

**Occupational Hazards to and Benefits Coverage for Students,
Interns, & Summer Workers
at U.S. Department of Energy (DOE) / ERDA / AEC Research
Laboratories During the 1970s-1980s**

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Comments to the U.S. Department of Labor (DOL) Office of Worker's Compensation Programs (OWCP) Advisory Board on Toxic Substances and Worker Health for the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) at its meeting of November 20-21, 2019.

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Background:

- =>Child of the Manhattan Project / Father worked on graphite pile reactors, tank farms, etc., mostly during 1940s-1960s
- =>National and state honors as a high school science student
- =>Two scientific degrees
- =>Served five Summer, internship, & Student Employeeships with U.S. DOE / ERDA before the age of 25, including two nationally competitive internships, but never as an employee.

Caviats:

- =>Focus will be on service that was NOT on nationally competitive student internships
- =>Keywords may be avoided because this presentation will soon be indexed in search engines.

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Occupational Health Issues:

- =>Potential exposure to **exotic toxics** (U, Pu, SEM laundry list)
- =>Work in areas doing **classified research**
- =>Located in **legacy facilities** (e.g. radioactive contamination since beyond institutional memory-e.g. 1940s)
- =>**Little information on what was being done** in the workplace
- =>**No access to photos of workplace** or job (classified areas)
- =>**Little documentation of work** except employment paycheck stubs
- =>May possibly contribute to **uncommon diseases** seen rarely, **not often diagnosed** by general

physicians, which may have **long disease latencies**, which are **difficult to attribute**, which **little epidemiological statistical power** in research to show scientific proof of causation.

=>Implicit **assumptions that rules were followed & records accurate**, when, in fact, rules were often contravened due to schedule issues.

Take home point: Research involves unknowns BY DEFINITION, and therefore unknown risks! Occupational Health is a lagging science.

Take home point: If you don't know the agent, & if there is not a signature biomarker, then you probably can't prove causation!

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Statutory Issues:

=>**Special Exposure Cohort (SEC) (cancer): 250 days minimum most locations** (most internships are 10-16 weeks)

=>Coordination of benefits: **EEOICPA has monetary limits (e.g. \$150-250K) and for a particular diagnosis is effectively secondary to other benefits.** For an expensive or long term condition, EEOICPA benefits may be zero due to prior payment of other medical/disability benefits.

=>Demonstration of lost income: students/interns are paid little, so **no appropriate income baseline for students.**

=>**Definition of child is basically dependent under age 21** (as opposed to SSA definition based on right to inherit).

=>**EEOICPA was done late (2000), after nearly 6 decades of programs.** Social benefit decisions may be impacted by long latency of disease & time to diagnosis; denials may stand as Res Judicata against reopening. Statutory changes may be needed.

Take home point: EEOICPA was done "on the cheap", presuming access to other social benefits (e.g. Worker's Compensation, Social Security Disability, Child, Old Age, & Survivor's Benefits.

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Example 1: LLNL DAS SEs:

Lawrence Livermore National Laboratory (LLNL) Student Employees (SEs) through U/Cal. Davis Department of Applied Science (DAS) (AKA "Teller Tech") During Early 1980s

=>LLNL is covered during that period by **SEC Cohort P#221**

=>Example location: 1981-3 Biomedical Division Computer Center

=>Example concern: Center air handling was in flux (being upgraded with chiller & raised floor); DOE SEM lists >20 solvents used in LLNL Biomed (Bldg 361 complex).

Issue: DAS Students were given a letter stating that their employeeship was tax exempt,

should they choose to file it. BUT, if they filed W2 “exempt”, then LLNL did not withhold and match Social Security deductions, whereas if they filed for a tax refund at the end of the year, they were covered for Disability, Child, Old Age, & Survivor’s benefits.

Question: If LLNL did not pay Social Security contributions on these workers, **did they pay Worker’s Compensation contributions?**

Take home point: U.S. DOE had grad students with Top Secret security clearances working in a SEC cohort who did not have Social Security Disability, Child, Old Age, & Survivor’s Benefits coverage (and thus were bare risks).

Legacy: The Teller/Hertz facility (LLNL Bldg 661) is vacant & U/Cal. Davis has ended the DAS graduate program.

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Example 2: Hanford Summer Tech (HPFL):

Westinghouse Hanford (WHCO) Summer Technician 1978

High Performance Fuels Laboratory (HPFL)

(Design group for an automated MOX fuel pellet handling & inspection station / FFTF LMFBR support):

=>Hanford 300 Area is covered during that period by **SEC Cohort P#226**

Concern: **19YO asked to spray paint** the prototype MOX fuel pellet handling & inspection station **in the basement of former nuclear reactor** (Bldg 309 / Plutonium Recycle Test Reactor / PRTR) complex to avoid it spending 2 weeks in the union paint shop.

Notable: Spent several hours for several days observing MOX fuel pin assembly for FFTF in Pluto lab hoods (Bldg 308 double-clean lab).

Primary work site was about 2 blocks from a coal-fired power plant.

Legacy: **Most of 300 Area site has been scraped bare and buried as nuclear waste.**

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Example 3: Hanford Summer Tech (NDT/USV):

Westinghouse Hanford (WHCO) Summer Technician 1977

Non-Destructive Testing (NDT) Division Under-Sodium Viewing (USV) Group

(Building a robot system to use ultrasound to image the core of the FFTF nuclear reactor through liquid Sodium / FFTF LMFBR support):

=>Hanford 300 Area is covered during that period by **SEC Cohort P#226**

Concern: **18YO worked** in Hanford 300 Area 3707C Bldg **down the hall from 3706 Bldg Print**

Shop—which had been the first radionuclide lab on the 300 Area, with grams of Pluto in the vacuum system (which had been filtered by 1945+ technology).

