

# **Follow-up of 18 INL Claims Evaluated for Inclusion in the Special Exposure Cohort (SEC)**

**Revision 1**

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## Introduction

In March 2015, NIOSH presented a Special Exposure Cohort (SEC) recommendation to the Advisory Board on Radiation and Worker Health (ABRWH). The recommendation was to add a class of workers to the SEC who were potentially exposed to plutonium and other actinides during their employment at the Idaho Chemical Processing Plant (CPP) from January 1963 through December 1974. To this end, NIOSH proposed that the members of this class could be identified based on their external dosimeter monitoring status. Thus, the proposed class definition was:

*All employees of the Department of Energy, its predecessor agencies, and their contractors and subcontractors who worked at the Idaho National Laboratory in Scoville, Idaho, and 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, 1963 and December 31, 1974 for a number of work days aggregating at least 250 work days, occurring either 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.*

The ABRWH questioned the ability of NIOSH/DOL/DOE to identify workers who worked at CPP during this time period, solely based on their monitoring status. Since March, NIOSH followed up on the availability and completeness of external dosimetry records during the proposed SEC period and presented analyses of our findings at both the July 2015 and the November 2015 meetings of the ABRWH. The only remaining issue raised by the ABRWH was the follow-up of the 881 claimants who worked at INL during the 1963 through 1974 time period to determine whether their available external dosimetry monitoring data was sufficient to establish them as a member of the proposed class.

By October 2015, NIOSH had reduced the number of cases requiring follow-up to 7 workers, while SC&A had identified 11 additional workers that needed follow-up for a total of 18 of the 881 workers or 2% of the population. The follow-up was required because the dosimetry records for these individuals were incomplete. In the beginning stages of the EEOICPA program, the INL site, in agreement with NIOSH and DOL, instituted an efficiency measure such that only annual doses were reported if the worker had less than 500 mrem lifetime total exposure. As a result, for workers with little external exposure only annual data was available and the location information was not reported. During this follow-up, the full dosimetry record which includes the location information was requested and received from the site.

This paper provides an update to our analysis of the 18 cases identified for follow-up and discusses the details of the additional dosimetry found and the resulting status.

## Methods

During this analysis, a wide range of sources (dosimetry data, DOL employment records, Computer Assisted Telephone Interview (CATI), bioassay, and visitor badge reports) were reviewed and evaluated. Conclusions on the presence at the Chemical Processing Plant (CPP) during the SEC covered period for each case varied greatly depending on the complexity of the issue being evaluated. In some cases direct evidence of monitoring at CPP clearly put the individual at CPP during the covered period and therefore a

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part of the Special Exposure Cohort. In other cases, a weight of evidence was used since the absence of dosimetry at CPP, in and of itself, may not be a clear indicator to some of SEC exclusion. In other words it is difficult to prove a negative, thus a weight of evidence approach is necessary. In some cases monitoring at another radiological area at INL during the SEC time period was used to place the worker outside of CPP during the covered period.

Since the workers identified for follow-up all had some indication of work at CPP, either through the CATI or other sources, the focus of this evaluation was on verification of monitoring at CPP and the time period involved. Through our evaluation, several individuals were identified as being ineligible for the SEC because their work at CPP was outside of the SEC time period. Overall, significant investigative work and some professional judgement were used to resolve the status of the follow-up cases.

## Results

Table 1 provides a summary of the current status of the follow-up of CPP cases. As of December 2015, and discussed in our earlier report dated January 6, fifteen of the 18 open cases are considered resolved using the follow-up dosimetry results provided by the site. During the week of January 4, 2016, NIOSH was able to resolve two additional cases and, based on the weight of evidence, believes the third and final case is also resolved (see ID #'s [redacted]). Thus, at this time NIOSH believes that our review of the 881 cases demonstrates that external dosimetry monitoring status is a valid indicator of whether it was possible for a worker to have entered the CPP area of INL between January 1, 1963 and December 31, 1974.

