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ADVISORY BOARD ON RADIATION AND WORKER HEALTH

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

A REVIEW OF NIOSH'S PROGRAM EVALUATION REPORT OCAS-PER-017, "EVALUATION OF INCOMPLETE INTERNAL DOSIMETRY RECORDS FROM IDAHO, ARGONNE – EAST AND ARGONNE – WEST NATIONAL LABORATORIES"

Contract No. 200-2009-28555 SCA-TR-PR2012-0017, Rev. 0

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A Review of NIOSH's Program Evaluation	
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1.0 STATEMENT OF PURPOSE

To support dose reconstruction (DR), the National Institute for Occupational Safety and Health (NIOSH) and the Oak Ridge Associated Universities Team (ORAUT) have assembled a large body of guidance documents, workbooks, computer codes, and tools. In recognition of the fact that all of these supporting elements in DR may be subject to revisions, provisions exist for evaluating the effect of such programmatic revisions on the outcome of previously completed DRs. Such revisions may be prompted by document revisions due to new information, misinterpretation of guidance, changes in policy, and/or programmatic improvements.

The process for evaluating potential impacts of programmatic changes on previously completed DRs has been proceduralized in OCAS-PR-008, *Preparation of Program Evaluation Reports and Program Evaluation Plans* (OCAS 2006), Revision 2 dated December 6, 2006. This procedure describes the format and methodology to be employed in preparing a Program Evaluation Report (PER) and a Program Evaluation Plan (PEP).

A PER provides a critical evaluation of the effect(s) that a given issue/programmatic change may have on previously completed DRs. This includes a qualitative and quantitative assessment of potential impacts. Most important in this assessment are the potential impacts on the Probability of Causation (POC) of previously completed DRs with POCs <50%.

As needed, a PEP may be issued that serves as a formal notification of an impending PER. The PEP provides a preliminary description of the issue(s) that will be addressed in the PER, and summarizes the likely scope of the effort required to complete the PER.

During an Advisory Board meeting on May 20, 2010, SC&A was tasked by the Advisory Board to conduct a review of OCAS-PER-017, *Evaluation of Incomplete Internal Dosimetry Records from Idaho*, *Argonne – East and Argonne – West National Laboratories* (OCAS 2007). In conducting a PER review, SC&A is committed to perform the following five subtasks, each of which is discussed in this report:

- Subtask 1: Assess NIOSH's evaluation/characterization of the "issue" and its potential impacts on DR. Our assessment intends to ensure that the "issue" was fully understood and characterized in the PER.
- Subtask 2: Assess NIOSH's specific methods for corrective action. In instances where the PER involves a technical issue that is supported by document(s) (e.g., white papers, technical information bulletins, procedures) that have not yet been subjected to a formal SC&A review, Subtask 2 will include a review of the scientific basis and/or sources of information to ensure the credibility of the corrective action and its consistency with current/consensus science. Conversely, if such technical documentation has been formalized and previously subjected to a review by SC&A, Subtask 2 will simply provide a brief summary/conclusion of this review process.

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- Subtask 3: Evaluate the PER's stated **approach** for identifying the universe of potentially affected DRs, and assess the **criteria** by which a subset of potentially affected DRs was selected for re-evaluation. The second step may have important implications in instances where the universe of DRs is too large and, for reasons of practicality, NIOSH's re-evaluation is confined to a subset of DRs. In behalf of Subtask 3, SC&A will also evaluate the timeliness for the completion of the PER.
- Subtask 4: Conduct audits of DRs affected by the PER under review. The number of DRs selected for audit for a given PER will vary. The selection of the DRs and the total number of DR audits per PER will be made by the Advisory Board.
- Subtask 5: Prepare a comprehensive written report that contains the results of the above-stated subtasks, along with our review conclusions.

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2.0 SUBTASK 1: IDENTIFY THE CIRCUMSTANCES THAT NECESSITATED OCAS-PER-017

In April/May 2006, two DR reviews involving claimants exposed at Idaho National Laboratory (INL) and Argonne National Laboratory-East (ANL-E), respectively, contained questionable **notations** in response to requests for **internal** monitoring data. For the INL claim, the notation stated, "no recordable dose," and for the ANL-E claim, the notation stated, "no internal dose."

Further inquiries revealed that INL, ANL-E, and Argonne National Laboratory-West (ANL-W) did **not** consistently include **internal** dose data in response to requests for such data by NIOSH. NIOSH concluded that for a given energy employee (EE), INL, ANL-E, and ANL-W either provided **all** or **none** of the EE's internal monitoring records. The potential for missed internal dosimetry data that had been requested but not received by NIOSH centered around handwritten notations in the OCAS-INT-004 (OCAS 2001) check-box form that either stated "no internal dose" or "no recordable dose."

SC&A's Comments. NIOSH's review of DRs and follow-up concerns regarding the notations of "no recordable dose" and "no internal dose" in the INL/ANL-E internal dosimetry responses is commendable. Further inquiries by NIOSH revealed instances where some EEs may have been monitored for internal exposure but request for such records had not been provided. NIOSH correctly concluded that in such instances, the corresponding reconstruction of organ dose(s) and derived POC were potentially incorrect.

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3.0 SUBTASK 2: ASSESS NIOSH'S APPROACH AND METHODS FOR CORRECTIVE ACTION

With the realization in July/August 2006 that some EEs at INL, ANL-W, and ANL-E may have been monitored for internal exposure, but whose internal dosimetry records may not have been made available for DR, NIOSH pursued the following corrective steps in order to determine the universe (or maximum potential number) of claims that could have been impacted by incomplete internal dosimetry records.

- <u>Determined the total number of non-compensated claims</u>. As of January 24, 2007, there were 677 INL, 87 ANL-W, and 69 ANL-E submitted/non-compensated claims, for a total of 833 claims.
- Reviewed each case with respect to the completion of the **internal** dosimetry status section.
- Based on information and notations contained in OCAS-INT-004, determined which of the 833 claims qualified for additional requests of internal monitoring data.

