Idaho National Laboratory
SEC Evaluation Report
SEC-00238

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Background

- At the conclusion of SEC00219, NIOSH cut off the evaluation period for CPP at December 1974 due to the first indication of site awareness of contamination issues and need for bioassay monitoring for alpha contaminants.
- NIOSH indicated that we would evaluate the post December 1974 time period to determine when the recommendations of ACI-167 Preliminary ICPP Health Physics Upgrade Program Report was implemented.

Background

- NIOSH found that the site did not implement the recommendation for several years after.
- Recommend extending the SEC for CPP workers through December 31, 1980

Proposed SEC Class

All employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at the Idaho National Laboratory (INL) in Scoville, Idaho, and who were monitored for external radiation at the Idaho Chemical Processing Plant (CPP) (e.g., at least one film badge or TLD dosimeter from CPP) between January 1, 1975 and December 31, 1980 for a number of work days aggregating at least 250 work days, occurring solely under this employment, or in combination with work days within the parameters established for one or more other classes of employees in the Special Exposure Cohort.

83.14 Petition History

- Inability to reconstruct dose letter sent March 2, 2017
- Form A – 83.14 Petition received March 16, 2017
- July 21, 2017 SEC Petition Evaluation Report approved

Site Internal Recommendations

A routine bioassay program is being developed. A draft of SOP 1.6.5.22, "ICPP Bioassay Program," has been prepared. The proposed program recommends the collection and analysis of about 350 bioassay samples per year. Of these, 50 would be fecal samples to be analyzed for plutonium and/or uranium, 50 would be urine samples to be analyzed for plutonium, and the remaining 250 would be urine samples to be analyzed for total uranium and fission products. The

ACI-167 Preliminary ICPP Health Physics Upgrade Program Report (1974)

Internal Dose Reconstruction at CPP

- Negotiations with Health and Safety Laboratory in 1976-1977 to implement routine plutonium monitoring of fecal and urine samples.
- A routine monitoring program appears to begin in 1978
- However, monitoring was limited to chemists, analysts, operations, decontamination and instrumentation personnel.
- Analysis of limited samples indicated that low-level plutonium exposures were occurring at CPP

Plutonium Bioassay Monitoring at CPP

- Current SEC 1970-1974
- Recommended Extension 1975-1980
- Implementation of routine bioassay monitoring for plutonium at CPP 1981-

Year	Urine	Fecal
1970*	1	0
1971*	0	0
1972*	86	0
1973*	55	0
1974*	29	0
1975	7	0
1976	0	0
1977	0	0
1978	3	8
1979	14	11
1980	36	1
1981	214	278
1982	180	226
1983	220	357
1984	209	314
1985	369	300
1986	137	324

What caused the change in Bioassay monitoring?

- Additional intakes of plutonium and uranium were discovered via “routine” bioassay for multiple CPP Shift Lab radioanalysts in 1981.
- At this point plutonium and uranium bioassay analyses were fully implemented.

Internal Dose Infeasibility

- NIOSH has concluded, based on assessment of the available employee monitoring data, that there are insufficient internal dosimetry data or air monitoring data available to bound intakes of transuranic radionuclides for the period from January 1, 1975 through December 31, 1980.

Health Endangerment

- Some workers in the class may have accumulated chronic radiation exposures through intakes of radionuclides at CPP.

- NIOSH is specifying that health may have been endangered for those workers monitored at CPP who were employed for a number of work days aggregating at least 250 work days.

Partial Dose Reconstructions

- What about employees not included in the SEC?

