Storage Under the Sea

Scientist proposes storage of valuable and hazardous materials beneath ocean floor

November 18, 1994 COLLEGE STATION, TX -- A key element of international security to deter terrorists seizing valuable or hazardous materials can be found in a most unusual place. A British scientist working in the U.S. has developed a proposal to store materials, such as plutonium, beneath the ocean floor and far from the reaches of dangerous international criminals. T.J.G. Francis, a marine geophysicist working for the Ocean Drilling Program at Texas A&M University, proposes using cased drill holes in the ocean floor allowing for recovery, examination and re-emplacement of stored materials. In an article published in the latest issue of "Marine Technology Society Journal", Dr. Francis states the combination of great water depth and scale of technology required to reach stored material would create a barrier to undesirable interference and allow a coastal state, in whose Exclusive Economic Zone (EEZ) the repository is situated, full control over operations at the hole site. "Warfare is being waged by politically-motivated guerrillas against the most advanced and wealthy countries," says Dr. Francis. "Drill holes in the ocean floor would be much less vulnerable to terrorist attacks than terrestrial storage facilities. "An international for the storage and safeguarding of the world's plutonium stocks has recently been advocated in a report by the U.S. National Academy of Sciences. "Drill holes in the international area of the ocean floor might be the most secure place for controlled storage of this hazardous material," he says. "From our experiences with the Ocean Drilling Program, a hole drilled into the ocean floor will remain stable for several years," explains Dr. Francis. "We have had successful experience with holes that have been re-entered multiple times and discovered minimal corrosion of the steel casing lining the hole."An example of this is a hole drilled in 1979 and re-entered a total of 81 times. It has been deepened to 2,111 meters below the sea floor, making it both the deepest hole in the ocean floor and the deepest penetration yet achieved in oceanic crust. The Ocean Drilling Program (ODP) is an

internationally-funded research program that operates the scientific drillship JOIDES Resolution conducting research into the history of the ocean basins and the overall nature of the crust beneath the ocean floor. Dr. Francis is Professor of Oceanography and Geophysics at Texas A&M University and serves as the Deputy Director for ODP. He has worked as a marine geophysicist for more than 30 years and served four years in the Royal Navy.