During this review, an issue was identified that could have resulted in some workers being inadvertently excluded from the SEC. The issue was the result of a site practice in which visitor badges for non-routine workers that had results below the detection limit were not entered into the dosimetry system. A review of the INL historical documents on the personnel monitoring system at INL indicates that only visitors with a positive external dose became a permanent record (IN-12056, 1966 SRDB 08130).

If a visitor/subcontractor did not have a positive dose, the only record that INL retained was the visitor list or temporary badge report. During NIOSH's data capture in April 2015, we captured the CPP temporary badge reports from 1958 through 1981. NIOSH did not capture the temporary badge reports from other areas that could be used in conjunction with other work history information to place individual workers. At that time, we had not yet understood the multi-badging issue from March 1970 through 1975, and did not foresee the requirement or need to provide 100% verification of all work at INL. As a result a data capture was conducted the first week of January 2016 to capture the remaining temporary badge reports and visitor insert cards to provide closure on this issue.

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If a visitor film indicates an exposure was received, this individual becomes a matter of record. The master index is checked for the presence of an assigned health physics number; if found, the necessary cards are prepared using this number and the data appears on the following regular report for the area concerned, and the exposure is added to the individual's NRTS total. If no number is found, a number is assigned to the individual and the above records prepared. Approximately 98% of the visitors receive statistically zero exposures and these data appear only on the visitor list prepared at the time of the badge servicing. These lists are retained indefinitely, as well as the film, in case any question should arise at a later date.

Excerpt from IN-12056 (1966) pertaining to dosimetry record keeping.

During the data capture, NIOSH identified and selected for scanning 24 boxes of records containing these temporary badge reports and visitor insert cards. The visitor insert cards were rather difficult to capture (scanner jamming due to small size) and required more time than anticipated. Currently there are 21 boxes of records that still need to be scanned to complete the data capture. The remaining boxes are scheduled to be scanned the week of January 25, 2016. Recall that NIOSH had previously captured the CPP temporary badge reports in April 2015 thus this set is for other operating areas such as MTR, TAN, STEP, CFA, ARA, OMRE, EBOR, GCRE, SPERT, Burial Grounds (RWMC), EBR-I, EBR-II, BORAX, and TREAT. The capture of these addition records should enable NIOSH and DOL to identify individual work locations within the INL and ANL-W sites.

An issue identified during the data capture is that the temporary badge reports do not include all visitors' monitoring results after 1968. The visitor tags or inserts must be used in conjunction with the temporary badge reports to identify all workers. NIOSH located and scanned all of the CPP visitor insert cards the week of January 4<sup>th</sup>, and is currently awaiting the release of these records. The site had previously scanned and indexed the CPP visitor insert cards for those monitored after August 1973, thus the data gap identified included workers (those not already in the INL dosimetry system) who only had a zero visitor dosimeter reading at CPP between 1968 and 1973. Since NIOSH has now scanned all of these cards (approximately 10,000 cards), the data set should be complete. Please note that many of these 10,000 cards represent workers that were already in the INL dosimetry system. Considering this and the expansion of the SEC cohort to include all monitored workers from March 1970 through December 1974, the actual number of effected workers is believed to be small.

NIOSH discussed the absence of these temporary dosimeters from dose reconstruction files with the Department of Energy Idaho Operations office on January 7, 2016. DOE agreed to add these reports to the dose of record for all individuals. Therefore, when a claim is submitted, NIOSH will receive all of these temporary badge reports and visitor insert cards for the claimant as part of the dose reconstruction packet.