<u>SC&A's Comments</u>. At the time of SC&A's review of OCAS-PER-017, SC&A requested NIOSH to provide information that would identify the 677 INL, 87 ANL-W, and 69 ANL-E claims, along with key information of the initial dose-record response used by NIOSH for further evaluation and selection of DRs, which required re-evaluation.

In response to SC&A's request, NIOSH identified potentially affected claims for each of the three facilities, along with initial responses to NIOSH's request for internal dosimetry data. A cross-reference of the EEs' ID numbers by NIOSH revealed that some claimants had been employed at more than one of the three sites; this reduced the total number of potentially affected claims from the earlier estimate of 833 to 789. Initial responses to requests for internal dosimetry data are summarized in Columns B and C of enclosed Appendices A, B, and C and were used by NIOSH to select those cases where additional information was sought.

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4.0 SUBTASK 3: EVALUATE THE PER'S STATED APPROACH FOR IDENTIFYING THE NUMBER OF DRS REQUIRING RE-EVALUATION OF DOSE

Section 2.0 of PER-017 identified the following set of criteria for identifying those claims for which the initial request for internal dose data contained the following notations, which in turn mandated a request for additional internal dosimetry data.

- 1. There were no internal dose records in the original response along **with** or without a handwritten note stating "no internal or recordable dose."
- 2. There were no internal dose records in the original response, and the OCAS-INT-004 was **marked** as "internal dosimetry records not readily available," or without a handwritten note stating "no internal or recordable dose."
- 3. The OCAS-INT-004 contained **no** markings or notations and there were **no** internal dose records provided in the original response. (Note: Initial responses to requests for internal dosimetry data are summarized in Columns B and C of Appendices A, B, and C and were used by NIOSH to select those cases where additional information was requested.)

Using these criteria, NIOSH identified a total of 223 cases from among 789 non-compensated claims for which further information and clarification of internal exposure were requested. Responses for 142 cases contained notes stating that the EE was either not monitored or that no internal exposure records/bioassay records could be found (see Columns D and E of Appendices A, B, and C). Additional requests for internal dose/bioassay data were therefore **not** generated for cases when this information was provided within the response, since NIOSH concluded that there was no need for the re-evaluation of dose.

In total, NIOSH identified 83 cases for which responses dictated the need for a re-evaluation of EE doses with the following representation: 62 INL, 14 ANL-W, 6 ANL-E, and 1 with employment at both INL and ANL-W.

<u>SC&A's Comments</u>. SC&A reviewed data/information received from NIOSH (collated herein as Appendices A, B, and C) with the following objectives:

- 1. Assess initial dosimetry responses summarized in Columns B and C of the Appendices in order to verify the number of cases for which additional data requests were sought
- 2. Assess second responses summarized in Columns D and E in order to verify the number of cases for which a new DR is required

Our review of the data found **no inconsistencies/errors** with the identification and selection of cases as specified in Section 2.0 of OCAS-PER-017. As a benefit to the reader, SC&A highlighted the 83 cases, as shown in Appendices A, B, and C.

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5.0 SUBTASK 4: CONDUCT AUDITS OF A SAMPLE-SET OF DRS AFFECTED BY OCAS-PER-017

SC&A contacted NIOSH in order to determine the extent of completion of the 83 cases requiring a new DR. SC&A was told that those data were not readily available.

By means of the claims' ID numbers, SC&A independently assessed the current status of the 83 cases in the NOCTS database. (Note: Claim ID numbers are not identified in Appendices A, B, and C.) The current status for the 83 cases is shown in Appendices D, E, and F for INL, ANL-W, and ANL-E, respectively. For illustration, Appendix D identifies the status of 63 INL cases: (1) 38 cases have a completed **revised** DR that has been adjudicated by the DOL; (2) 12 cases have a completed **revised** DR, but without a final DOL decision; and (3) 13 cases are still awaiting completion of a revised DR.

Selection of DRs for SC&A's audit by the Dose Reconstruction Subcommittee will be limited to completed DRs that have been adjudicated by the DOL. Pending approval by the Subcommittee, SC&A recommends selection of at least 3 INL cases, 2 ANL-W cases, and 1 ANL-E case.

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6.0 SUMMARY CONCLUSIONS

In behalf of the four subtasks evaluated under OCAS-PER-017, SC&A identified no findings and is in agreement with the corrective actions taken by NIOSH.

Given the fact that SC&A has not identified findings regarding OCAS-PER-017, it may be prudent to not delay selection of auditable cases as defined in Section 5.0 (Subtask 4) above.

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7.0 REFERENCES

OCAS 2001. Request for Personnel Exposure Information Under the Energy Employees Occupational Illness Compensation Program Act, OCAS-INT-004, Revision 0, NIOSH's Office of Compensation Analysis and Support, Cincinnati, Ohio. November 20, 2001.

OCAS 2006. *Preparation of Program Evaluation Reports and Program Evaluation Plans*, OCAS-PR-008, Revision 2, NIOSH's Office of Compensation Analysis and Support, Cincinnati, Ohio. December 6, 2006.

OCAS 2007. Evaluation of Incomplete Internal Dosimetry Records from Idaho, Argonne – East and Argonne – West National Laboratories, OCAS-PER-017, Revision 00, NIOSH's Office of Compensation Analysis and Support, Cincinnati, Ohio. September 11, 2007.

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APPENDIX A: REVIEW OF INL CASES WITH POC <50% POTENTIALLY AFFECTED BY OCAS-PER-017

