SC&A Evaluation of INL CPP Class Definition Requiring Evidence of External Dosimetry (1963–1974)

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SC&A Investigative Approach

1. Assessment of available interviews with former workers
2. Evaluate claimant records to assess the dosimetry program in the context of the current class definition

Summary of Interview Assessment

- 50 Sets of worker interview summaries
  - Interviews conducted by the Board, NIOSH, and SC&A in June, September, and November of 2014
  - Not all of the worker interview summaries have been finalized
  - Available summaries affirm universal badging of CPP personnel entering radiological areas
- Recommendations:
  - Continue line of inquiry with future interviews and a focus on badging policies
  - Evaluate interviews that are not yet available

Goals of SC&A Claimant Evaluation

1. Characterize the external dosimetry program for the completeness/availability of records
2. Determine the extent to which “gaps” exist and explore potential explanations:
   - Not monitored, but not likely exposed
   - Not monitored, but likely should have been
   - Moved to another location onsite or likely not employed at INL
3. Evaluate if the class definition captures all relevant workers

SC&A Approach and Methods

- Analyze a subset of claimants and relevant records/information
  - Available dosimetry records
  - Department of Labor (DOL) case files
  - Computer-Assisted Telephone Interview (CATI)
- Iterative process used in selection of claimants for focused review
- Sampling is NOT a representative cross-section of the claimant population!

SC&A Approach and Methods (cont.)

- Initial group of claimants chosen to cover several different job types (security, engineers, operators, laborers, maintenance, construction, instrument techs, HP techs, firemen, etc.)
- Based on initial assessment, review focused on subcontract trades workers with intermittent employment
- 30 total claims characterized (initial group + focused group)