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Table 1: Summary of the Current Status of the Follow-up of CPP Cases

#	ID#*	Name*	Occupation	SEC Eligible	Status	Notes
1			Bus driver	No	Closed	No indication of work at CPP during SEC period
2			Radioecologist	Yes	Closed	Part of SEC Class
3			Insulator	Yes	Closed	Part of SEC Class
4			Roofer	No	Closed	CPP work is outside the covered period.
5			Electrician (Power lines)	No	Closed	Survivor lists CPP <250 days
6			Bus Driver	No	Closed	Work at CPP is outside the covered period.
7			Carpenter	No	Closed	Not SEC eligible due to skin cancer, no evidence of monitoring during early employment
8			Insulator	Yes	Closed	Is eligible if he meets 250 day requirement due to badging in MTR in [redacted].
9			Ironworker	No	Closed	CPP work is outside covered period
10			Painter	No	Closed	Does not appear to have worked at CPP during the covered period. Also has < 250 days employment and [redacted] cancer.
11			Transportation Cafeteria	No	Closed	Work at CPP is outside the covered period.
12			Warehouseman	No	Closed	<250 days during SEC period
13			Electrician	No	Closed	No evidence of work at CPP during covered period and no SEC eligible cancer.
14			Electrical Engineer	No	Closed	<250 days during SEC and work at MTR
15			Pipefitter	Yes	Closed	Is eligible if EE meets 250 day requirement due to badging in CPP in [redacted].
16			Health Physicist	No	Closed	Work at CPP is outside covered period and no SEC cancer
17			Draftsman	No	Closed	No evidence of work at CPP during covered period. Significant evidence of work at SPERT and TRA.
18			Mason	No	Closed	CPP Dosimetry located – part of the SEC Class, however currently does not have an SEC eligible cancer

\*[ID#s and Names redacted]

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In the following paragraphs, a summary of our evaluation of each claim is provided along with a recommendation to either close the case or leave open due to an issue.

#### [redacted]- Recommend To Close

[redacted] worked as a bus driver all over the site and according to the survivor CATI he “cleaned-up spills at reactors.” [redacted] was monitored at CPP in [redacted] and received a substantial dose (150 mrem), especially for a visitor to CPP. [redacted] was then monitored via bioassay for potential fission product intake. This external and internal monitoring could be indicative of cleaning up a spill, however, CPP did not have any reactors. This later point could be a nuance or subtlety since the CATI was conducted with a survivor and [redacted] passed away in [redacted]. In [redacted], [redacted] was monitored for external exposure at TAN (Area 07), which is also indicated on his locator card. [redacted] was monitored at CPP again in [redacted].

While there is indication that [redacted] worked at CPP both before and after the SEC time period which is consistent with his interview which did not provide dates or a time frame, there is no indication of work at CPP during the SEC period.

#### [redacted] - Recommend To Close

[redacted] was a radioecologist from [redacted]. He collected and analyzed environmental samples from around the site. CPP is listed on his locator card. This individual was externally monitored in [redacted] from the Central Facilities (Area 754). Since he could have performed work at CPP during multi-badging period, and not have been directly monitored at CPP, he is part of the SEC Class.

#### [redacted] - Recommend To Close

[redacted] discussed a credible incident at CPP in which his clothes were confiscated during the [redacted] time period. The Department of Labor (DOL) initial claim application indicates initial work at INL at CPP from [redacted]. An affidavit from a co-worker [redacted] does not mention CPP during this time period but does mention other areas. The affidavit indicates [redacted] worked with [redacted] at EBR-II from [redacted] and then at NRF from [redacted]. The Master file card indicates [redacted] worked as insulator for Industrial Insulation Company in [redacted] as well as [redacted], and J.F Prichard Company in [redacted] which is consistent with the affidavit.

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**IMAGE REMOVED**

**[Privacy Act]**

[redacted] Master File Card (front)

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] Master File Card (Back)

[redacted] was monitored for external exposure at MTR and Central Facilities in [redacted]. In [redacted], he was monitored at CPP and his employer was Industrial Insulation Company which is consistent with information on the Master File Card. However, this is inconsistent with his initial claim application and two years prior to his self-reported start of employment. [redacted] was monitored at EBR-II in [redacted] and the Test Area North Construction (AX) in [redacted].

