

**California Department of Public Health
Radiation Monitoring Report
3rd Quarter 2011**

Air: In response to the Japanese nuclear incident, the California Department of Public Health (CDPH) increased its routine air monitoring for six weeks beginning in mid-March 2011. Prior to the resumption of routine monitoring at the end of the April, only trace amounts of radiation attributed to the nuclear emergency had been detected. Since the April 26, 2011 Radiation Monitoring Report, no radiation attributed to Japan has been detected.

CDPH has air sampling stations in nine locations in California. Samples from these stations are analyzed for radioactive elements including Barium-140, Cerium-141, Cerium-144, Cesium-134, Cesium-137, Iodine-131, Iodine-132, Ruthenium-103, Ruthenium-106, Tellurium-132 and Zirconium-95. From mid-June to early September 2011, air samples collected from Eureka, Humboldt Bay, Richmond, Livermore, Avila Beach, San Luis Obispo, Los Angeles, San Clemente and San Diego did not detect Iodine-131 or other radioactive elements listed above.

Milk: Trace amounts of radioactive elements (Cesium-134 and Cesium-137) have been detected in milk sampled from the San Luis Obispo area during routine monitoring.

Sample Station	Date Collected	Results (picoCuries per Liter)	Estimated Radiation Dose per Month (millirem)	Age Group (years old)	Results (picoCuries per Liter)	Estimated Radiation Dose per Month (millirem)	Age Group (years old)
CalPoly Dairy Farm	6/14/2011	2.37 Cesium-134	0.0041	3 mos.	2.95 Cesium-137	0.0041	3 mos.
			0.0022	1		0.0020	1
			0.0016	5		0.0015	5
			0.0019	10		0.0017	10
			0.0025	15		0.0022	15
			0.0015	>17		0.0013	>17
	7/19/2011	3.59 Cesium-134	0.0062	3 mos.	4.38 Cesium-137	0.0061	3 mos.
			0.0033	1		0.0030	1
			0.0024	5		0.0022	5
			0.0029	10		0.0026	10
			0.0038	15		0.0032	15
			0.0023	>17		0.0019	>17
	8/22/2011	3.94 Cesium-134	0.0068	3 mos.	5.09 Cesium-137	0.0071	3 mos.
			0.0036	1		0.0035	1
			0.0027	5		0.0027	5
			0.0032	10		0.0030	10
			0.0042	15		0.0037	15
			0.0025	>17		0.0022	>17

CalPoly Dairy Farm	9/06/2011	4.04 Cesium-134	0.0070	3 mos.	5.91 Cesium-137	0.0082	3 mos.
			0.0037	1		0.0041	1
			0.0028	5		0.0030	5
			0.0033	10		0.0035	10
			0.0043	15		0.0043	15
			0.0026	>17		0.0026	>17
Humboldt Creamery	5/9/2011	No Detection	N/A		No Detection	N/A	
	8/3/2011	No Detection	N/A		No Detection	N/A	
Rumiano Cheese	5/3/2011	No Detection	N/A		No Detection	N/A	
	8/2/2011	No Detection	N/A		No Detection	N/A	

Notes: CDPH has milk sampling stations in 3 locations in California. Samples from these stations are analyzed for radioactive elements including Barium-140, Cerium-141, Cerium-144, Cesium-134, Cesium-137, Iodine-131, Iodine-132, Ruthenium-103, Ruthenium-106, Tellurium-132 and Zirconium-95. Estimated dose from drinking milk over the course of a month is calculated by methods described in the International Commission on Radiation Protection (ICRP) No. 72 and by age-specific milk consumption rates provided by the U.S. Food and Drug Administration (FDA).

The combined Cesium-134 and Cesium-137 concentrations detected in the CalPoly milk samples ranges from approximately 3,300 to 6,200 times less than the action level set by the U.S. FDA (33,000 pCi/liter of milk <http://www.fda.gov/downloads/NewsEvents/PublicHealthFocus/UCM251056.pdf>).

We are exposed to radiation every day, both from natural sources, such as in foods, minerals in the ground or radiation from the sun, and from man-made sources such as medical x-rays. According to the National Council on Radiation Protection and Measurements (NCRP) Report No. 160, the average annual radiation dose per person in the U.S. is 620 millirem, which includes exposure from natural background sources and from medical diagnostic and therapeutic procedures.