

Nuclear Decommissioning in California: 20+ Years of Politics vs. Science

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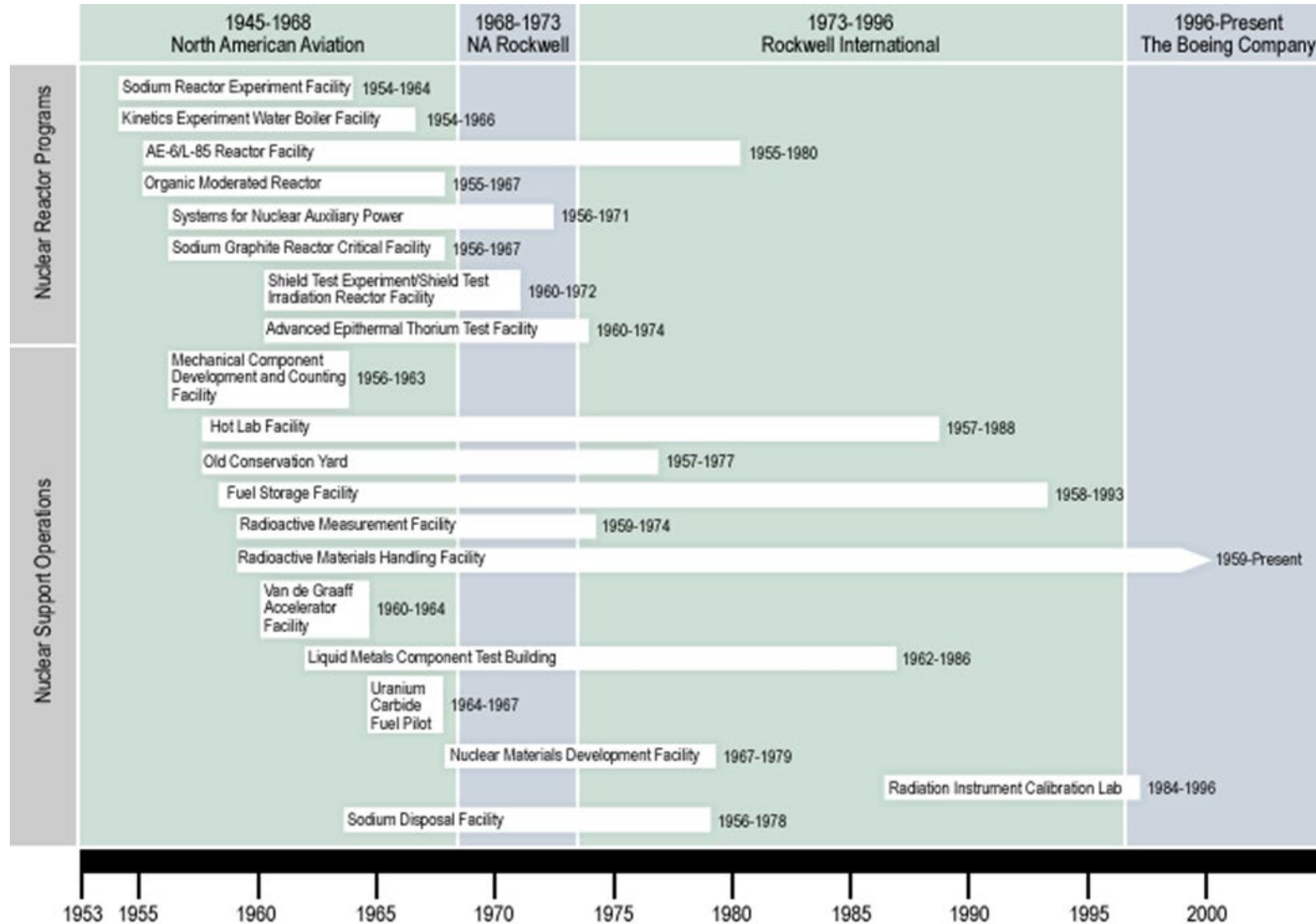
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Nuclear Decommissioning in California

- Case Study
 - Area IV, Santa Susana Field Laboratory (SSFL), Ventura County, California
 - Operated for 60 years by North American Aviation (NAA), Rockwell International and The Boeing Company for the Atomic Energy Commission (AEC) and Department of Energy (DOE)
 - Currently operated by North Wind Portage since October 2014
- Other Players
 - California Department of Public Health - Radiologic Health Branch (CDPH/RHB)
 - California Department of Toxic Substances Control (DTSC)
 - US Environmental Protection Agency (EPA)
 - California & US Legislators
- Politics, activism, legislation, litigation, regulatory abuse and regulatory inaction

SSFL Nuclear/Radiological Timeline



Area IV, SSFL (circa 1980s)



