

February 17, 1995

to: Helen Zukin
cc: Arthur Pinchev, BBI
re: Meeting with Rockwell, February 7th

The subject meeting with Arthur, myself and Rockwell staff was requested by Majelle Jensen, Rockwell's environmental manager, to discuss three items. These are: new wells on Brandeis property; Rockwell's radiation survey of their Area 4; and dioxin contamination of the sodium burn pit. Majelle seems to have become our primary contact since Arlene left. She works for Steve LaFlamme.

New wells. Rockwell showed us where they would like two new monitoring wells on Brandeis property. They have not asked for our approval, since they first need the OK of the state regulators. We told them to go ahead and negotiate with the state, and then formally request our approval for installation of any new wells. They had no schedule for this. I have some concerns about additional wells, that I'll share with you at a later date.

Radiation survey. For our information, Rockwell briefly described the radiation survey of Area 4 that is now underway. I asked whether the survey would find the source(s) of our tritium contamination. Majelle didn't know, but would send me a copy of the survey work plan. I'll have to review the work plan for my answer!

Dioxins. Rockwell would like to declare the clean-up of the sodium burn pit complete. However, five soil samples, taken in December, tested positive for dioxins. The nearest sample to Brandeis was about 100 feet from the property line. Dioxin measurements were not made prior to the clean-up effort. Rockwell has now shifted gears and is planning a wider dioxin survey, to include areas of Brandeis, near the property line. In 1992, mercury was detected in one of these areas (and was cleaned up.) Since this mercury migrated from the burn pit, dioxins may have also migrated. Their study plan is being drafted and will be submitted to us when ready--possibly in April. Background information on dioxins is attached. I will watch this situation closely.



Attachment

INFORMATION ON DIOXIN COMPOUNDS

General. Dioxins include two groups of compounds: dioxins and furans. These are chlorinated hydrocarbons that are produced by combustion, and other chemical reactions. For example, the manufacture of paper using chlorine produces these compounds. They were contained in the defoliant, Agent Orange, in Viet Nam, and are blamed for health effects in U.S. soldiers.

They are present in most soils, at very low background levels, due to forest fires. They are present in the soil at Rockwell's sodium burn pit, due to the burning that was done there. The average value there is about 1,000 times background levels.

Health Concerns. Toxicology studies have produced carcinogenic effects in laboratory animals, even at low doses. But the human data are soft, largely because human exposures are rare. A fire at a chemical plant in Italy in 1976 released about a pound of dioxin into the air. Follow-up studies of residents suggest some cancer rates may be elevated, but this wasn't found among the highest exposed group. If dioxin is carcinogenic in humans, it is not a strong one. EPA ranks dioxin as a probable carcinogen. (Nuclear radiation ranks higher as a proven carcinogen.) One pathway to human exposure occurred in Italy when cattle grazed on contaminated pasture. This pathway should be studied at Brandeis.

EPA Action Levels. EPA has published Preliminary Remediation Goals for dioxins in soils. These goals are clean-up goals, which provide a numerical standard for "how clean is clean." There are two goals for dioxins: one for residential land use, and one for industrial land use. The first, more restrictive value is 3.8 parts per trillion (ppt). The second value is 24 ppt. The preliminary tests at the burn pit average 9 ppt.