[See: Hanford Site–Site Description 2/22/2010: 2.2.5.17: 3706 Radiochemistry Laboratory]

Notable: Lead soldering (allowed under union rules as a “trainee”).

Spent days during testing in the High Bay, which contained a full-scale mockup of the FFTF reactor including 40K gallons of liquid Sodium.

Legacy: **Most of 300 Area site has been scraped bare and buried as nuclear waste.**

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SSA’s Definition of Disability:

Here is SSA’s explanation of its disability determination process as described in SSR 16-3p, on Pain, which states:

"First, we must consider whether there is an underlying medically determinable physical or mental impairment(s) that could reasonably be expected to produce an individual's symptoms, such as pain." ... **"Step 1: We determine whether the individual has a medically determinable impairment (MDI) that could reasonably be expected to produce the individual's alleged symptoms.** An individual's symptoms, such as pain, ... will not be found to affect the ability to perform work-related activities for an adult ... **unless medical signs or laboratory findings show a medically determinable impairment is present.** ... We call the medical evidence that provides signs or laboratory findings objective medical evidence. **We must have objective medical evidence from an acceptable medical source ... to establish the existence of a medically determinable impairment that could reasonably be expected to produce an individual's alleged symptoms."**

=>**Social Security Disability rules thus require 1) a “severe” disability with 2) a formal medical diagnosis supported by 3) “objective” medical evidence.**

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Social Security Disability Issues I:

=>**Social Security Disability rules** which require a **“severe” disability with a formal medical diagnosis supported by “objective” medical evidence** leave a major potential for gaps in coverage, e.g. in cases where specific causation cannot be proven under the EEOICPA.

=>**Social Security Disability claims** are developed by **State Agency Disability Examiners (DEs)** who are not medical professionals and often have at minimum 2-3 months of training. DEs cull the file (destroy documents) as serves their interests. In some states, **State Agency Medical Consultant (SAMC)** physicians determine up to 20K claims per year (which implies an average review of maybe 6-7 minutes of the files prepared by the DEs). **SSA Administrative Law Judges (ALJs) are not medical experts** & have little experience in occupational health.

=>**Social Security Disability claims** must prove that **the disability began before the Date Last Insured**. There are different rules for young people, but 20 out of the last 40 quarters is the most common case, so a worker who suddenly becomes disabled **must prove their case at the latest** in the claim that began **within about 5 years after they stopped working**. Notably, SSDI claims take about 3-4 years to final denial, so most claimants get two tries before Res Judicata.

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Social Security Disability Issues II:

=>**Effect of a SSDI Denial:**

- Social Security Old Age Benefits require 40 quarters of work (10 years of at least intermittent employment).
- Old Age Benefit amount is based on lifetime (35 year inflation adjusted) average income.
- If denied SSDI, then may have no or limited Old Age Benefits.
- If denied SSDI, then have no Child Benefits.
- If denied SSDI, then may have limited Survivor's Benefits.

=>**SSDI decisions stand as Res Judicata against reopening claims (e.g. on grounds of new evidence or new issues)**. A SSDI RJ dismissal does not consider the evidence and takes about 4 years, with no black-letter law right to appeal to Federal District Court. (Think Mandamus.)

=>**SSDI decisions gain "Administrative Finality" four years after the initial denial, so that old claims cannot be reopened unless prosecuted nearly continuously**.

=>**Note: SSA may consider the findings of other U.S. Government agencies (e.g. VA)**.

[Note: SSR 06-3p was rescinded. See: https://www.ssa.gov/OP_Home/rulings/di/01/SSR2006-03-di-01.html]

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Social Security Disability Issues III:

=>**A major fraction of those denied SSDI never return to work.**

=>**Supplemental Security Income (SSI) has a similar definition of disability** for those under 65. **It has an asset test** (under \$2000 in assets except for a house & car). **Living with a disability under an asset test can be very problematic. This is particularly the case if Social Security benefits are minimal due to limited work history.**

=>For those **disabled before age 26, Achieving a Better Life Experience (ABLE) Act accounts may allow saving up to ~\$100K for disability-related expenses**. The ABLE Age Adjustment Act has proposed to raise this to age 46.

Conclusions:

=>**Nuclear fuels and weapons lab workers** have a strange and wonderful relationship to the term “sacrifice”--having been subject to **unknown, unremembered, & undisclosed hazards** while **at primary targets for both nuclear annihilation and Cold War espionage.**

=>**EEOICPA was really done “on the cheap”.**

=>**The U.S.G. really should not be leaving former nuclear lab workers destitute in old age, or being forced to forfeit their children, irrespective of whether causation meets the test of “as likely as not”.**

=>**DOE has had students with Top Secret clearances working in SEC cohort labs who did not even have SSDI disability coverage.** (Question: Did they have Worker’s Compensation coverage?)

=>**Social Security Disability rules** which require a “**severe**” **disability with a formal medical diagnosis supported by “objective” medical evidence** leave a major potential for gaps in coverage. SSA rules (e.g. Date Last Insured, Res Judicata) are also problematic.

=>**Statutory changes may be needed, e.g. to the Social Security Act.**