



MEMORANDUM

TO: Idaho National Laboratory/Argonne National Laboratory-West Work Group
FROM: SC&A, Inc.
DATE: July 26, 2018
SUBJECT: Interim Status of Verification and Validation Activities for CPP (1963–1970)

Introduction and Background

As part of its evaluation of Special Exposure Cohort (SEC) Petition 00219, the Idaho National Laboratory/Argonne National Laboratory-West (INL/ANL-W) Work Group requested that SC&A investigate methods to validate and verify the proposed class definition for the Idaho Chemical Processing Plant (CPP) during the period from January 1, 1963, to February 28, 1970. The portion of the proposed class definition for this period is stated in the SEC-00219 evaluation report as follows:

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 (a) 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, 1963 and February 28, 1970...
[NIOSH 2017]

Specifically, SC&A was tasked with evaluating the portion of the class definition that required CPP-specific external dosimetry. Preliminary investigations by the National Institute for Occupational Safety and Health (NIOSH) and SC&A discovered that nonroutine external badging (referred to as “temporary badges” in this memo) was not always entered into the INL electronic dosimetry system, and thus these dosimetry records were not being appropriately assigned to potential members of the SEC class. In response to this issue, the U.S. Department of Energy (DOE) began an extensive coding effort in 2016 to transfer the temporary badges into the appropriate electronic database. Once those badges had been appropriately migrated to the electronic format, all appropriate external dosimetry should be available for individual SEC adjudication under the requirements of the proposed definition (shown above).

As the necessary DOE coding effort began in 2016, the Work Group expressed concern that inherent difficulties in the coding effort, such as incorrect transcription, variation in the legibility and quality of handwritten records, and other human error, may inadvertently result in the exclusion of a qualified claimant from the proposed SEC class. The decision as to the acceptable level of effectiveness and completeness of this database is of singular importance to the Work Group and Board’s ultimate recommendation on the SEC class. To evaluate the stated concerns,

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SC&A proposed a method in which the dosimetry files for a set of claims with known temporary badges at CPP would be requested from DOE after the coding had been completed. The verification and validation (V&V) methodology proposal is documented in SC&A memoranda of September 29, 2016 (SC&A 2016a), and August 3, 2017 (SC&A 2017), and was discussed during the May and August 2017 Work Group meetings. At the August 2017 meeting, the Work Group determined that the proposed V&V method should proceed in stages, with the first group of 30 claimant dosimetry file requests to be completed prior to a second group of 30 claimant dosimetry requests. This would allow for more efficient analysis of the claim files as DOE completed the records requests. This memo presents a status update and interim results for a portion of the first 30 claim files that have been received to date.

Status of DOE Dosimetry File Requests for First 30 Claims

The first set of requests to DOE were made by NIOSH in August 2017 and were promptly responded to later that fall. However, NIOSH discovered that these early requests to DOE were incomplete and did not include the full dosimetry files for the first 30 claims as intended. Therefore, NIOSH re-requested the full dosimetry files from DOE in March and May 2018 in batches of 10 claims each.¹ To date, DOE has provided updated responses for 18 of the 30 claimants in the first group proposed for V&V evaluation. Table 1 provides the history and status for each of the Group 1 claimants as shown in the NIOSH OCAS Claims Tracking System (NOCTS).

Table 1. Status of 30 Claimant Dosimetry File Requests as Shown in NOCTS

Case ID*	Date of Original NIOSH Request	Date of Original DOE Response	Date of Revised NIOSH Request	Date of Revised DOE Response	Request Complete?
A	8/22/2017	10/20/2017	3/5/2018	5/4/2018	Yes
B	8/22/2017	10/20/2017	3/5/2018	5/4/2018	Yes
C	8/22/2017	10/13/2017	3/5/2018	5/4/2018	Yes
D	8/22/2017	10/18/2017	3/5/2018	5/4/2018	Yes
E	Not Requested	N/A	3/5/2018	5/3/2018	Yes
F	8/22/2017	10/19/2017	3/5/2018	5/4/2018	Yes
G	8/22/2017	10/11/2017	3/5/2018	5/4/2018	Yes
H	Not Requested	N/A	3/5/2018	5/7/2018	Yes
I	8/22/2017	10/23/2017	3/5/2018	5/3/2018	Yes
J	Not Requested	N/A	3/5/2018	5/4/2018	Yes
K	8/22/2017	10/25/2017	5/15/2018	6/7/2018	Yes
L	8/22/2017	10/12/2017	5/15/2018	6/4/2018	Yes
M	8/22/2017	10/13/2017	5/15/2018	6/4/2018	Yes
N	Not Requested	N/A	5/15/2018	Pending	No
O	8/22/2017	10/20/2017	5/15/2018	7/5/2018	Yes
P	8/22/2017	10/23/2017	5/15/2018	6/28/2018	Yes
Q	Not Requested	N/A	5/15/2018	6/29/2018	Yes
R	8/22/2017	10/12/2017	5/15/2018	Pending	No
S	8/22/2017	10/20/2017	5/15/2018	7/5/2018	Yes

¹ Requests for the last 10 claims in Group 1 have not yet been made as of the writing of this memo.