A	В	C	D	E
SC&A Case ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INITIAL RESPONSE – INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	ADDITIONAL RESPONSE – INTERNAL DOSE RECORDS
1	marked as not readily available; no hand- written note	in-vivo summary (90)/in-vivo (90) provided		
2	marked as provided; note: no internal exposure	in-vivo summary (66, 83–85, 89–91)/in-vivo (66, 69, 83–85, 89–91)/bioassay (62–66) provided		
3	marked as not readily available; no hand- written note	in-vivo summary (66, 85)/in-vivo (66, 85)/bioassay (56–57, 59, 61–65) provided		
4	marked as not readily available; no hand- written note	in-vivo summary (78–80)/in-vivo (77–80) provided		
5	marked as provided; no hand-written note		marked as provided; note: see transmittal letter	notation in file stating no internal bioassay results for this EE
6	marked as provided; note: no internal dose	in-vivo summary (66, 69, 81–85)/in-vivo (73, 76, 81–85) provided		
7	marked as provided; no hand-written note	in-vivo (91) provided		
8	marked as provided; no hand-written note	in-vivo (61–62, 65–66, 81)/bioassay (56–58, 60–65) provided		
9	marked as provided; no hand-written note	in-vivo (68, 71–73, 78, 82, 84–87, 89–94)/bioassay (68) provided		
10	no notations/markings	in-vivo summary (65–66, 82, 92)/in-vivo (63–66, 69, 82, 92)/bioassay (55–65) provided		
11	marked as provided; note: no internal dose	in-vivo summary (81–84, 87, 93–94)/in-vivo (81–84, 87, 93–94) provided		
12	marked as provided; note: no internal dose	bioassay (61–64) provided		
13	marked as provided; note: no internal dose	in-vivo (90) provided		
14	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (80, 82–86, 89–92)/in-vivo (62–63, 71, 73, 80, 82–86, 89–92)/bioassay (56–65, 67) provided		
15	marked as provided; no hand-written note	in-vivo summary (65–66, 80–85)/in-vivo (63–66, 70, 72, 76, 81–85)/bioassay (56–66) provided		
16	marked as provided; note: no internal dose	in-vivo summary (65, 80)/in-vivo (65, 80)/bioassay (62–65) provided		
17	marked as provided; note: no internal exposure – no wbc		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
18	marked as provided; note: no internal exposure; note in second response: no recordable dose	in-vivo (63–64, 66, 68, 72, 74, 76, 82, 86)/bioassay (55, 57–58, 61–65) provided		
19	marked as not readily available; no hand- written note	in-vivo summary (84, 86–87, 89–91)/in-vivo (84, 86–87, 89–91) provided		
20	marked as provided; note: no internal dose	in-vivo summary (81–82, 85, 90–92, 95)/in-vivo (81–82, 85, 90–92, 95) provided		

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A	В	С	D	E
SC&A Case ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INITIAL RESPONSE – INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	ADDITIONAL RESPONSE – INTERNAL DOSE RECORDS
21	marked as provided; note: no internal dose	in-vivo summary (78–81, 83–93)/in-vivo (78–81, 83–93)/bioassay (83–93) provided		
22	marked as provided; no hand-written note	in-vivo (74, 76–79, 81–90) provided		
23	marked as provided; no hand-written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
24	marked as provided; no hand-written note	in-vivo summary (80–93)/in-vivo (80–91, 93)/bioassay (88–91, 93) provided		
25	marked as provided; note: no internal dose	bioassay (53–57) provided		
26	marked as provided; note: see attached	in-vivo summary (78, 80)/in-vivo (61, 64, 69, 73–75, 77–78, 80)/bioassay (54–65)/thyroid (58) provided		
27	marked as provided; note: no recordable dose	bioassay (60) provided		
28	marked as provided; no hand-written note	in-vivo (66, 69, 72–73, 82–83, 85) provided		
29	marked as provided; note: no recordable internal dose/no monitoring required			
30	marked as provided; no hand-written note		marked as provided; note: no recordable dose, see transmittal letter	notation in file stating no internal bioassay results for this EE
31	marked as provided; note: no monitoring required	in-vivo (86, 88–92) provided		
32	marked as provided; no hand-written note		marked as provided; note: see transmittal letter	notation in file stating no internal bioassay results for this EE
33	marked as provided; note: no recordable internal dose/no monitoring required			,
34	marked as not readily available; no hand- written note	in-vivo summary (80, 84–91)/in-vivo (80, 84–91) provided		
35	marked as provided; note: no internal dose	in-vivo summary (85, 93)/in-vivo (85, 93) provided		
36	marked as provided; no hand-written note		marked as provided; note: no recordable dose, see attached letter	in-vivo (67)/bioassay (64–65) provided
37	marked as provided; note: no monitoring required			
38	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
39	marked as provided; note: no internal dose	in-vivo summary (70)/in-vivo (70)/bioassay (62–65) provided		,
40	marked as provided; note: no internal dose	in-vivo summary (79, 83, 95)/in-vivo (79, 83, 95)/bioassay (60–61) provided		
41	marked as not readily available; no hand- written note	in-vivo summary (82–88, 92–93)/in-vivo (82–88, 92– 93)/bioassay (82–83) provided		
42	marked as provided; note: no internal dose	in-vivo summary (83, 90–93)/in-vivo (83, 90–93) provided		
43	marked as provided; note: no internal dose	in-vivo (61, 63–64)/bioassay (56–64) provided		
44	marked as provided; no hand-written note	in-vivo summary (66, 83)/in-vivo (66, 69, 73, 77, 83)/bioassay (59–64) provided		
45	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE

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A	В	C	D	E
SC&A Case ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INITIAL RESPONSE – INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	ADDITIONAL RESPONSE – INTERNAL DOSE RECORDS
46	marked as provided; note: no internal dose – all dose from ANL	in-vivo (65–66, 68–74, 76)/bioassay (61–66) provided		
47	marked as provided; note: monitoring not required	in-vivo (81, 83–95) provided		
48	marked as not readily available; no hand- written note	in-vivo summary (95)/in-vivo (95) provided		
49	marked as provided; no hand-written note	in-vivo summary (66, 70, 92)/in-vivo (63, 65–66, 70, 92)/bioassay (56–66) provided		
50	marked as provided; note: no internal exposure – wbc dates	in-vivo summary (82, 84–85, 90–92, 95–96)/in-vivo (82, 84–85, 90–92, 95) provided		
51	marked as not readily available; no hand- written note	in-vivo summary (82, 85)/in-vivo (82, 85) provided		
52	marked as provided; no hand-written note	in-vivo summary (91)/in-vivo (91) provided		
53	marked as provided; note: no internal dose	in-vivo summary (70)/in-vivo (64, 70, 73)/bioassay (57–59, 61–66) provided		
54	marked as provided; note: no internal dose	in-vivo (76–77) provided		
55	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	in-vivo (65, 68, 71)/bioassay (65) provided
56	marked as provided; note: no internal exposure	in-vivo summary (65, 70, 81)/in-vivo (62, 65, 69–70, 72, 78, 81)/bioassay (57–65) provided		
57	marked as provided; note: no internal dose	bioassay (53–55, 57–58, 61–65, 69) provided		
58	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	in-vivo (65)/bioassay (61–65) provided
59	marked as provided; no hand-written note	in-vivo (68, 81, 92, 95)/bioassay (68) provided		
60	note: not monitored	notation in file that records show no record of EE being monitored or receiving dose at INL		
61	marked as provided; note: no internal dose	in-vivo (63, 69, 71)/bioassay (56–63) provided		
62	marked as provided; note: no internal dose	in-vivo summary (67, 70, 74, 76, 80, 83)/in-vivo (67, 70, 74, 76, 80, 83) provided		
63	marked as provided; note: no internal dose	in-vivo summary (65–66, 68, 85–86)/in-vivo (65–66, 68, 73, 85–86)/bioassay (56–61, 63–64, 68) provided		
64	marked as provided; no hand-written note	in-vivo summary (79, 82–84, 86, 88, 90, 92, 94)/in-vivo (73, 79, 82–84, 86, 88, 90, 92, 94)/bioassay (61–63, 65–67) provided		
65	marked as provided; note: no monitoring required			
66	marked as provided; no hand-written note	in-vivo (90–91) provided		
67	marked as provided; no hand-written note	bioassay (59, 61-64) provided		
68	marked as provided; note: no internal exposure	in-vivo summary (78–79, 84)/in-vivo (77–78, 84) provided		
69	marked as provided; no hand-written note	in-vivo summary (75)/in-vivo (62, 75)/bioassay (59–63) provided		
70	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose	notation in file stating no internal bioassay results for this EE

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71	marked as provided; note: no internal dose	in-vivo summary (81–82)/in-vivo (73–74, 81–82) provided		
72	marked as provided; note: no internal dose	in-vivo summary (82–84, 89–91, 94)/in-vivo (82–85, 89–91, 94) provided		
73	marked as provided; note: no internal dose/no hand-written note	bioassay (53) provided		
74	marked as provided; note: no internal dose	in-vivo summary (66, 70, 80, 82–87)/in-vivo (66, 70, 80, 82–87) provided		
75	marked as provided; no hand-written note	in-vivo summary (66, 83)/bioassay (63) provided		
76	marked as provided; no hand-written note	in-vivo summary (72)/in-vivo (72)/bioassay (55–56, 59, 61–64) provided		
77	marked as provided; note: no internal dose	bioassay (60-61, 65, 70) provided		
78	marked as provided; no hand-written note	in-vivo summary (66–67, 75)/in-vivo (63, 66–67, 75)/bioassay (62–64, 66) provided		
79	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (71, 75, 81–87, 90–92, 94–95)/in-vivo (63, 71, 74–75, 81–87, 90–92, 94–95)/bioassay (58–64, 68) provided		
80	marked as provided; note: no monitoring required			
81	marked as not readily available; no hand- written note	in-vivo summary (82–90)/in-vivo (82–90)/bioassay (83–86) provided		
82	marked as provided; note: no monitoring required			
83	marked as provided; note: no monitoring required			
84	marked as provided; note: no monitoring required	in-vivo (85) provided		
85	marked as provided; note: no internal dose	in-vivo summary (81, 89–90, 93, 95–96)/in-vivo (73, 77, 81, 89–90, 93, 95)/bioassay (68) provided		
86	marked as provided; no hand-written note	in-vivo (84, 86)/bioassay (55, 68) provided		
87	marked as provided; no hand-written note	in-vivo summary (70)/bioassay (64) provided		
88	marked as not readily available; no hand- written note	in-vivo (64–65)/bioassay (57, 60–62, 64–65) provided		
89	marked as provided; note: no internal dose	in-vivo summary (70, 82, 84, 86)/in-vivo (63–64, 70, 82, 84, 86)/bioassay (58–62, 64) provided		
90	marked as provided; note: no internal dose	in-vivo (74, 79, 82–87, 89, 91, 95) provided		
91	marked as provided; note: no internal dose – wbc dates attached	in-vivo summary (78)/in-vivo (78) provided		
92	marked as provided; note: no internal exposure – wbc attached	in-vivo summary (85)/in-vivo (85) provided		
93	marked as provided; no hand-written note	bioassay (59-60, 62-64) provided		
94	marked as provided; note: no internal dose	in-vivo summary (70, 82–83)/in-vivo (65, 70, 72, 74, 82–83)/bioassay (56, 58, 60, 62–65) provided		

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95	marked as provided; note: no internal dose	in-vivo summary (70, 80, 82–83, 88–91, 94–95)/in-vivo (70, 74, 76, 80, 82–83, 88–91, 93–95)/bioassay (77–83) provided		
96	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
97	marked as not readily available; no hand- written note	in-vivo (86–88, 90–91) provided		
98	marked as provided; no hand-written note	in-vivo (66–69, 75, 77–80)/bioassay (66–69) provided		
99	marked as provided; note: no recordable internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
100	marked as provided; note: no internal exposure	in-vivo (73) provided		
101	marked as provided; note: no internal dose	in-vivo (61)/bioassay (55–56, 60–62, 64–65) provided		
102	marked as provided; note: no internal dose	in-vivo (73–77, 81–84)/bioassay (75) provided		
103	marked as provided; no hand-written note	in-vivo (61)/bioassay (62, 64) provided		
104	marked as provided; note: no internal dose	in-vivo (89, 90)/bioassay (57–64) provided		
105	marked as provided; note: no internal dose – wbc attached	in-vivo summary (78–79)/in-vivo (78–79) provided		
106	marked as provided; note: no internal dose – wbc dates provided/no recordable dose	in-vivo (78–95) provided		
107	all records marked does not exist			
108	marked as provided; note: no internal exposure/no recordable dose	in-vivo summary (65–66, 68, 76, 80–83)/in-vivo (63–66, 68, 72, 76, 80–83)/bioassay (57–66, 68) provided		
109	marked as provided; note: no internal dose – wbc dates attached	in-vivo summary (82, 90)/in-vivo (82, 90) provided		
110	marked as provided; note: no internal dose	bioassay (55, 58, 62, 64) provided		
111	marked as provided; note: no internal exposure	in-vivo summary (84–92)/in-vivo (84–92) provided		
112	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see transmittal letter	notation in file stating not internal bioassay results for this EE
113	no notations/markings	in-vivo (73, 75–77, 79, 82–93, 95)/bioassay (57–63, 66) provided		
114	marked as provided; note: no recordable internal dose/no monitoring required			
115	marked as provided; note: no internal dose	in-vivo summary (79–80, 84, 86–87)/in-vivo (80, 84, 86–87) provided		
116	marked as provided; note: internal dose included/recordable dose included	in-vivo summary (76, 78–98)/in-vivo (75–77, 79– 96)/bioassay (74, 81, 83–98) provided		
117	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
118	marked as provided; note: no internal dose	in-vivo summary (68–69, 78–80)/in-vivo (63, 65, 68, 78–80)/bioassay (63–65) provided		
119	marked as provided; note: no internal dose	in-vivo summary (80)/in-vivo (61–62, 80)/bioassay (60, 62–63) provided		

