

UNIVERSITY OF HAWAII AT MĀNOA

Environmental Health and Safety Office

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DNMS

August 16, 2006

U.S. Nuclear Regulatory Commission
Region IV
Nuclear Material Inspection Branch
ATTN: Vivian Campbell
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-4005

License: 53-00017-23
Docket: 030-07517

Dear Ms. Campbell,

The University of Hawaii would like to report the loss of licensed material as required by 10 CFR 20.2201 a (ii) and b. A telephone report was given to the NRC Operations Center on August 15, 2006 at 16:56 EDT.

The licensed material lost was 1.8 mCi of ^{14}C labeled sodium bicarbonate solution on July 13, 2006 at approximately 7:20 p.m. at $22^{\circ} 43.48\text{N}$, $158^{\circ} 4.77\text{W}$ in 4800 meters of water. The ship was approximately 60 miles from the north coast of the island of Oahu.

The researcher deploys a drifting array to make measurements of the rates of sunlight-supported carbon fixation using ^{14}C -labeled sodium bicarbonate (NaHCO_3) as a tracer. Water samples from the surface to a depth of approximately 150 meters are collected and returned to the position where they were originally collected to accurately reproduce environmental conditions of light, temperature and hydrostatic pressure. The bottles are attached to the surface by synthetic line and a series of floats connected to a spar buoy. The position of the buoy is tracked during the incubation by radio and satellite transmitter and a strobe light. Following a 12-hour incubation period, the array is recovered and the samples, contained in polycarbonate bottles, are processed.

The loss happened on recovery of the array, when the float line came underneath the ship and got stuck between the rudder post and propeller. While attempting to free it, the line was severed between the surface floats and the array weight, lines and samples. The weight and samples sank to the bottom (4800 m) and were lost. Due to the depth of the water at which the sources was lost, there was no attempt to retrieve the lost samples.

There was no exposure to any individuals involved with this incident.

This is the first loss of the array since the researcher's monthly time-series program began in October 1988. This loss was entirely accidental and little can be done to improve the design of the experiment.

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If you need additional information regarding this matter, please call me at 808-956-6475 or email me at isakimot@hawaii.edu.

Sincerely,

A handwritten signature in cursive script that reads "Irene Sakimoto".

Irene Sakimoto
Radiation Safety Officer