

## **Questions & Answers about SB 990 (Kuehl) – The Clean-up of the Santa Susana Field Laboratory**

### **Q: What is the Santa Susana Field Laboratory?**

A: The Santa Susana Field Laboratory (SSFL) is a research facility for the Boeing Corporation. It is located in the mountains 35 miles north east of downtown Los Angeles on the border between Los Angeles and Ventura counties and between Simi and San Fernando Valleys. SSFL was once a prolific rocket and nuclear reactor test facility and is the site of the only partial nuclear meltdown in California.

### **Q: What were the circumstances around the partial nuclear meltdown at SSFL?**

A: On July 13, 1959, power production within one of the nuclear reactors, the Sodium Reactor Experiment, escalated out of control, and the reactor was shut down. Despite high radiation readings and the lack of any determination of the problem's cause, the reactor was re-started, and ran for two weeks before being shut down again. It was then determined that, due to a coolant blockage, a full third of the fuel had experienced melting, creating a partial nuclear meltdown. Unlike other sites with concrete containment structures, there were none for the experimental Sodium Reactor. As a result, radioactive materials were released into the environment.

### **Q: Is it true that the operators of the Santa Susana Field Laboratory lied to the public and successfully covered up the occurrence of this partial nuclear meltdown for twenty years?**

A: Yes. Five weeks after the accident, the operators issued a brief statement indicating that a single parted fuel element had been observed, that there was no evidence of unsafe operating conditions, and that there was no release of radioactivity to the environment. In fact, a third of the core had experienced melting, the accident was one of the most serious nuclear accidents in history and the accident had resulted in radioactivity being vented into the surrounding environment for weeks.

### **Q: How did the public and state officials ever learn the truth about the partial core meltdown at SSFL?**

A: It was not until 1979 when students sorting through old documents from the SSFL and archived in the UCLA engineering department library discovered documentation, including photographic evidence, of the partial melt down of a nuclear reactor at the SSFL site.

### **Q: How much radiation was released as a result of the partial nuclear meltdown?**

A: Since the sodium reactor involved in the accident was experimental, Rocketdyne concluded that it was not required to be held in a concrete containment dome. During the partial nuclear meltdown and for the two weeks after while the reactor continued to be operated, it vented radioactive materials into the surrounding air. Recent studies indicate that substantial quantities of radioactive material were released from the accident and significant numbers of cancers may

have resulted. It has been estimated by Dr. Arjun Makhijani, President and Senior Engineer, Institute for Energy and Environmental Research, that the amount of radioactive iodine released, alone, was as much as 240 times that which was released in the Three Mile Island accident.

**Q: Was this the only nuclear accident at SSFL?**

A: No. There have been several nuclear accidents at the facility. In all, SSFL has operated ten nuclear reactors and several low-power reactors, known as “critical facilities”, at the site. In 1964 and 1969, two more reactor accidents occurred, where large fractions of the fuel rods were damaged. In addition, there have been several fires, involving radioactive material, at SSFL’s ‘hot lab’ facility, that portion of the site used to cut up irradiated nuclear fuel. Among the materials released into the environment by the nuclear accidents at SSFL is strontium-90, a ‘bone-seeking’ isotope associated with bone cancer, soft tissue cancer and leukemia.

**Q: Has there been any chemical pollution from the rocket testing at SSFL?**

A: Yes. In addition to the radioactive contamination detailed above, there was also extensive chemical pollution associated with the site. The toxic solvent, trichloroethylene (TCE), was used in large quantities to wash off rocket test stands. At least half a million gallons of TCE has percolated into soil and groundwater in the area, along with other toxic chemicals such as perchlorate, dioxins and heavy metals.

**Q: Is it true that the Santa Susana Field laboratory was raided in the mid 1990s by the FBI, because of concerns that the operators of the facility were covering up the truth about the death of two workers and illegal disposal practices?**

A. Yes. Two workers were killed in an explosion in 1994. The operators of the SSFL site initially claimed to investigators from regulatory agencies that the deaths occurred in the course of legitimate research. Suspicious of these claims, the FBI raided the Santa Susana Facility and seized documentation and other evidence, which later showed that this was not the case and that, in fact, the company had ordered its fire safety personnel to illegally dispose hazardous materials by putting them in barrels and shooting them with rifles to detonate them, releasing toxic materials into the air. In addition, employees were ordered to burn sulfur and other materials in the open air. The workers were killed in an explosion related to this illegal practice.

**Q: Is it true that at the time the operators of the SSFL site were convicted of three environmental felonies and received the largest fine ever given in California to a corporation for an environmental related crime?**

A: Yes, the US Attorney brought charges against the operators of the SSFL. Eventually, the operators of SSFL conceded that their prior representations about what had led to the deaths of the two workers were lies and it pled guilty to three felony crimes of illegal disposal of hazardous materials and paid what the US Attorney said was the largest environmental fine in California history to that date.

**Q: Is it true that a few years ago the operators of the SSFL site were found to have dumped radioactive debris from decommissioned reactor buildings at SSFL in local municipal landfills?**

A: Yes. The operators of the SSFL site sent hundreds of tons of radioactively contaminated debris from dismantling old reactor facilities to the Bradley Municipal Landfill. The Department of Energy subsequently confirmed to Senator Boxer that radioactively contaminated wastes were also sent to the local Sunshine Canyon and Calabasas landfills.

**Q: Didn't the U.S. Environmental Protection Agency (EPA) & the Department of Energy (DOE) reach an agreement in 1995 about the SSFL—and all DOE sites-- being cleaned up to CERCLA (Superfund) standards?**

A: Yes, however, in 2003, the DOE announced that it would not honor that agreement and would only be cleaning up 1% of the contaminated soil at SSFL, using cleanup levels grossly more lax than required by the agreement, before releasing the site for unrestricted use.

**Q: What was the EPA's response?**

A: The EPA in December 2003 wrote the DOE to say cleanup at the SSFL facility was inadequate; the site not appropriately characterized in terms of contamination; the cleanup standards of the plan were not protective of public health; the plan violated the 1995 DOE-EPA Joint Policy agreement; and that, under the circumstances, the site would not be safe for release for anything except limited day hikes with restrictions on picnicking. Despite this, the DOE and Boeing are proceeding with a plan to terminate their cleanup work at SSFL and release the site for unrestricted use without fixing the problems raised by the EPA.

**Q: Recently, US EPA announced it would take a new look at whether to list SSFL as a federal Superfund site. How does that affect SB 990?**

A: It doesn't. Twice before EPA has performed such an analysis and both times rejected federal listing because they have interpreted Federal law to prohibit the listing of a toxically contaminated site unless there are people already living on it or right at its boundary. Under this interpretation of the Superfund laws, we would have to wait for SSFL to be released for unrestricted residential use, have people move onto the site, and only then have EPA list it as a Superfund site. The last EPA review took 5 years. EPA says this one will take less time, but they have said that before and there is no guarantee that the outcome will be any different than before. The purpose of SB 990 is to get SSFL cleanup pursuant to Superfund standards going *now* before the site is released for general use.