Case ID*	Date of Original NIOSH Request	Date of Original DOE Response	Date of Revised NIOSH Request	Date of Revised DOE Response	Request Complete?
T	8/22/2017	10/18/2017	5/15/2018	7/5/2018	Yes
U	8/22/2017	10/18/2017	Not Yet Requested	N/A	No
V	8/22/2017	10/18/2017	Not Yet Requested	N/A	No
W	8/22/2017	10/20/2017	Not Yet Requested	N/A	No
X	8/22/2017	10/12/2017	Not Yet Requested	N/A	No
Y	Not Requested	N/A	Not Yet Requested	N/A	No
Z	Not Requested	N/A	Not Yet Requested	N/A	No
AA	8/22/2017	10/18/2017	Not Yet Requested	N/A	No
AB	8/22/2017	10/18/2017	Not Yet Requested	N/A	No
AC	8/22/2017	10/20/2017	Not Yet Requested	N/A	No
AD	8/22/2017	10/18/2017	Not Yet Requested	N/A	No

*Case ID is an arbitrary designation that does not have any direct connection to the claimant. Attachment A provides the actual NOCTS claim numbers associated with each Case ID designation for reference.

Evaluation of 18 Updated Claimant Dosimetry Files Received to Date

Table 2 compares the temporary badges identified by SC&A and the updated dosimetry files recently transmitted to NIOSH from DOE. It is important to note that the majority of temporary badge reports do not contain other identifying information besides last name, first and middle initials, and the employer at the time of the badging.² Therefore, the only temporary badges considered in columns 2 and 3 of Table 2 had to have exact matches for these four identifiers (alternately, three identifiers if the middle initial was not provided). In addition, an exception was made for Case F, in which the exclusion of “█” was evaluated for the reasons stated in association with that case.

A total of 420 temporary badges were identified by SC&A for evaluation among the 18 claims with currently updated DOE response files. Of those 420 temporary badges, 332 (79%) were successfully identified and included in the updated monitoring records. In one case (Case K), none of the 31 temporary badges identified by SC&A were included in the updated DOE response file.

During the course of its original review of temporary badges, SC&A identified several examples where it appeared slight variations or misspellings of the energy employee’s (EE’s) name were observed. While these variations were not included in the totals discussed in the previous paragraph and displayed in columns 2 and 3 of Table 2, they are discussed as appropriate in the “Case Notes and Comments” column. SC&A observed a total of 32 temporary badges with potential variations on the claimant’s name, only 3 of which (~10%) were included in the corresponding updated DOE response file.

² S# was usually included only in cases where a positive dose was accrued during the temporary badging period.

Table 2. Overview of V&V Comparison for 18 Claimants with Updated Dosimetry Files Transmitted from DOE

Case ID*	Total Number of Temporary Badges Checked from SC&A List	Total Number of SC&A Badges Found in Updated DOE Response (% of Total)	Case Notes and Comments
K	31	0 (0.0%)	<p>█ [REDACTED]</p> <ul style="list-style-type: none"> 31 temporary badges ranged from [REDACTED], during which the EE's Location File Card and extensive regular dosimetry indicates work at the [REDACTED] and [REDACTED]. Computer-assisted telephone interview (CATI) with the EE does not mention CPP but does mention the EE was part of the [REDACTED] for the [REDACTED] years of employment. A Whole Body Count questionnaire does not indicate any work areas besides [REDACTED]; however, the available monitoring records do contain temporary badges associated with [REDACTED] and the [REDACTED] prior to the date on the questionnaire. The only information provided on the temporary badges identified was the name "[REDACTED]" and the [REDACTED]. No name variations were identified in the set of temporary badges reviewed by SC&A.
F	48	6 (12.5%)	<p>█ [REDACTED]</p> <ul style="list-style-type: none"> Updated DOE response only contains records for "[REDACTED]" and none identified as "[REDACTED]." The site Location File Card as well as U.S. Department of Labor (DOL) initial case files both list the claimant as "[REDACTED]" Location File Card only lists [REDACTED] as a work location Potential name variations identified in the SC&A reviewed temporary badges: [REDACTED] (however, [REDACTED] and [REDACTED] appear to be written over top of one another), [REDACTED] and [REDACTED]. None of the temporary badges associated with these name variations were included in the updated DOE file. Updated DOE response does contain the following variations in other records: [REDACTED] (note: neither the name "[REDACTED]" nor a [REDACTED] of any kind appears in the DOL case files or CATI interview with the survivor).