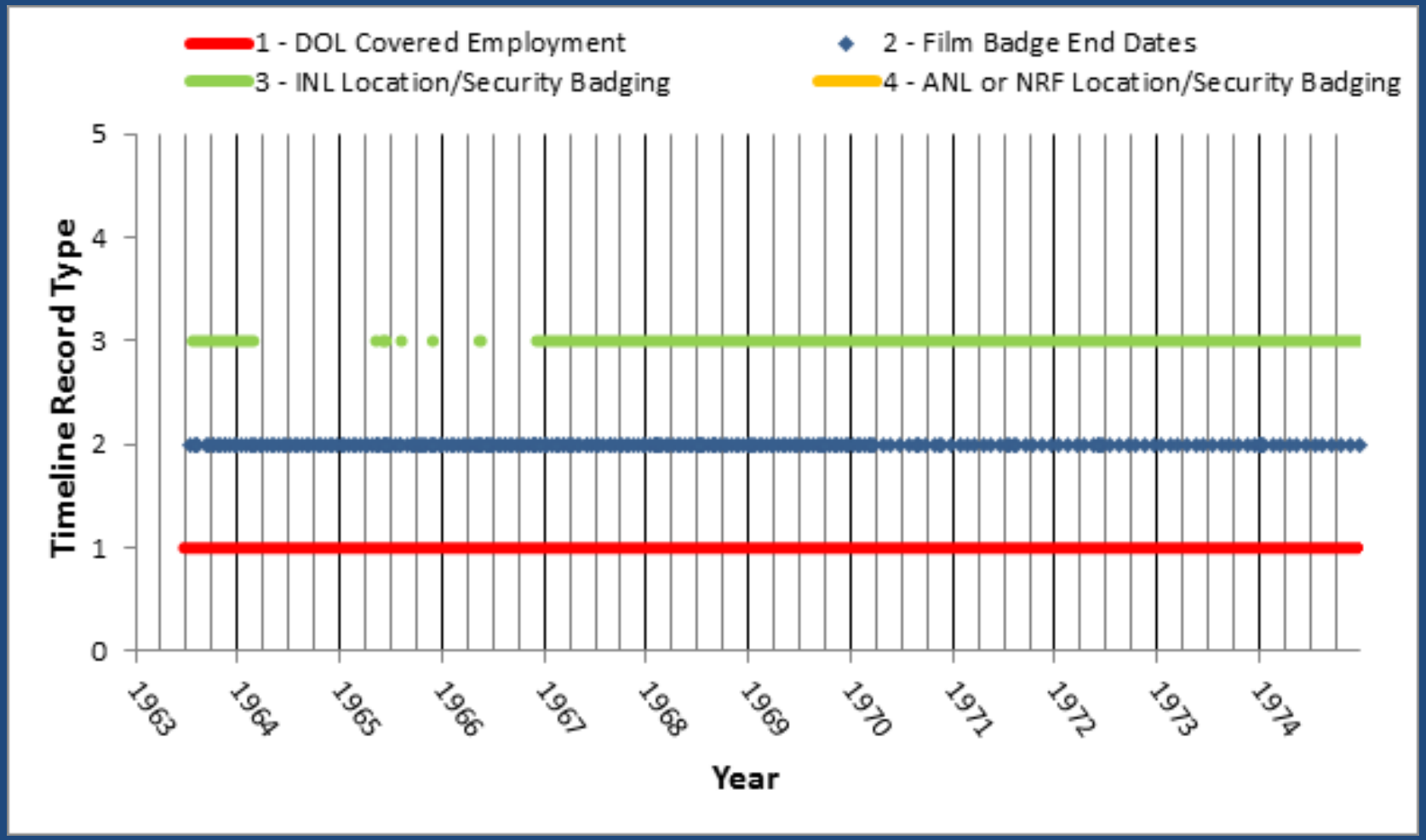
Available Work Location Information

- Area Dosimetry “Cycle” Reports (routine monitoring)
- Temporary and/or Visitor Badges
- Internal Monitoring (in vivo, urinalysis)
- Incident Reports (generally medical, not radiological)
- CATI and/or other Interview Statements
- Location File Cards
- Master Security File Card

