

August 12, 2013

Current Situation at Fukushima Daiichi Power Plant

Recent media attention has been given to the Fukushima Daiichi Power Plant, as there are indications that radioactive material is leaking from the reactor buildings into surrounding areas. Tokyo Electric Power Company (TEPCO) has reported that part of the groundwater that flows from the mountain side to the sea side within the power station site is currently flowing into the reactor buildings, thus increasing the amount of contaminated water. To cope with this, TEPCO is working on a “groundwater bypass” system designed to reduce the amount of water flowing into the reactor buildings. While of concern to individuals in the Fukushima area, it poses no significant health threat to the Hawaiian Islands at this time.

The Hawaii Department of Health (HDOH) continues to monitor the results of the water quality surveys performed by TEPCO, and does not anticipate any public health effect on beachgoers or seafood safety around the Hawaiian Islands, due to the following factors:

- **Water acts as a diluent.** While there may be significant quantities of radioactive material released into the sea near the Fukushima reactor site, the massive amount of water in the Pacific Ocean would rapidly dilute and disperse the materials to negligible levels.
- **Some radioactive isotopes rapidly decay.** For example, the half life of Iodine-131 (I-131) is about eight days. This means that the activity level of the I-131 isotope drops by half every eight days. Given the length of time since the event, the short-lived radionuclides would have decayed to near background levels and therefore pose no health hazard. Although Cesium isotopes have longer half-lives (Cs-134 has a half-life of about two years, Cs-137 a longer half-life of about 30 years), the radionuclides also undergo biological excretion and do not continue to build up in fish forever.

Shoreline Surveys for Radiation and Japan Tsunami Marine Debris (JTMD)

In addition to closely monitoring the situation in Japan, the HDOH continues to perform shoreline surveillance on Oahu, Kauai, Maui and the Big Island. Shoreline surveillance is normally performed on a quarterly basis; however, the frequency was increased to monthly during a short period when the HDOH saw a boost in the arrival of JTMD. Results of the most recent surveys performed from January – June 2013 were consistent with normal background levels. Normal background radiation levels near the shoreline range from 1 to 5 microRoentgens per hour.



HDOH Staff Performing Shoreline Radiation Surveillance

There is consensus among Federal and State scientists that radioactive debris is very unlikely, for several reasons:

- The tsunami created debris from a large stretch of Japan's coast, but the leak from the damaged Fukushima reactor occurred in one place. Most of the debris was many miles away from the reactor, so it had no contact with the radioactive leak.
- The leak of contaminated water from the reactor started days to weeks after the tsunami debris had washed out to sea. By the time the radioactive water leak developed, the debris was already in the ocean, miles away from the reactor.
- Ships, boats, and cargo coming into the United States from Japan were monitored for radiation, and readings were below the level of concern.

Even though the likelihood of finding radioactive debris is low, HDOH partners with the Hawaii Department of Land and Natural Resources (DLNR) and the National Oceanic and Atmospheric Administration (NOAA) to perform surveys on any large debris items or suspect material. All readings thus far have been within normal background radiation levels. Additionally, NOAA performs shoreline and debris monitoring on the Northwestern Hawaiian Islands (NWHI) with detection equipment provided by HDOH. In April 2013, surveys were performed on Midway Atoll. Scientists monitored marine debris for radiation out of an abundance of caution and to gather more data from the NWHI. No radiation levels above background were detected.



Japanese Fishing Vessel (potential JTMD) Retrieved in the Malaekahana area, Oahu – July 2013

For more information, please refer to the website for National Oceanic and Atmospheric Administration (NOAA):

<http://marinedebris.noaa.gov/info/japanfaq.html>

Seafood and Food Safety

HDOH has been conferring with the U.S. Environmental Protection Agency (EPA), U.S. Food and Drug Administration (FDA) and NOAA on seafood safety. FDA and NOAA do not anticipate contamination of living marine resources in U.S. waters at this time. For this reason, sampling of U.S. harvested seafood is not currently planned. For more information, please see the joint FDA, EPA and NOAA release at the following site:

http://www.nmfs.noaa.gov/mediacenter/docs/2011/may/seafoodsafetyfactsheet_03may2011.pdf

With regard to imported food, the FDA and the U.S. Customs and Border Protection (CBP) are screening food products imported from Japan. Fish harvested in Japan undergo the same screening for radiation when they arrive in the United States as other food products from Japan. Whole shipping containers are screened by CBP, and FDA staff conducts field examinations utilizing hand-held radiation detection equipment. If the detectors indicate radiation above background levels, FDA samples and tests the shipment to determine the amount of radiation. More information can be found at FDA's website:

<http://www.fda.gov/NewsEvents/PublicHealthFocus/ucm247403.htm>

Samples from Local Milk, Precipitation, and Drinking Water

Milk, precipitation, and drinking water samples continue to be collected following routine sampling protocols. Milk and drinking water samples are collected on a quarterly basis. Precipitation samples are collected monthly, or as rain capture permits. Samples are sent to the EPA laboratory for analysis. Analysis of the data for 2013 continues to show typical fluctuations associated with background radiation. Detailed data and searches can be found at the following EPA website: http://iaspub.epa.gov/enviro/erams_query_v2.simple_query

Radiation Air Monitors Show Normal Background Radiation Levels

Two stationary monitors in Honolulu and Hilo continue to measure radiation levels throughout the state. Recent analysis continues to show typical fluctuations associated with background radiation. HDOH continues to work with other Federal, State and County partners to monitor the situation in Japan. The department is prepared to accelerate radiation sampling if the need arises. Near real-time air monitoring data can be found at EPA's website: <http://epa.gov/radnet/radnet-data/radnet-honolulu-bg.html>