Case ID*	Total Number of Temporary Badges Checked from SC&A List	Total Number of SC&A Badges Found in Updated DOE Response (% of Total)	Case Notes and Comments
E	41	32 (78.0%)	<ul style="list-style-type: none"> • [REDACTED] • Location File Card does not cover the period of interest. • Both “[REDACTED]” and “[REDACTED]” appear in the dosimetry file and temporary badges (there was no connection between the missing temporary badges and the exclusion of the [REDACTED]). • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. None of the temporary badges associated with these name variations were included in the updated DOE file. • Updated DOE response does contain the following variations in other records: [REDACTED].
M	17	16 (94.1%)	<ul style="list-style-type: none"> • [REDACTED] • Location file card indicates that [REDACTED] was the primary work location. • Missing temporary badge lists [REDACTED] as the employer, which is verified in the DOL initial case file as the EE’s employer during the period when the badge was issued. • Potential name variation identified in SC&A reviewed temporary badges: [REDACTED]. This record was not included in the updated DOE response file. • Updated DOE response does contain the following variations in other records: [REDACTED].
O	35	33 (94.3%)	<ul style="list-style-type: none"> • Name: [REDACTED] • Location file card only lists [REDACTED] as a work area but only provides the “[REDACTED]” of [REDACTED]. • No name variations were identified in the set of temporary badges reviewed by SC&A.
B	25	23 (95.8%)	<ul style="list-style-type: none"> • [REDACTED] • Location File Card indicates various temporary/visitor badging periods at [REDACTED] during the SEC period of interest. • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. Only the last variation (“[REDACTED]”) was included in the updated DOE response; however, it was also a positive result so the S# was included on the temporary badge report. • Updated DOE response does contain the following variations in other records: [REDACTED].

Case ID*	Total Number of Temporary Badges Checked from SC&A List	Total Number of SC&A Badges Found in Updated DOE Response (% of Total)	Case Notes and Comments
H	68	66 (97.1%)	<ul style="list-style-type: none"> • Prior to the Updated DOE response, the EE did not have any external dosimetry during the SEC period. • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. None of the temporary badges associated with these name variations were included in the updated DOE response. • Updated DOE response does contain the following variations in other records: [REDACTED].
A	4	4 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.
C	4	4 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.
D	30	30 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.
G	24	24 (100.0%)	<ul style="list-style-type: none"> • Potential name variation identified in SC&A reviewed temporary badges: [REDACTED]. This record was not included in the updated DOE response file. • Updated DOE response does contain the following variations in other records: [REDACTED].
I	7	7 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.
J	1	1 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A. • Interestingly, this claim was part of earlier evaluations by SC&A and NIOSH in which no previous external dosimetry could be found but the claim record at the time contained an in vivo record labelled [REDACTED] (see NIOSH 2016, SC&A 2016b, and ABRWH 2016, pp. 46–52).

Case ID*	Total Number of Temporary Badges Checked from SC&A List	Total Number of SC&A Badges Found in Updated DOE Response (% of Total)	Case Notes and Comments
L	32	32 (100.0%)	<ul style="list-style-type: none"> • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. All [REDACTED] name variations are associated with [REDACTED], only the last variation (“[REDACTED]”) was included in the updated DOE response. • Updated DOE response does contain the following variations in other records: [REDACTED]
P	20	20 (100.0%)	<ul style="list-style-type: none"> • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. The temporary badges identified with these name variations were not included in the DOE response; however, an additional [REDACTED] temporary for “[REDACTED]” did appear in the records. • Updated DOE response does contain the following variations in other records: [REDACTED]
Q	25	25 (100.0%)	<ul style="list-style-type: none"> • Potential name variations identified in SC&A reviewed temporary badges: [REDACTED]. Only the temporary badge with the last name variation ([REDACTED]) appeared in the updated DOE response. • Updated DOE response does contain the following variations in other records: [REDACTED]
S	1	1 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.
T	7	7 (100.0%)	<ul style="list-style-type: none"> • No name variations were identified in the set of temporary badges reviewed by SC&A.

*Case ID is an arbitrary designation that does not have any direct connection to the claimant. Attachment A provides the actual NOCTS claim numbers associated with each Case ID designation for reference.

References

ABRWH 2016. Transcript: Meeting of the Advisory Board on Radiation and Worker Health Argonne National Laboratory-West/Idaho National Laboratory Work Group, Hebron, KY. August 2, 2016.

NIOSH 2016. *Evaluation of 32 Additional INL Claims for SEC00219 Proposed Class Definition*, National Institute for Occupational Safety and Health, Cincinnati, OH. July 20, 2016.

NIOSH 2017. *SEC Petition Evaluation Report – Petition SEC-00219 – Idaho National Laboratory*, Revision 2, National Institute for Occupational Safety and Health, Cincinnati, OH. February 22, 2017.

SC&A 2016a. *Memorandum: Verification and Validation (V&V) Plan for Temporary Badges at CPP (1963–1970)*, SC&A, Inc., Vienna, VA. September 29, 2016.

SC&A 2016b. *Evaluation of Claims with Supplemental Dosimetry Requests*, SC&A, Inc., SCA-2016-SEC-0074F, Revision 0, Vienna, VA. January 12, 2016.

SC&A 2017. *Memorandum: Update on Validation and Verification of INL CPP Temporary Badge Database – Expansion of Claimant Pool (1963–1970)*, SC&A, Inc., Arlington, VA. August 3, 2017.

Attachment A: [Redacted in Full]

[Attachment A is withheld in its entirety to prevent the disclosure of Privacy Act-protected information.]