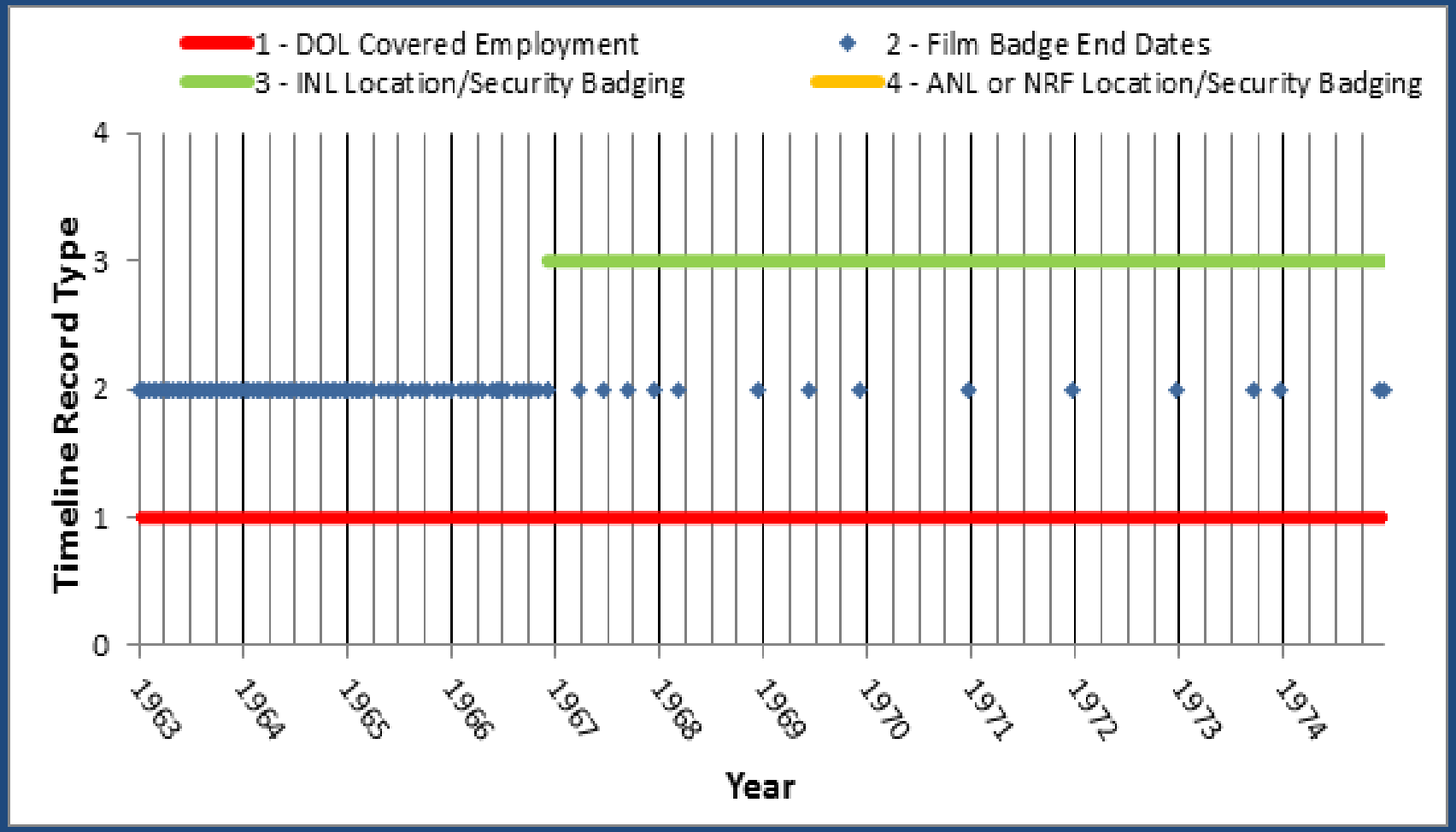
Results of 30 Claim Reviews

- SC&A developed five "categories" of claimants based on the available dosimetry:
  - **Category 1:** *No gaps observed in dosimetry records*
  - **Category 2:** *Gaps appear to exist, but records are likely complete based on "PSN number"*
  - **Category 3:** *Gaps exist in monitoring records, but no evidence of exposure during unmonitored periods identified*
  - **Category 4:** *Gaps exist in monitoring records, but there is some indication of potential exposure during unmonitored periods*
  - **Category 5:** *Only annual dosimetry summaries available*