Status in 2004

- **27 nuclear/radiological facilities** including sodium-cooled research reactors, SNAP space reactors, fuel fabrication, fuel & waste storage, laboratories, support operations plus soil and groundwater contamination
- Owned by DOE or Boeing
- Boeing-owned facilities licensed by NRC and/or CDPH/RHB
- Surveyed variously by Boeing, DOE (ORISE), NRC (ANL), CDPH/RHB and USEPA
- **25 released for unrestricted use**, and removed from licenses if applicable
- **19 demolished**

2001 Litigation - NRDC/CBG vs. CDHS

- In 2001, CDHS attempted to incorporate by reference the NRC's 1997 10 CFR 20 Subpart E, License Termination Rule (25 mrem/y)
- CDHS conducted public hearings
- As an "Agreement State", California typically adopted NRC regulations pertaining to radioactive materials.
- In 2002, NRDC and CBG sued CDHS opposing the adoption of 10 CFR 20 Subpart E
- The Judge ruled for the plaintiff, and ordered CDHS to conduct a CEQA EIR to select safe dose-based standards for decommissioning
- After 20 years, it appears that CDHS (now CDPH) has no intention to comply with the Judge's Order, not wishing to become mired in further politically-driven litigation

2001-2004 Legislative Action

- CBG was behind a plethora of California Senate Bills aimed at usurping the decommissioning process in general, and SSFL specifically. Authors were Sheila Kuehl and Gloria Romero as proxies for Dan Hirsch (CBG).
 - SB 243 (2001) redefined radioactive waste as any residual contamination above background. Defeated
 - SB 1970 (2002) **sought to require all decommissioned material be disposed of as LLRW. Vetoed**
 - SB 1444 (2002) sought to overturn low-dose, low-risk cleanup standards. Defeated
 - SB 2065 (2002) required LLRW tracking system. Passed into law
 - AB 2214 (2002) **delayed indefinitely establishment of LLRW disposal facility in California.** Passed into law.
 - SB 13 (2003) sought to reintroduce SB 1970. Died in Senate due to budget crisis.
 - SB 201 (2003) sought to **transfer authority for regulation of radioactive materials from CDHS to DTSC.** Died in Senate due to budget crisis.
 - SB 208 (2003) **imposed zero risk cleanup goal on SSFL.** Died in Senate due to budget crisis.
 - SB 415 (2003) required disclosure of theoretical risk of all former contaminated sites upon transfer of ownership. Died in Senate due to budget crisis.
 - SB 1456 (2004) sought to require approval by federal EPA any sale or transfer of land at SSFL. Defeated.

2002 - SB 1970 and E.O. D-62-02

- SB 1970 attempted to legislate that all “decommissioned material” that had met all federal and state cleanup standards and had been “released for unrestricted use “ should nevertheless go to a licensed LLRW disposal facility
- California Governor, Gray Davis vetoed this bill, but as a compromise issued Executive Order D-62-02, prohibiting the disposal of “decommissioned material” at Class III or unclassified landfills in California
- Effectively, D-62-02, known as the Governor’s Moratorium, required that “decommissioned material” be disposed to Class I, hazardous waste disposal facilities, or Class II facilities
- D-62-02 also reminded CDHS of its obligation to adopt dose-based cleanup standards following an EIR

2003 - DOE Environmental Assessment

- On March 31, 2003, the DOE issued an Environmental Assessment (EA) proposing use of 15 mrem/y plus ALARA as a soil cleanup goal
- This was consistent with NRC's 25 mrem/y License Termination Rule, USEPA's recommended 15 mrem/y dose-based goal for CERCLA remediation sites and CDPH's approved goal for SSFL
- In September 2004, CBG and NRDC sued DOE, arguing that a full Environmental Impact Statement (EIS) should have been performed prior to selecting a soil cleanup goal
- On May 2, 2007, Judge Conti ruled for the plaintiffs and ordered DOE to complete an EIS and Record of Decision (ROD), compliant with NEPA
- DOE subsequently will take 11 ½ years to issue a final EIS in November 2018. RODs have been issued for building demolition in September 2019 and groundwater in November 2020. No ROD has yet been issued for soil remediation which was the primary focus of the EA, EIS and 2010 AOC

2007 Legislative Action - SB 990

- SB 990 required chemical and radiological risk assessments at SSFL to utilize the **most conservative (rural agricultural) land use scenario in its soil remediation program**, as opposed to the, then used, residential scenario, or the future realistic open-space, recreational land use scenario
- SB 990 also gave **regulatory authority over radiological remediation at SSFL to the DTSC**, undermining CDPH-RHB's authority as ceded by NRC in the "Agreement State" Program
- SB 990 became law January 1, 2008
- At this stage, **CDPH effectively bowed out of the technical and political aspects of SSFL cleanup**

2009-2014 Defeat of SB 990

- On November 13, 2009, Boeing sued DTSC and the State of California over SB 990
- On April 26, 2011, Boeing won its litigation in federal court
- Judge John Walter struck down SB 990 as “invalid and unconstitutional in its entirety” and “enjoined DTSC from enforcing or implementing SB 990”
- On September 19, 2014, Judge Walter’s order was upheld on appeal
- Inexplicably, after 8 years the California Health & Safety Code still includes SB 990 verbiage and the DTSC SSFL website still claims that SB 990 is law and SSFL remediation is still subject to SB 990
- Communication with DTSC, California legislators and the California Attorney General is met with a stony silence

