joining forces with Greenpeace and CND in a campaign to highlight underwater nuclear activities. EARTHWATCH is currently circulating a questionnaire to sea users in an attempt to catalogue sightings and determine the extent of submarine activity in the Irish Sea. The information gathered from this questionnaire will be used to build a case for the elimination of unnecessary submarine activity in fishing areas and shipping lanes.

Legislation is currently before the Dail to extend our territorial sea limit to 12 miles. EARTHWATCH supports this bill as it will enlarge the area of jurisdiction thus enabling us to better protect our coastline and natural resources. However, EARTHWATCH also feels that this legislation should be taken one step further. Irish territorial waters should be declared a nuclear free zone, free from both nuclear weapons and reactors.

Accidents so far

1960: Radiation leak in Soviet sub off the Kola Peninsula.

1963: USS Thresher, on sea trials off the New England coast went down and imploded, losing all 129 hands, after its reactor shut down. Tests have shown the presence of cobalt-60 at the site. Part of the wreckage was recovered in a covert operation disguised as a scientific expedition.

1967: A core meltdown and 'major radiation leak' aboard the Soviet icebreaker Lenin is believed to have killed up to 30 people, and rendered the ship too radioactive to use for over three years.

1968: USS Scorpion, nuclear powered attack submarine, sank in the Atlantic after a torpedo exploded. All hands were lost. Again, cobalt-60 traces at site.

1970: Soviet nuclear powered November class sub sank 350 miles south of Ireland at the edge of the continental shelf. The cause is believed to have been an explosion in a propulsion reactor. The vessel was scuttled after the crew refused to abandon ship; some crew members were lost, the remainder being rescued by a surface support vessel. A complete nuclear reactor, with a radioactivity inventory of around one billion curies (twenty times greater than the amount released at Chernobyl) also went down. A 'Dons' class surface vessel kept watch at the site until 1980. The results of this surveillance are not known.

1983, Summer: Soviet nuclear-powered submarine sank in the North Pacific. Ninety crew members killed.

1983 September: 100 miles southeast of Rosslare the 16-missile, nuclear powered USS Sam Rayburn, collided with illegally dumped nuclear waste barrels. The

collision sent shockwaves through the sea and it began to leak nuclear radiation.

1984 July: The USS Nataniel Greene loses a propeller off the Wexford coast and goes out of control. The sub shut off engines and surfaced. It was then joined by two auxiliary vessels which towed the sub to its Holy Loch base. The sub was fully armed with Poseidon missiles.

1986: An explosion ripped through a SS-N-6 submarine-launched ballistic missile aboard a Soviet 'Yankee' class submarine, while it was in the Atlantic Ocean approximately 2,000 km southeast of New York. At least three Soviet crewmen died from the blast. Three days later, seawater flooded the damaged hull while it was under tow and the submarine sank to the bottom of the Atlantic.

A single one megaton nuclear warhead - or possibly two one hundred kiloton warheads - were ejected from the missile tube by the force of the explosion. At least 15 more nuclear weapons went down with the submarine, each containing several kilograms of plutonium. The impact of the hull striking the ocean floor - at an estimated velocity of 200 kilometers per hour - combined with the deep ocean pressure and the force of the original explosion, almost certainly damaged both the reactor's containment structure and the missile warheads.

1988 January: Reactor coolant accident aboard the British Polaris submarine Resolution while docked at Faslane, on the Clyde. Reactor came within seven minutes of a meltdown situation. Incident kept secret by the authorities until exposed by the Observer newspaper.

These incidents are only some of scores, possibly hundreds of environmental disasters caused by the five nuclear navies. Because the navies evade public scrutiny, little or nothing is known about most of these calamities.

WHAT YOU CAN DO:

-Write to your TD and local authority representative and let them know how you feel about this issue.

-Object to the presence of visiting warships in Irish ports especially those that are nuclear propelled.

-Support CND in their campaign for nuclear free ports.

-Fill in the EARTHWATCH questionnaire on sub sightings if you have ever experienced any such incident (questionnaires available from EARTHWATCH office).

-Support the EARTHWATCH campaign for nuclear-free Irish seas by sending a

donation. Every campaign costs money and every little bit helps.

The growing presence of submarines in our coastal waters not only puts the lives of Irish people at risk from accidents and collisions at sea but presents us with possibility of a major nuclear catastrophe off our coast. Such an accident would result in the long term contamination of the sea. The seas belong to us all. We must work together to make them safe.

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