- NIOSH intends to use monitoring data to conduct partial dose reconstructions for individuals not part of the SEC

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Site returned to One Badge One Area Policy

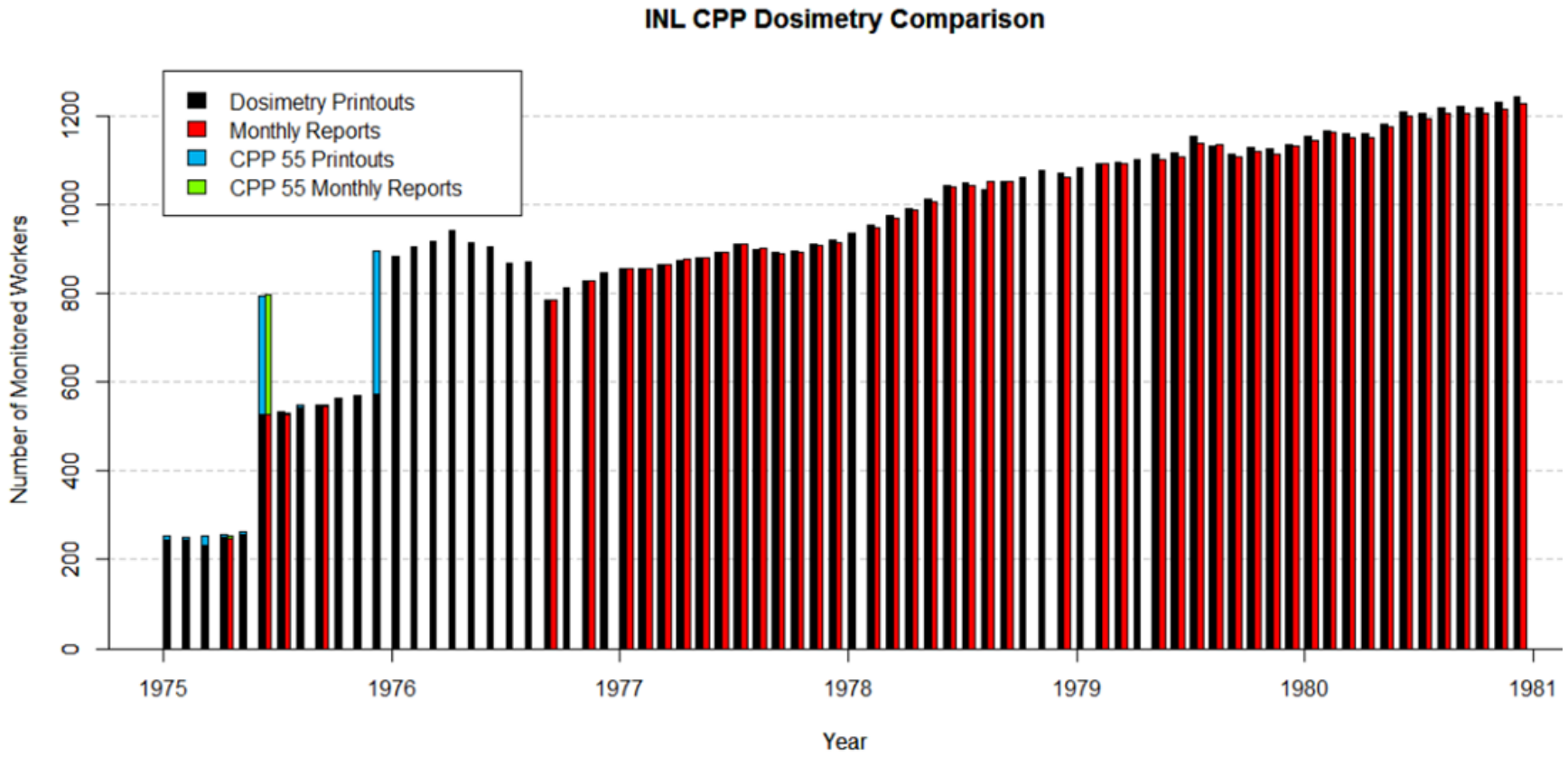
- In January 1975 the INL site returned to a “one badge, one area” policy for external dosimetry

- During multi-area badging, Idaho Nuclear Corporation controlled all of the areas concerned. In 1975, the contract was split between Aerojet Nuclear Company and Allied Chemical Corporation.