2010 Agreement on Consent (AOC)

- Coincident with Boeing's SB 990 litigation, both DOE and NASA were pressured into signing a 2010 AOC
- This Agreement on Consent ...
 - **Forbids the use of risk assessment** and USEPA risk assessment guidance
 - Eliminated use of any risk-based or dose-based soil concentration cleanup standards
 - Required **"cleanup to background"** or zero tolerance for any residual contamination
 - Required **single-sample comparison** to a background level for each measured chemical or radionuclide. Dismissed use of exposure point concentrations (EPC)
 - Defined soil to include "debris, structures and other anthropogenic materials"
 - Requires all soil and structural debris that exceeds "background" be **sent to a licensed LLRW disposal facility**
- The 2010 AOC effectively implemented all prior failed and challenged legislation

2010-2013 Boeing Building Demolition

- Boeing demolished approximately 40 remaining Boeing-owned **non-radiological** buildings and the remnants of **one former released nuclear facility**, between February 2010 and July 2013
- DTSC mandated that radiation surveys be conducted before demolition, and of debris following demolition
- Boeing survey reports were reviewed by DTSC, CDPH/RHB and USEPA, prior to demolition or debris disposal
- This portion of the program was successful

2010-2013 Boeing Building Demolition (Continued)

- In early 2013, Boeing submitted plans to demolish the five remaining **former nuclear/radiological facilities**, that had been variously surveyed by Boeing, NRC (ANL), CDPH/RHB and USEPA and “released for unrestricted use”
- On August 5, 2013, CBG and others sued DTSC and CDPH as Respondents, and Boeing as Real Party of Interest, alleging demolition debris was LLRW and should be disposed as such
- On November 19, 2018, **this complaint was denied, but is still under appeal**
- **The five Boeing buildings still stand today**

2020 Amendment to Order on Consent (2020 AOC)

- On October 30, 2020, DTSC and DOE signed a 2020 AOC requiring demolition of
 - Two former DOE nuclear/radiological facilities that had been surveyed and *“released for unrestricted use”*
 - Four former DOE non-radiological facilities that had been surveyed and declared to be *“indistinguishable from background”*
 - Debris from all these buildings has been shipped to the licensed LLRW disposal facility operated by EnergySolutions at Clive, Utah
- A DTSC official, during a public Zoom meeting, stated, *“buildings with a history of radiological use, regardless of the status of unrestricted release, was sufficient enough to say that the waste could be characterized as LLRW”*
- Both the 2020 AOC and DTSC use a favorite phrase *“out of an abundance of caution”* as reason for disposing of this clean, unregulated debris as LLRW. When asked for a legal or regulatory citation for this criterion, we are met with silence.

Area IV, SSFL (circa 1980s)



DOE-Owned Buildings (March 2005)



DTSC's 180° About Turn

Demolition Programs	Boeing Buildings (2013)	DOE Buildings (2020-2021)
Questions addressed by DTSC Personnel	Carpenter / Malinowski	Cope / Becker
Is DTSC approval needed for building demolition?	No	Yes
Does DTSC regulate radioactive wastes?	No	Yes
Does DTSC understand the concept of unrestricted release?	Yes	No
Is decommissioned material from released radiological buildings regulated as LLRW?	No	Yes
Did DTSC request assistance from CDPH and USEPA to review radiation survey data?	Yes	No
Can building structural surface contamination measurements be compared to background soil concentrations?	No	Yes
Does disposal of building debris as non-LLRW cause "irreparable" harm?	No	Yes
Does SSFL pose an imminent threat to public safety?	No	Yes

What To Do With SPTF?

- Building 4462, Sodium Pump Test Facility, was the final DOE building to be demolished
- It was not a nuclear facility. It had no history of radiological use.
- It was surveyed and all measurements declared to be *“indistinguishable from background”*
- Nevertheless, DTSC and DOE stated that demolition debris would be disposed as low-level radioactive waste, *“out of an abundance of caution”* and *“irrespective of having characterization data showing no [elevated] radioactivity”*
- On October 1, 2021, ignoring the optics, DOE blew up building 4462. [Click to see video](#)

DTSC-Boeing Settlement Agreement (2022)

- On May 9, 2022, Boeing and DTSC signed a “Settlement Agreement” following a 15-month secret “mediation,” that included the statement,
 - *“Boeing will clean up radionuclides in soil in its areas of responsibility to “background,” i.e., levels that would exist locally without industrial activity.”*

Why Has This Happened?

A 114-page paper, with ~600 online public domain citations, documenting this summary presentation can be found at ...

[philrutherford.com/SSFL/Nuclear Decommissioning in California.pdf](http://philrutherford.com/SSFL/Nuclear_Decommissioning_in_California.pdf)

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