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120	marked as not readily available; no hand-		marked as provided; note: no	notation in file stating no internal
	written note		recordable dose, see attached letter	bioassay results for this EE
121	marked as provided; note: no internal dose	in-vivo (82–84)/bioassay (55–56, 61, 68) provided		
122	marked as provided; no hand-written note	in-vivo (66–67, 85–86)/bioassay (53–57, 60–64) provided		
123	marked as provided; no hand-written note	in-vivo (92) provided		
124	marked as provided; note: no internal dose	in-vivo (89–95) provided		
125	marked as provided; note: no internal dose	in-vivo summary (76, 79–80)/in-vivo (76, 80) provided		
126	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
127	marked as provided; note: no internal dose	in-vivo summary (77–79)/in-vivo (74–75) provided		
128	marked as provided; note: no internal exposure – no wbc		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
129	marked as provided; note: no internal dose	in-vivo (70) provided		
130	marked as not readily available; no hand- written note	in-vivo summary (88–90, 92)/in-vivo (88–90, 92)/bioassay (88–96) provided		
131	marked as provided; note: no internal dose – all NRF dose	notation in file that all records are for NRF		
132	marked as provided; no hand-written note	in-vivo (66–67, 71, 73, 75, 77, 80, 82–92, 94– 95)/bioassay (65) provided		
133	marked as provided; no hand-written note	bioassay (58, 64) provided		
134	marked as provided; note: no internal dose	in-vivo (64–65, 69, 72, 76)/bioassay (53–55, 57–65, 78–79) provided		
135	all records marked dose not exist			
136	marked as provided; no hand-written note	in-vivo (64, 70)/bioassay (53–66) provided		
137	marked as provided; note: no internal dose		marked as provided; no hand-written note	bioassay (66) provided
138	marked as provided; note: no internal dose	in-vivo (84) provided		
139	marked as provided; note: no internal dose	in-vivo summary (65)/bioassay (59, 61–65) provided		
140	marked as provided; note: no internal dose		marked as provided; no hand-written note	bioassay (61-65, 69) provided
141	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
142	marked as provided; note: no internal dose	in-vivo (75–76, 78–88) provided		j
143	marked as provided; no hand-written note	in-vivo (85–86, 88)/bioassay (55, 57, 60–61, 64, 66) provided		
144	marked as provided; no hand-written note	in-vivo (62–63)/bioassay (53–63) provided		
145	no notations/markings	in-vivo (65)/bioassay (53–58) provided		
146	marked as provided; note: no internal exposure – no wbc		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
147	marked as provided; no hand-written note	in-vivo (77)/bioassay (62, 64–65) provided		
148	marked as provided; note: no internal dose	in-vivo (94)/bioassay (57–61) provided		
149	marked as provided; note: no recordable dose	in-vivo summary (86–87)/in-vivo (86–87) provided		

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150	marked as provided; no hand-written note	in-vivo (68, 71–73, 76–77, 79, 82, 85–87, 93, 95)/bioassay (55–65) provided		
151	marked as provided; note: no internal dose – no wbc		marked as provided; no hand-written note	bioassay (56–57, 59–60, 62–65) provided
152	marked as provided; note: no internal dose	in-vivo summary (65, 81–87)/in-vivo (76, 81–87) provided		
153	marked as provided; note: no internal		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
154	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
155	marked as provided; note: no internal dose	in-vivo (71)/bioassay (64) provided		
156	marked as provided; no hand-written note	in-vivo summary (84, 86–87, 90–92, 94–97)/in-vivo (84, 86–87, 90–92, 94–96) provided		
157	marked as provided; no hand-written note	in-vivo (66, 73, 79, 82–87, 89–90, 92–94)/bioassay (67) provided		
158	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see transmittal letter	notation in file stating no internal bioassay results for this EE
159	marked as provided; no hand-written note	in-vivo (87, 92)/bioassay (53–60) provided		
160	marked as provided; note: no internal exposure	in-vivo summary (80, 82, 84, 88)/in-vivo (80–82, 84, 88) provided		
161	marked as provided; note: no internal dose	in-vivo (62-66, 73, 85)/bioassay (54-65) provided		
162	no notations/markings	in-vivo (66–67)/bioassay (56–61, 65–67) provided		
163	marked as provided; note: no internal dose	in-vivo summary (69) provided		
164	marked as provided; no hand-written note	in-vivo (77, 82–89, 91–92)/bioassay (66) provided		
165	marked as provided; note: no internal dose – wbc attached	in-vivo summary (66, 91–95)/in-vivo (91–95) provided		
166	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
167	marked as provided; no hand-written note	bioassay (56, 61-65) provided		
168	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
169	marked as provided; note: no monitoring required			
170	marked as provided; note: no internal dose – wbc attached	in-vivo summary (80)/in-vivo (80) provided		
171	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
172	marked as provided; note: no internal dose – all wbc for NRF		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
173	marked as provided; note: no internal dose	in-vivo summary (73)/in-vivo (73) provided		
174	marked as provided; note: no internal dose – wbc attached	in-vivo summary (81, 86–91, 96)/in-vivo (81, 86–91) provided		
175	marked as provided; note: no internal exposure	in-vivo summary (65–66, 78–81, 83–89, 91–94)/in-vivo (73–74, 77, 79–81, 83–89, 91–94) provided		
176	marked as provided; no hand-written note	in-vivo (63–65, 69)/bioassay (53–56, 58–66) provided		_