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] monitoring at CPP in [redacted] with Industrial Insulation

In summary, [redacted] worked at CPP under an earlier time period not previously claimed on the DOL claim forms. We believe the CPP dates reported by [redacted] are in error by a couple of year. During [redacted] [redacted] has extensive monitoring at EBR-II. [redacted] colleague [redacted] in an affidavit indicates work for J.F Prichard at EBR-II in [redacted] and at NRF from [redacted] which is again supported by the dosimetry monitoring data.

Based upon [redacted] timeline, his work at CPP appears to pre-date the EBR-II and NRF work which is also consistent with the dosimetry records indicating work for Industrial Insulation and monitoring at CPP in the [redacted] time frame. Regardless [redacted] was monitored for radiation exposure in [redacted] at the Technical Support Facility (TSF) and is therefore eligible to be part of the class if the 250 day employment criteria is met.

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[redacted] – Recommend To Close

Dosimetry records indicate [redacted] worked at CPP from [redacted]. The locator card indicates the work location as 115 which is CPP quarterly dosimetry so one would not expect more than a couple of badges during this time period. [redacted] indicated that he was involved in an incident at CPP in the “early 1970’s” with [redacted] other individuals [redacted]. The dosimetry reports that lists [redacted] in [redacted] also contains dose information for [redacted], thus we believe that the incident [redacted] described occurred in [redacted] which is outside the covered period.

**IMAGE REMOVED**

**[Privacy Act]**

Dosimetry Report showing [redacted]

**IMAGE REMOVED**

**[Privacy Act]**

Dosimetry Report showing [redacted]

These two reports, with a slightly different combination of names, support [redacted] CATI of two incidents at CPP, however both incidents appear to have occurred in [redacted].

According to security information and the Master Card file, [redacted] earliest work on site is [redacted] based on the first issuance of a security credential. It appears that [redacted] only worked for a [redacted] period until [redacted].

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] Master File Card

A search of the CPP dosimetry in [redacted] did not reveal any dosimetry for [redacted] at CPP. Each of the individuals that [redacted] noted as working with him at CPP were also searched and no dosimetry was found for them in either [redacted]. [redacted] could have been badged in another area during this time period or might have worked in an area that did not require badging. The CPP work described by

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[redacted] in his CATI is consistent with dosimetry monitoring in [redacted]. There is no indication that [redacted] worked at CPP during the SEC covered period.

#### [redacted] – Recommend To Close

The survivor CATI indicates that [redacted] did power line construction, outside work, setting transmission posts, and stringing wire. This work is characteristic of outside electrical power line work. During the proposed INL SEC [redacted] was only monitored for radiation exposure at the Test Area North Construction (AX) area in [redacted] for [redacted] during the covered period. The survivor CATI indicates work in multiple areas (CPP, RWMC, TAN, MRF, GERT, GET, EBR2, and NRF) but no time periods were given for work in each area. Dosimetry data in the 1980s and 1990s indicates monitoring at CPP, PBF, TAN, TRA, and RWMC which is consistent with the information reported in the CATI. In summary while there is evidence that [redacted] worked at and was monitored at CPP in the later time period, there is no evidence of work at CPP during the SEC time period.

Furthermore, the EE only has a total of [redacted] days of employment during the SEC at INL, but does have up to [redacted] days of employment at the Nevada Test Site (another SEC site) in [redacted]. This further indicates that we was not at INL during [redacted]. This would make his combined total [redacted] days of employment which would not qualify him for the SEC at this time.

