



# INL Temporary Badge Validation and Verification – Discussion Points

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# Goal of SEC Class Definition

- Identify workers who were potentially exposed to plutonium and other transuranics at CPP for 250 days.
  - To ensure we don't miss anyone, we cast the net wide
    - Single badge at CPP and 250 days employment
- Why single badge?
  - Potential for some administrative personnel to be on annual dosimetry starting in 1966, thus 250 days might only have a single badge.
    - Administrative personnel had low potential for transuranic exposure especially from process cells or labs.

# Goal of SEC Class Definition

- SEC Class definition identifies routine CPP workers with some potential for exposure to plutonium and transuranics but eliminates non-CPP workers with zero potential for transuranic exposure. For example:
  - Workers 30 miles away in Test Area North
  - Workers from Central Facilities, TRA, ARA
- Simplified definition does include some workers who may not have 250 days of exposure at CPP.
  - Temporary Workers – most for few days up to one week
  - At least 52 temp badges (weekly badges) for 250 days

# Benefits of Simplified Definition

- Benefits of simplified single badge definition
  - Routine workers have multiple badges (monthly)
  - Mitigates misidentification issues due to incorrect name spellings on temporary badges
  - Eases need to identify all temporary badges (illegibility)
- Low probability of missing 52 badges, thus a low probability of missing a worker truly exposed to transuranics for 250 days.

# SEC Class Definition

- Potential concern of single badge class definition being too broad
  - Again Includes workers that did not routinely work at CPP and who may not have 250 days of potential exposure
  - Difficult to sort out actual dates by dosimetry
    - Not impossible but requires more stringent criteria on finding and reading ALL handwritten badges

# SC&A Evaluation - Results

- 17/18 (94.4%) of CPP Temporary Workers identified and would be entered in the class
- 1/18 (5.6%) Case K misidentified by DOE and under current review
- Only one of the 18 workers has more than 250 days

SC&A Case ID	Expected # Badges	Actual # Badges	Percentage of Badges	Included in SEC
K	31	0	0	No
F	48	6	12.5	Yes
E	41	32	78	Yes
M	17	16	94.1	Yes
O	35	33	94.3	Yes
B	25	23	92	Yes
H	68	66	97.1	Yes
A	4	4	100	Yes
C	4	4	100	Yes
D	30	30	100	Yes
G	24	24	100	Yes
I	7	7	100	Yes
J	1	1	100	Yes
L	32	32	100	Yes
P	20	20	100	Yes
Q	25	25	100	Yes
S	1	1	100	Yes
T	7	7	100	Yes

# What would have happened with this one worker with missing badges?

1. Without the temporary badges indicating CPP work, DOL would have been determined was not part of the SEC and thus would be referred to NIOSH for Dose Reconstruction
2. During dose reconstruction NOCTS file indicates CPP work thus during dose reconstruction, an inquiry would be sent to DOL about SEC Class inclusion with CPP documentation from NOCTS file
3. DOL would have re-evaluated the classification
  - Thus due to follow-up (check and balance) the worker would likely be in the SEC

# Case K -examination

- Having said all of this... DOE erred on case K
  - DOE should have found at least 1 badge
  - SCA found 31 badges, NIOSH found 32 badges
  - Based on 32 badges, Case K has a total of 95 work days at CPP over 4 years
  - Temporary worker is part of current class definition, should be included but actually does not have 250 days of potential exposure
    - Again casting a wide net to make sure a worker with 250 days is not missed

# Cases K

- Contacted DOE to figure out why?
  - Initial response in October 2017 file had 296 pages
  - June 2018 response had 281
    - (more than just temporary badges missing in 2nd response)
- DOE recognizes there is an issue with this case but is not certain as to the reason the temporary badges for CPP were missed and why the response was short 15 additional pages of dosimetry.
  - Committed to resend the full response for Case K
  - Currently in process

# Case F

- Although Case F would be part of the SEC Class, only 6 of 48 badges were found
- For Case F DOE only sent a partial response
  - Some Temp badges - not the full dosimetry files as requested
  - May 2018 response was only 16 pages
  - October 2017 response was 531 pages
- DOE Committed to redo Case F and resend the full dosimetry file as they would for a new claim

# Summary

- NIOSH demonstrated completeness of dosimetry badges
  - Routine Dosimetry Badges
  - Construction Dosimetry Badges
  - Temporary Badges
- SC&A's V&V is of the Temporary Badges (group with highest vulnerability) to verify process
  - 94.4% of temporary workers accurately placed by DOE in SEC with current definition
- DOE notified of missed badges and is reviewing process to improve accuracy to 100%