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177	note: only has NRF dose	notation in file that all records are for NRF; in-vivo (86, 89–90) provided		
178	marked as provided; note: no internal dose – dates of wbc attached	in-vivo summary (83–85) provided		
179	marked as provided; note: no internal dose	in-vivo (82, 85–86, 88–95) provided		
180	marked as provided; note: no internal dose	in-vivo (86, 95) provided		
181	marked as provided; no hand-written note	in-vivo (80–81)/bioassay (57–59, 61–63) provided		
182	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	bioassay (68) provided
183	marked as provided; note: see attached	in-vivo summary (90)/in-vivo (90) provided		
184	marked as provided; note: no internal dose	in-vivo summary (74)/in-vivo (68, 74)/bioassay (68) provided		
185	marked as provided; note: no recordable dose	in-vivo summary (66, 68, 82–83, 90)/in-vivo (73, 82–83, 90) provided		
186	note: NRF not reported	notation in file that all records are for NRF; in-vivo (81) provided		
187	marked as provided; note: no recordable dose	in-vivo summary (83–85, 88–89, 91, 95)/in-vivo (83– 85, 88–89, 91, 95) provided		
188	marked as not readily available; no hand- written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
189	marked as not readily available; no hand- written note	in-vivo summary (85, 88–89, 92)/in-vivo (85, 88–89, 92) provided		
190	marked as provided; no hand-written note	in-vivo (68, 72, 74, 77)/bioassay (53–54, 56–66) provided		
191	marked as provided; note: no internal exposure		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
192	all records marked does not exist	notation in file that records show no record of EE receiving dose at INL		
193	note: NRF not reported	notation in file that all records are for NRF		
194	marked as provided; note: no counts		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
195	marked as provided; no hand-written note	in-vivo (80)/bioassay (54, 57-58, 60-61) provided		
196	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (66, 70, 72, 79, 81–86)/in-vivo (62, 65–66, 70)/bioassay (56–66) provided		
197	marked as provided; note: no monitoring required			
198	marked as provided; note: no internal dose – wbc attached	in-vivo summary (82, 91–92)/in-vivo (82, 91–92) provided		
199	marked as provided; no hand-written note	in-vivo (80)/bioassay (60, 80) provided		
200	marked as provided; note: no monitoring required	in-vivo summary (91)/in-vivo (91) provided		
201	marked as provided; note: wbc dates	in-vivo summary (93)/in-vivo (93) provided		
202	no notation; marked as not readily available	in-vivo (66)/bioassay (55–56, 58–65) provided		
203	marked as provided; note: no recordable internal dose		marked as provided; no hand-written note	bioassay (55) provided

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204	marked as provided; note: no internal dose	in-vivo summary (81–85, 87–88)/in-vivo (81–85, 87–88) provided		
205	marked as provided; note: no recordable dose	in-vivo summary (66, 73, 79)/in-vivo (66, 70, 73)/bioassay (57–66) provided		
206	marked as provided; note: no internal dose	in-vivo summary (75–76, 93)/in-vivo (93) provided		
207	marked as provided; no hand-written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
208	marked as provided; note: no recordable dose	in-vivo summary (87–88) provided		
209	marked as does not exist; note: EE only worked one day/monitored for one day			
210	marked as provided; note: no recordable dose	in-vivo summary (66, 78, 80)/in-vivo (63–66, 70, 72, 74–75, 77–78, 80)/bioassay (54–55, 57, 61–64, 66) provided		
211	marked as provided; note: no recordable dose	bioassay (64) provided		
212	marked as provided; note: no internal dose	in-vivo summary (78, 82–88, 90, 92)/in-vivo (82–84, 86–88, 90, 92) provided		
213	marked as provided; no hand-written note	in-vivo (71)/bioassay (57–64) provided		
214	marked as provided; no hand-written note	bioassay (56-57, 59-61, 63-64, 68-69) provided		
215	marked as provided; note: no internal dose – no wbc		marked as provided; note: attached shows none were taken	notation in file stating no internal bioassay results for this EE
216	no notations/markings		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
217	marked as provided; note: no internal dose – no wbc		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
218	marked as provided; note: no monitoring required			
219	marked as provided; note: internal dose results included	in-vivo summary (78–81, 83–95)/in-vivo (78, 80–81, 84–95)/bioassay (81–95) provided		
220	marked as provided; no hand-written note; note in add response: no recordable dose	in-vivo summary (66, 78–83, 85–88)/in-vivo (63, 66, 68, 75, 77–78, 80–83, 85–89)/bioassay (54–66) provided		
221	marked as provided; no hand-written note	in-vivo (61, 73, 77, 86–87)/bioassay (55–59, 61) provided; thyroid count (58)		
222	marked as provided; note: no internal dose	in-vivo (73–74,76)/bioassay (63) provided		
223	marked as provided; no hand-written note	in-vivo (85)/bioassay (61–65) provided		
224	marked as provided; note: no internal dose – no wbc		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
225	all records marked does not exist	notation in file that records show no record of EE receiving dose at INL		
226	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
227	marked as provided; note: no internal dose	in-vivo (63)/bioassay (57–65) provided		
228	marked as provided; note: no internal dose	bioassay (58, 65) provided		