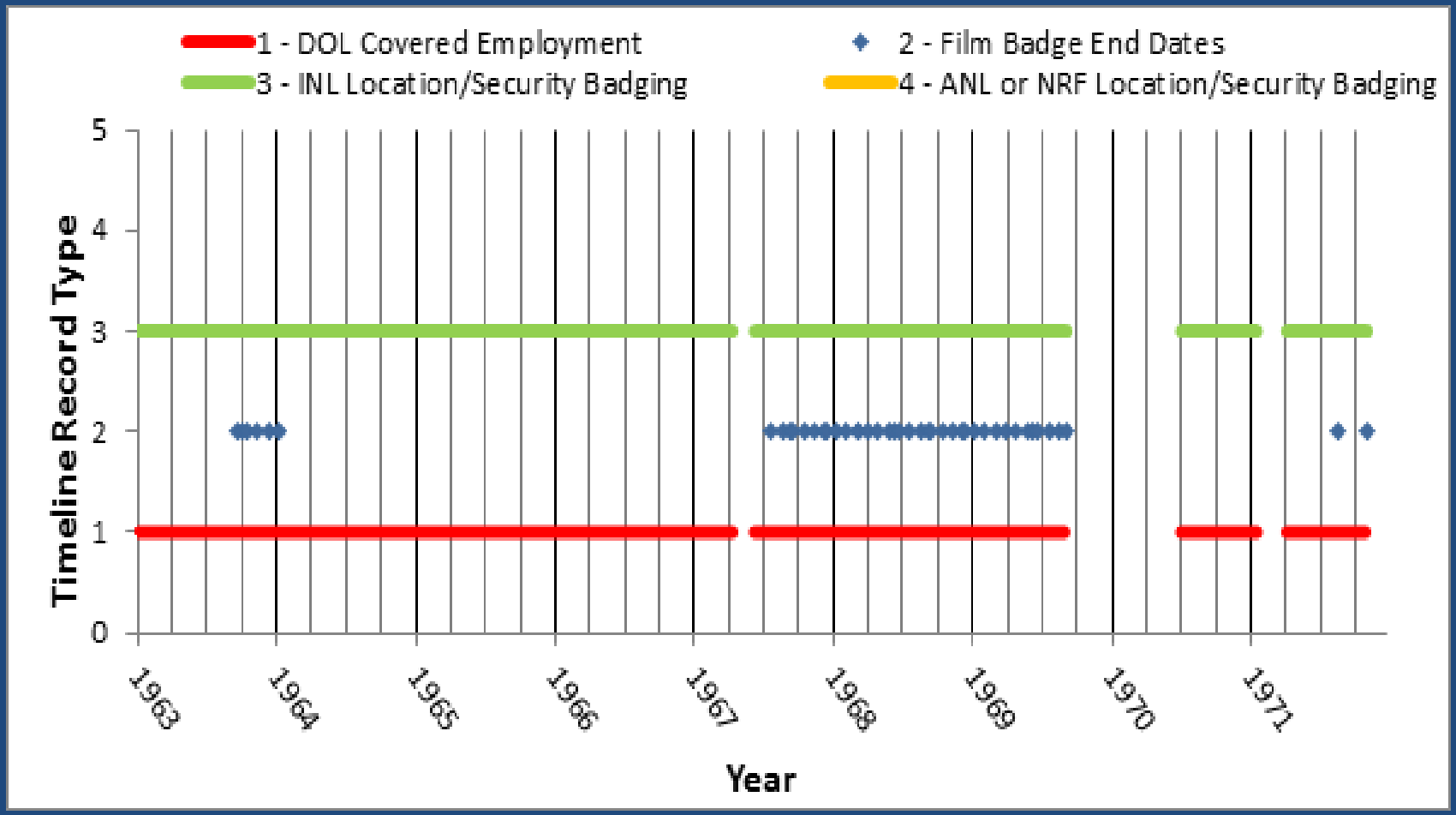
Example of Category 1



Example of Category 2



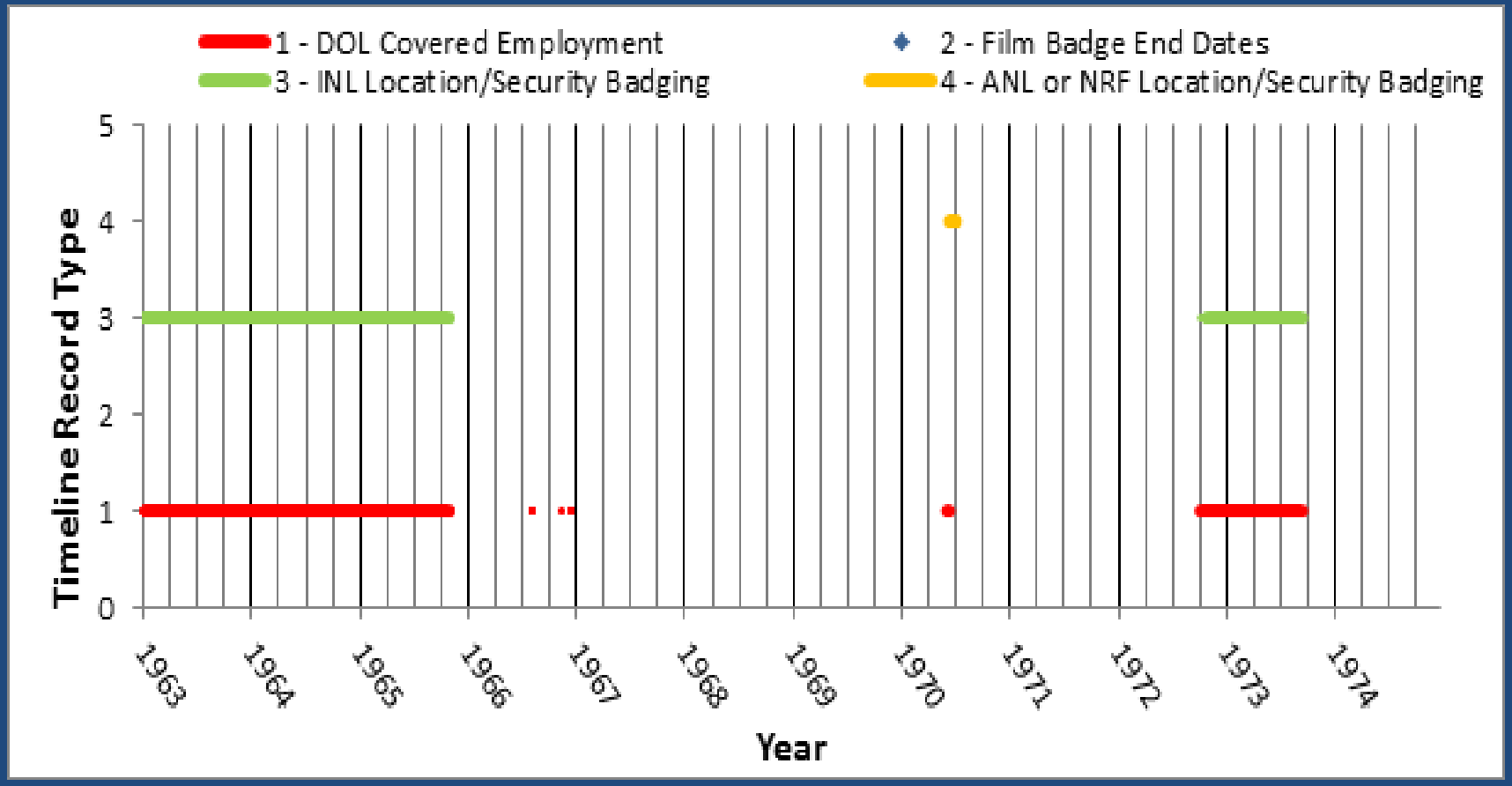
Example of Category 3



Notes on Category 3 Example

- In 1964, there are area dosimetry cycle reports, but no dose is recorded and record indicates “not in area”
- External Dosimetry from June 1967–September 1969 is a combination of CPP and material test reactor (MTR) areas
- July 1970 to January 1971, the Energy Employee (EE) worked for “H.S. Wright,” but no location information is available
- No bioassay or in-vivo samples were submitted during the Special Exposure Cohort (SEC) period
- CATI report with survivor: *“specific* [work] *locations are unknown.”*