#### [redacted] – Recommend To Close

[redacted] indicated on a [redacted] in-vivo questionnaire that he had previously worked approximately [redacted] months at CPP. A review of the dosimetry records indicate that [redacted] was monitored at CPP starting in [redacted]. This is indicated by the daily wear of pocket ionization chambers and weekly film badges starting [redacted]. The weekly film badge monitoring continued through March 29, 1958 at which time the IBM dosimetry reporting system was implemented. [redacted] first location listed in the new IBM system was area code 5 indicating work at CPP. His monitoring at CPP continued until [redacted] which is approximately [redacted] months from his initial start in [redacted]. This is in reasonable agreement and consistent with the reported [redacted] months on the in-vivo questionnaire in [redacted]. During the [redacted] timeframe, the EE also appears to have been monitored at Central Facilities as a bus driver. Please note that single location badging was conducted at INL during this time period as the EE was also monitored at MTR (area code 4) in the early [redacted] time period as well. The remainder of the EE's employment appears to be at MTR and as a bus driver. In summary, [redacted] clearly worked at CPP and was monitored, but the dates of work [redacted] at CPP are outside the covered SEC time period.

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[redacted] – Recommend to Close

[redacted] was an intermittently employed carpenter. He was employed by Flour in [redacted] and Arrington Construction in [redacted] and then from [redacted]. However, [redacted] also has an additional employment listed within his Arrington Construction period that Aerojet Company from [redacted]. For this later employment [redacted] actually has two visitor insert cards for a third company C. Reinhart Company during the same time period but at the Radiological Waste Management Complex (RWMC).

**IMAGE REMOVED**

**[Privacy Act]**

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] Visitor Insert Cards for 1975

According to employment records, [redacted] work for Reinhart indicates this work was at the Naval Reactor facility in [redacted].

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] employers based on security badging

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Based on the description of work provided during the CATI with the authorized representative, [redacted] likely performed work in radiological areas. The CATI indicates he was monitored upon leaving the radiation zones which is consistent with interviews with other workers indicating the Health Physics monitored trades workers upon exit from a radiological area.

Additional follow-up dosimetry indicates work Reinhart at EBR-II in [redacted], which is not noted in the employment information above.

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] EBR-II Visitor Insert Card

A thorough search of the CPP visitor insert cards was conducted to determine if [redacted] was monitored at CPP during the covered period. No dosimeter was located within the set of approximately 1000 cards that covered the gap in [redacted]. Please note the cards from [redacted] were not reviewed.

In addition, temporary badge reports for other areas were reviewed in an attempt to identify additional locations [redacted] could have worked. Based on our review, during the [redacted] time period H.K Ferguson appears to be the main construction subcontractor at CPP with a few Flour temporary badges intermixed. M.W. Kellogg appears to be the main construction subcontractor at TAN (AX), and MK Ferguson, H.S. Wright, and Flour appear to be the main construction subcontractors for MTR. No dosimeter badges for [redacted] were located in the MTR, SPERT, CPP, and TAN files [redacted] during the [redacted] time period when he worked for Flour [redacted] and Arrington Construction . Other workers for Flour and Arrington construction were located within these temporary badge reports, but not [redacted].

There remains the possibility that [redacted] was monitored in the [redacted] time period as not all of the MTR visitor insert cards have been scanned and reviewed at this time. However, given the uncertainty in his employment he also could have been working at the Naval Reactor Facility as his visitor insert cards for [redacted] indicate Reinhart as his employer. NIOSH has not searched the NRF records for [redacted]

As indicated above the temporary badge issue and visitor insert card issue is known and the Department of Energy is currently working to correct the situation. Since a comprehensive review of the CPP visitor insert cards was conducted and [redacted] was not found, NIOSH is fairly certain that [redacted] did not work at CPP in [redacted] and definitely not for 250 days as the visitor dosimeters were typically issued for a day or week, but always less than a month. If he had been there longer, we would have at least found one.

While this does not necessary preclude [redacted] from the SEC in that during the time period in question, as a single dosimeter anywhere onsite is all that is required for inclusion, the intent of a single badge was to cover annual issuance of TLDs. Temporary badges were never issued for a full year, thus 250 days of exposure is considered highly improbable.