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229	marked as provided; note: no internal dose	in-vivo summary (79, 82–85, 87, 90–91, 93–94)/in-vivo (79, 82–83, 85, 87, 90–91, 93–94) provided		
230	marked as provided; no hand-written note	in-vivo (66, 69, 73, 75, 77–78, 82–86)/bioassay (64–65) provided		
231	marked as provided; no hand-written note	bioassay (58–59) provided		
232	all records marked does not exist	notation in file that records show no record of EE receiving dose at INL		
233	marked as provided; no hand-written note	bioassay (57, 60, 65) provided		
234	marked as provided; no hand-written note	in-vivo (69, 73, 78, 81)/bioassay (57–59, 61–65) provided		
235	marked as provided; no hand-written note	in-vivo (73, 75–76, 79–85, 87, 90–91, 93) provided		
236	marked as provided; note: no internal dose	in-vivo summary (81, 85–90)/in-vivo (81, 85–90) provided		
237	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	bioassay (53–55) provided
238	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
239	marked as provided; note: no internal dose – wbc attached/no recordable dose – wbc attached	in-vivo summary (77–92, 94–98)/in-vivo (78–92, 94–95)/bioassay (81, 83–96, 98) provided		
240	marked as provided; note: no internal dose	in-vivo summary (84–86, 88–91, 93–94)/in-vivo (85–86, 88–91, 93–94) provided		
241	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
242	marked as provided; note: no internal records	in-vivo (95) provided		
243	marked as provided; note: no internal dose	in-vivo (66–67)/bioassay (58–65) provided		
244	marked as provided; note: no internal dose – no wbc		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
245	marked as provided; note: no internal dose	in-vivo (82) provided		
246	marked as provided; note: no internal dose	in-vivo summary (92)/in-vivo (92) provided		
247	marked as provided; note: no internal dose	in-vivo (65–66, 70, 75–76, 81)/bioassay (61–66, 68) provided		
248	marked as provided; no hand-written note	in-vivo (63–64, 66–67, 71, 77, 80)/bioassay (60–66) provided		
249	marked as provided; note: no internal dose	in-vivo (68, 70, 77, 83)/bioassay (54–55, 57, 61–65) provided		
250	note: NRF not reported	notation in file that all records are NRF; in-vivo (86) provided		
251	marked as provided; note: no internal dose – no wbc		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
252	marked as provided; note: no internal injury		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
253	no notations/markings	in-vivo (65)/bioassay (61–65) provided		
254	all records marked dose not exist			

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255	marked as provided; note: no internal records	in-vivo (63-66, 68, 82, 89)/bioassay (56-66) provided		
256	marked as provided; note: no internal dose	in-vivo summary (75, 84, 87, 89, 91, 93–94, 97)/in-vivo (84, 87, 89, 91, 93–94) provided		
257	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (90, 92–96)/in-vivo (90, 92–95) provided		
258	marked as provided; note: no internal dose	in-vivo (84–85, 87–88, 93) provided		
259	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	bioassay (55) provided
260	marked as provided; note: no internal dose – no wbc		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
261	note: not reported - only ANL & NRF	notation in file that all records are NRF or ANL		
262	marked as provided; note: no internal dose	in-vivo summary (70, 86)/in-vivo (70, 86)/bioassay (60, 62–63, 65) provided		
263	marked as provided; note: no internal dose	in-vivo (62, 66)/bioassay (59–60, 62–64, 66) provided		
264	marked as provided; no hand-written note	in-vivo (62, 65–67, 69, 77, 83, 86, 89, 91, 94)/bioassay (60–62, 70) provided		
265	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
266	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	bioassay (60) provided
267	marked as provided; note: no internal exposure		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
268	marked as provided; note: no monitoring required	in-vivo (89–90) provided		
269	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (70–71, 77–84)/in-vivo (70–71, 77, 80–84) provided		
270	marked as provided; note: no internal dose	in-vivo (87) provided		
271	marked as provided; no hand-written note	in-vivo (61, 65–66)/bioassay (57–66) provided		
272	marked as provided; note: no internal dose	in-vivo (63, 66, 68–69, 86)/bioassay (56–65, 69) provided		
273	marked as provided; note: no internal dose	in-vivo summary (85–92)/in-vivo (85–92) provided		
274	marked as provided; note: no internal dose	in-vivo (64-65, 71, 73)/bioassay (53-66) provided		
275	marked as provided; note: no internal dose	in-vivo summary (80, 82–85)/in-vivo (80, 82–85) provided		
276	marked as provided; note: no internal	in-vivo (63–67, 70, 78, 82–83, 85–87, 92, 94– 95)/bioassay (57–66) provided		
277	marked as provided; note: no internal dose	in-vivo (81, 86)/bioassay (56, 60–65) provided		
278	marked as provided; no hand-written note	bioassay (57-63, 66) provided		
279	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
280	marked as provided; note: no internal dose	in-vivo (84–85, 87–90) provided		
281	marked as provided; note: no internal records	in-vivo (85)/bioassay (53–58) provided		
282	marked as provided; no hand-written note	in-vivo summary (88)/in-vivo (88) provided		

NOTICE: This report has been reviewed for Privacy Act information and has been cleared for distribution. However, this report is pre-decisional and has not been reviewed by the Advisory Board on Radiation and Worker Health for factual accuracy or applicability within the requirements of 42 CFR 82.

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283	note: not in our systems	notation in file that records show no record of EE receiving dose at INL		
284	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	bioassay (59, 64) provided
285	marked as provided; no hand-written note	in-vivo (67–68)/bioassay (68) provided		
286	marked as provided; note: no internal dose	in-vivo (78, 85)/bioassay (58, 60–61) provided		
287	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
288	all records marked does not exist	notation in file that records show no record of EE receiving dose at INL		
289	marked as provided; no hand-written note	bioassay (55, 57) provided		
290	marked as provided; note: no analytical records	in-vivo (63–66, 68, 70, 72)/bioassay (58–66, 68) provided		
291	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
292	marked as provided; no hand-written note	bioassay (56, 59–60, 62–64, 69) provided		,
293	marked as provided; no hand-written note	bioassay (53) provided		
294	marked as provided; no hand-written note	bioassay (55, 58, 60-61, 63) provided		
295	marked as provided; note: no internal	in-vivo (80, 90) provided		
296	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
297	marked as provided; no hand-written note	bioassay (54, 56–58, 60, 64) provided		,
298	marked as provided; no hand-written note	bioassay (58, 61, 63–65) provided		
299	marked as provided; no hand-written note	in-vivo summary (67, 91)/in-vivo (67, 91) provided		
300	marked as provided; note: no internal dose	bioassay (55) provided		
301	marked as provided; note: no internal exposure	in-vivo summary (81–82, 90, 95)/in-vivo (81–82, 90, 95) provided		
302	marked as provided; no hand-written note	bioassay (60–62, 64) provided		
303	marked as provided; no hand-written note	bioassay (56, 58) provided		
304	marked as provided; note: no internal dose	in-vivo summary (82, 84, 86–87, 89–93, 95)/in-vivo (82, 84, 86–87, 89–93, 95) provided		
305	marked as provided; note: no internal dose	in-vivo (63–65)/bioassay (58–59, 61–65, 69) provided		
306	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
307	marked as provided; note: no internal exposure		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
308	marked as provided; note: internal dose provided	in-vivo (61)/bioassay (59–61) provided		
309	marked as provided; note: no internal exposure		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
310	marked as provided; note: no internal exposure		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
311	marked as provided; note: no internal dose	in-vivo (64, 66)/bioassay (62-65) provided		
312	marked as provided; note: no internal dose	bioassay (54, 56–57, 59–60) provided		