Example of Category 4



Notes on Category 4 Example

- Location file card only indicates employer, not location, during SEC
- From CATI Report
  - Building/Location: *"At CPP, LOFT project, SL-1"*
  - Frequency of Badge Worn: *"Daily"*
  - Badge Exchange Frequency: *"Several times a week"*
  - *"Area of contamination were all over the site… CPP was the most contaminated area. There were a lot of 55 gallon waste drums stored there. They had a lot of spills and evacuations which required restriction from the area for 2–3 days a time."*
  - *"CPP a lot of years. This was a very contaminated area because of the stack emissions. Worked on the calciner project."*
- Location file card indicates a brief assignment (~2 months) to CPP in 1978 (no dosimetry badge found)

Category 5 (cont.)

- Only annual summary record available
- Not possible to ascertain where the worker was badged.
- Prompted SC&A to investigate how many claims fit the Category 5 criteria:
  - SC&A identified 144 Category 5 claims out of 796 claims who worked during the SEC period.
  - Of those 144 Category 5 claims, 39 had DIRECT evidence of assignment to CPP during the SEC (i.e., location file card indicates CPP).
  - 12 of the 39 were subcontract workers.

Finding 1

The dosimetry records contained in NOCTS are not sufficient to accurately determine if a given claimant worked at the CPP (and thus qualifies for the SEC) for at least some workers, due to the absence of external dosimetry records designating the area worked.

Supplemental Records Captured

- April 22, 2015, Technical Call:
  - NIOSH informed SC&A and the Work Group that significant additional dosimetry records had been captured
  - Uploaded files include over 7,200 pages of CPP-related dosimetry files, including Routine Area Cycle Reports and Visitor/Temporary Badge reports
- SC&A utilizes available supplemental records to attempt to identify “at least one” dosimetry record for the 39 Category 5 workers at CPP

Supplemental Records Captured (cont.)

- SC&A matches “at least one” dosimetry badge in available supplemental records for 36 of the 39 Category 5 claims identified with CPP
- Three Category 5 workers were not located
  - All three were employed by subcontractors in construction and/or maintenance-type jobs
  - Note: 12 of the 39 CPP Category 5 claims were employed by subcontractors

Supplemental Records Captured (cont.)

- July 8, 2015: INL Work Group Teleconference
  - NIOSH queried DOE for specific dosimetry records related to the three subcontractor claimants
  - DOE supplies additional dosimetry records not currently available to NIOSH/SC&A demonstrating badging at CPP for the three claims

Finding 2 (Updated: 7/8/2015)

Finding 2: Based on the evaluation of available claimant records, a portion of the supplementary dosimetry records, and claimant-specific dosimetry recently provided by DOE, SC&A was able to find "at least one" dosimetry badge for all claimants reviewed who had direct evidence of work at the Chemical Processing Plant. However, SC&A is not able to evaluate the completeness of the full set of supplemental records until such a time as all CPP-related external monitoring (1/1/1963–2/28/1970) and INL external monitoring (3/1/1970–12/31/1974) is provided to NIOSH and the Board.

SC&A Summary Conclusions

- NOCTS external dosimetry records are currently insufficient to administer the proposed SEC. Supplemental records will be required.
- It is SC&A's opinion that the probability of incorrect exclusion of AEC and/or prime contract employees from the SEC based on the absence of dosimetry records is low.
- "At least one" CPP dosimetry record was identified for each claim reviewed in this report for which there is direct evidence of work at CPP.
- All supplemental external dosimetry records are not yet available.

SC&A Recommendations

- Evaluate additional supplemental records (as they become available) to fill in any apparent gaps in monitoring.
- Conduct focused interviews with intermittent or transient subcontractors and trades workers to assure that the badging of individuals entering relevant areas was universal.
- Ascertain what subcontractors supported radiological work activities at CPP, and potentially obtain rosters of workers who were involved in such activities.
- Validate DOE records search process through appropriate focused searches for CPP workers lacking primary and supplemental records.