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Based on the extensive review of information above, [redacted] could have been working on new construction or working at NRF in the [redacted] timeframe. It is possible that he worked for a short duration somewhere else onsite and once all of the temporary badge reports are scanned and indexed, we may be able to identify exactly when and where he worked providing he was not working on new construction which would be outside the operating areas or at NRF. It should also be noted however, that currently [redacted] would not be part of the SEC due to cancer type as [redacted] are not a covered cancer.

#### [redacted] - Recommend To Close

[redacted] was an insulator for various construction companies from [redacted]. [redacted] was first monitored from [redacted] at the OX area (OMRE Construction) and EBR-II areas. [redacted] worked intermittently at NRF from [redacted], and had a termination bioassay in [redacted] from NRF. [redacted] was monitored for [redacted] at TRA in [redacted]. This would qualify for inclusion in the SEC due to the one badge multiple area methodology employed from March 1970 through December 1974 providing the 250 day requirement is met. [redacted] may not meet this employment requirement as his next employment was [redacted] at CPP. He was monitored for [redacted] at CPP in [redacted] and had visitor badges at CPP in [redacted]. In [redacted], [redacted] was monitored at EBR-II.

#### [redacted] - Recommend To Close

[redacted] indicated in his CATI that he wore anti contamination clothing while working at CPP. [redacted] was monitored routinely for radiation exposure at CPP in the 1980s. Dosimetry records indicate that [redacted] worked at NRF from [redacted] and then again from [redacted]. [redacted] worked in the AX area in [redacted] during the SEC period. The only possible unknown is [redacted] when he worked for Arrington Construction, but the location is not known. [redacted] also worked at EBR-II in the early 1980s.

The work at CPP described in the CATI likely occurred during his multiple years of work at CPP in the 1980s. During which time [redacted] was monitored and the dosimetry records are available.

#### [redacted] - Recommend To Close

[redacted] was a painter for Willette Painting. Employment appears to be based on Social Security Administration Records and associated work for Willette painting who had contracts with the Idaho National Laboratory over the years. [redacted] employment is based on SSA reporting quarter thus his employment dates are [redacted] and from [redacted] so it is unlikely that his employment was a continuous three months with Willette.

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**IMAGE REMOVED**

**[Privacy Act]**

[redacted] SSA employment record used as basis for employment at INL in [redacted] and [redacted]

During the CATI, [redacted] indicated that he worked at the Breeder Reactor and INTEC (Idaho Nuclear Technology Center). INTEC is the contemporary name for the Chemical Processing Plant (CPP), thus it is uncertain whether his work there was from the early time period or the 2000s when he also worked at INL. [redacted] does not appear on any of the CPP temporary badge reports in [redacted]. Other Willette painters do appear on the CPP temporary badge reports during 1965 (see Figure below). Thus the Willette Paint Company did conduct work at CPP in 1965 and their workers were monitored, however, [redacted] was not employed during this time period. The 1966 CPP temporary badge reports indicates that Devoe Painters conducted work during May and November 1966, but there are no mention of Willette Painters during that year.

**IMAGE REMOVED**

**[Privacy Act]**

#### Example of Willette Painters monitored at CPP

According to the site, the first record of employment was in [redacted] when [redacted] worked for ANL-W on the Experimental Breeder Reactor II (EBR-II).

This is in agreement and consistent with the CATI, if the order in which [redacted] mentioned the Breeder Reactor then INTEC is chronological. If so, then the INTEC work is likely contemporary. Furthermore, [redacted] does not have 250 days employment during the covered period and was also diagnosed with [redacted] which is not a covered cancer under the SEC. There does not appear to be any evidence that [redacted] worked at CPP during the SEC covered period.