- Implementation of As Low As Reasonably Achievable (ALARA)

SEC Class Definition - Completeness

- Comparison of dosimetry printouts and monthly reports



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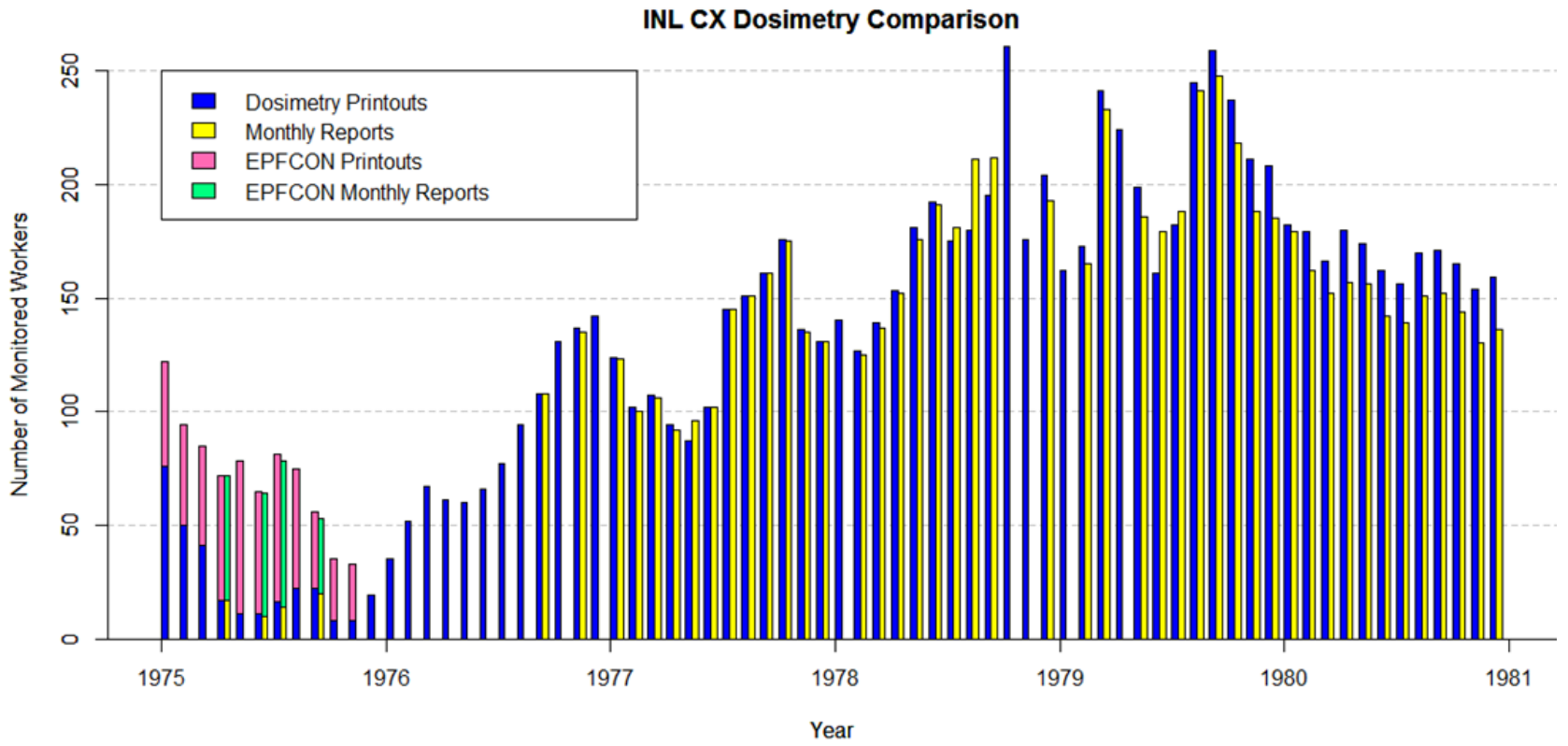

Current INL Activities

- Evaluate the Burial Grounds during large retrieval operations in the 1970s. If needed add an additional class under the 83.14 process.
- Respond to ABRWH/SCA Observations and Findings on SEC-00219 (INL) and SEC-00224 (ANL-W)
  - SC&A - CPP Alpha Evaluation
  - SC&A – ANL-W Air Monitoring Evaluation
  - SC&A – Burial Ground Evaluation
  - SC&A – Mixed Fission Product Evaluation (Reactors)