**IMAGE REMOVED**

**[Privacy Act]**

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[redacted]– Recommend To Close

[redacted] indicated during her CATI that she worked as a cafeteria worker at MTR, CPP, Central Facilities, and TAN. Although difficult to follow due to [redacted], the dosimetry records are consistent with this reporting in that she was extensively monitored at MTR and CPP in the [redacted] time frame. Based on bioassay from Central Facilities, [redacted] appears to have worked at the Central Facilities cafeteria in [redacted] timeframe. [redacted] appears to have worked for Dispatch starting around [redacted]. [redacted] indicated in her CATI that her Dispatch work location was [redacted]. [redacted] indicated that occasionally she would go out to the site and work at the Depot. [redacted] extensive monitoring during her time at CPP and MTR as a cafeteria worker supports that all workers including non-radiological were monitored entering CPP. There does not appear to be any evidence that [redacted] worked at CPP during the SEC covered period.

[redacted] – Recommend To Close

[redacted] was a warehouseman and indicated extensive work at CPP building 698 during his CATI. Follow-up dosimetry records indicate that [redacted] did work at CPP from [redacted] and has extensive monitoring records during this time period. On his DOL claim application, [redacted] only indicated employment from [redacted] at CPP. During is DOL Occupational History Interview Summary, [redacted] again only indicates that he worked at INL from [redacted].

**IMAGE REMOVED**

**[Privacy Act]**

[redacted] Occupational History Interview

The early employment reported for [redacted] with Kellogg Company in [redacted] is questionable as to whether that is the same [redacted]. The site in their most recent response provides dosimetry for a [redacted] in [redacted] who was a visitor from DuPont in Aiken South Carolina. Another [redacted] who worked at CPP in [redacted]. There are however, some visitor badges for [redacted] in [redacted] at RWMC, TRA, and CPP. [redacted] Arrington construction employment from [redacted] was for less than [redacted] days, but is during the SEC covered period. However, since [redacted] does not have 250 days of employment during the SEC period and we are not sure that we are not seeing multiple [redacted], we recommend closing this case.

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[redacted] – Recommend To Close

[redacted] was an electrician who was intermittently monitored at CPP from [redacted]. During [redacted] early years of employment [redacted], he worked out of MX (MTR Construction, Area 17) and OX (OMRE Construction, Area 23) areas. [redacted] also work on the SL-1 (Area 16) accident recovery and was monitored extensively in [redacted]. He received a 0.5 rem exposure during the SL-1 recovery. In [redacted] additional dosimetry for [redacted] was found on the Temporary Badge Reports for MTR. In [redacted], [redacted] appears to have worked at NRF which is not a covered facility. There is no evidence of work at CPP during the covered period. Furthermore, [redacted] was diagnosed with [redacted] which is not a covered cancer under the SEC.

[redacted] – Recommend To Close

[redacted] was an electrical engineer who indicated during his CATI that he worked at MTR, ETR, ATR, reactor sites and sodium reactor facility. Dosimetry records support this in that he was extensively monitored at MTR throughout his employment from [redacted]. The only indication of CPP work was on his DOL form in which he indicated that he worked with the power distribution at all facilities including CPP, Central Facilities, Test Area North, RWMC and others. Given [redacted] extensive monitoring records at MTR with no apparent visitor badges at CPP, it is unlikely [redacted] entered the CPP fence line. Furthermore, the EE has less than 250 days employment within the SEC time period and would also not be eligible for the SEC due claimed [redacted].

[redacted] – Recommend To Close

[redacted] was monitored at CPP starting in [redacted] and is therefore eligible for the SEC providing he meets the 250 day requirement.

[redacted] – Recommend To Close

[redacted] worked the vast majority of his employment at INL at the MTR reactor. [redacted] has extensive monthly monitoring at MTR as well as bioassay indicating work at MTR. During the CATI, [redacted] noted that he conducted some surveys at CPP following criticality accidents. The CPP temporary badge reports support this work in that [redacted] was found on the November 5, 1959 report which follows the October 16, 1959 criticality event at CPP. Mr. Petersen was also found on four additional 1961 CPP temporary badge reports following the January 25, 1961 criticality event at CPP, The dosimetry records are consistent with information provided during the CATI. A search of the CPP temporary badge reports from 1963 through the end of [redacted] employment at INL in [redacted] did not reveal any additional work at CPP, thus there is no evidence of work at CPP during the covered period. Furthermore, [redacted] worked at the Hanford site from [redacted] and is eligible for inclusion in the SEC based on his work at Hanford, however, he was diagnosed with [redacted] which is not a covered cancer under the SEC.

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[redacted] – Closed

[redacted] was a draftsman out of the Central Facilities. [redacted] has several bioassay [redacted]. Initially no external monitoring during the same time period was reported by the site. Due to the issue identified above, [redacted] did not have a positive recorded dose prior to 1966 and therefore, his dosimetry was never entered into the site dosimetry system. Upon review of the temporary badge reports, 20 temporary dosimeters were issued to [redacted] (under various name spellings) from [redacted]. The table below lists the two areas as well as the dates of the temporary dosimeters that were located.

Temporary Badge Report Listings for [redacted]

Area	Last Name*	FI*	Suffix*	Start date*	End Date*	Gamma Dose	Spelling Variation
SPERT						0	1
SPERT						0	1
SPERT						0	1
SPERT						0	2
SPERT						0	1
SPERT						0	3
SPERT						0	4
SPERT						0	4
MTR						0	5
MTR						0	1
MTR						0	4
MTR						0	1
MTR						0	6
MTR						0	7
MTR						0	8
SPERT						0	1
MTR						0	4
SPERT						0	4
MTR						0	9
MTR						0	10

\*[redacted]

The only indication of work at CPP is a single whole body count analysis form that lists CPP on [redacted]. This indication is believed to be a typographical error in that his Whole Body Counting questionnaire on the same date [redacted] lists Central Facilities building 689 as his present work area. On the same questionnaire, [redacted] indicates that he has been in the work area for [redacted] years which is consistent with his other urinalysis data that indicates his work area as Central Facilities. [redacted] 20 dosimeters during the [redacted] time period only place him at SPERT and TRA. Dosimetry for [redacted] was not found during a review of the temporary badge reports for CPP and TAN areas.

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[redacted] also has multiple external visitor badges in the late 1970s (1976+) and 1980s from TRA, TAN, SPERT, and CPP.

[redacted]- Closed

[redacted] initial employment as a mason at INL was in [redacted]. He is listed on two dosimetry reports, the first is Area 03 which is Central Facilities and the second is Area 17 which is the MX construction area. In [redacted] he was also monitored via bioassay out of the Central Facilities area. Two weeks later, [redacted] was monitored via bioassay the location was listed as MTR, however, there is no dosimeter badge for MTR listed.

In [redacted], [redacted] was again monitored via bioassay, however, this time the location is listed as CPP. Temporary badge reports and INL visitor dosimeter cards were reviewed during the week of January 4, 2016 onsite. Three [redacted] visitor dosimeters for [redacted] were found indicating monitoring at CPP.

**IMAGE REMOVED**

**[Privacy Act]**

**IMAGE REMOVED**

**[Privacy Act]**

**IMAGE REMOVED**

**[Privacy Act]**

The dates are consistent with the bioassay result dates and clearly make [redacted] eligible for the SEC. It should be noted, however, that currently [redacted] is not part of the SEC due to cancer type [redacted]. Should [redacted] develop an additional covered cancer, he would be part of the SEC.

### **Summary**

NIOSH has come to closure on all of the 881 (100%) of the claims that had covered employment during the recommended SEC period. Thus, at this time NIOSH believes that our review of the 881 cases demonstrates that external dosimetry monitoring status is a valid indicator of whether it was possible for a worker to have entered the CPP area of INL between January 1, 1963 and December 31, 1974.

### **References**

The primary reference source for each evaluation was the individual's claimant files as provided by the Department of Labor (DOL) and the Department of Energy (DOE). In addition the CPP and CX Dosimetry reports and the CPP Temporary Badge Reports were used.

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