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313	marked as provided; note: no internal dose	in-vivo summary (80)/in-vivo (80) provided		
314	marked as provided; note: no internal	in-vivo (67)/bioassay (63, 67) provided		
315	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
316	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
317	marked as provided; note: no internal dose	bioassay (56, 59-60) provided		
318	marked as provided; note: no	in-vivo (61, 66)/bioassay (57-63) provided		
319	note: not in our systems	notation in file that records show no record of EE receiving dose at INL		
320	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (66)/bioassay (59, 61–65) provided
321	marked as provided; note: no internal dose	in-vivo summary (69, 71, 92)/in-vivo (92) provided		
322	marked as provided; note: no internal dose	bioassay (58–60) provided		
323	no notations/markings	notation in file that all records are for NRF and no other monitoring at INL		
324	marked as provided; note: no internal dose	bioassay (56–61) provided		
325	marked as provided; note: no internal dose	in-vivo (89) provided		
326	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
327	marked as provided; note: no internal exposure		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
328	marked as provided; note: no internal dose	in-vivo (84) provided		
329	marked as provided; note: no internal dose	in-vivo summary (85–88, 90, 92)/in-vivo (85–88, 90, 92)/bioassay (86–92) provided		
330	marked as provided; note: none exist – no bioassays	in-vivo (79, 89) provided		
331	marked as provided; note: no internal	in-vivo (66)/bioassay (62–65, 69) provided		
332	marked as provided; note: no internal dose	in-vivo (61, 63–66, 68, 70, 74, 81–84, 88)/bioassay (53–66, 68) provided		
333	marked as provided; note: no internal dose		note: no recordable dose, see	notation in file stating no internal bioassay results for this EE
334	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
335	marked as provided; note: no internal dose		marked as provided; no hand-written note	bioassay (59–61) provided
336	marked as provided; note: no monitoring required			
337	marked as provided; note: no internal dose	bioassay (59–61) provided		
338	marked as provided; note: no internal dose	in-vivo (88, 90–91, 95) provided		
339	note: only ANL dose	notation in file that all records are for ANL		
340	marked as provided; note: no internal dose	in-vivo summary (82, 84–85, 88–95)/in-vivo (82, 84–85, 88–95) provided		
341	marked as provided; note: no internal dose	in-vivo summary (82–90, 93–97)/in-vivo (82–90, 93–95)/bioassay (82–90, 97) provided		

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342	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
343	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (72) provided
344	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
345	marked as provided; note: no internal	in-vivo (70, 74, 92)/bioassay (64-66) provided		
346	marked as provided; note: no internal dose	in-vivo summary (81–85, 87, 89, 91)/in-vivo (82–85, 87, 89, 91)/bioassay (88–98) provided		
347	marked as provided; note: no analytical records	in-vivo (66, 71, 75, 80–87, 88–91)/bioassay (64–66) provided		
348	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
349	marked as provided; note: no internal dose	in-vivo (87–88, 90–93, 95) provided		
350	marked as provided; note: no internal records	in-vivo (80–82, 91–95) provided		
351	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
352	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
353	marked as provided; note: no internal dose/no recordable dose	in-vivo summary (81–95)/in-vivo (81–95)/bioassay (83–96) provided		
354	marked as provided; note: no analytical records	in-vivo (61)/bioassay (55, 61) provided		
355	marked as provided; note: no internal dose	in-vivo summary (84–92, 94–95)/in-vivo (84–92, 94– 95) provided		
356	marked as provided; note: no internal	in-vivo (66–67, 85)/bioassay (60–65) provided		
357	note: not monitored	notation in file that records show no record of EE receiving dose at INL other than NRF		
358	marked as provided; no hand-written note	bioassay (57) provided		
359	marked as provided; note: no internal dose	in-vivo summary (82–90)/in-vivo (82–90) provided		
360	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
361	marked as provided; note: no internal	in-vivo (73, 77, 80–81, 83–87, 89–93)/bioassay (63) provided		
362	marked as provided; note: no internal		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
363	marked as provided; note: no internal	bioassay (58, 60-61, 67) provided		, and the second
364	marked as provided; note: no internal	in-vivo (62–63, 65–66, 69, 71, 75, 79)/bioassay (56–66) provided		
365	marked as provided; note: no internal	in-vivo (87–88) provided		
366	marked as provided; note: no internal dose	in-vivo summary (93–94)/in-vivo (93–94) provided		
367	marked as provided; note: no internal	in-vivo (66)/bioassay (62–66) provided		
368	marked as provided; note: no internal dose	in-vivo summary (84–87, 89–97)/in-vivo (84–87, 89–93, 95) provided		

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369	marked as provided; note: no internal dose	in-vivo (62)/bioassay (55–62) provided		
370	marked as provided; note: no internal exposure		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
371	marked as provided; note: no internal	in-vivo (65)/bioassay (58, 61-65) provided		
372	note: no records found	notation in file that records show no record of EE receiving dose at INL		
373	marked as provided; note: no internal	in-vivo (62–63, 65)/bioassay (56–57, 59–65) provided		
374	marked as provided; note: no internal dose	in-vivo summary (82, 95)/in-vivo (67, 72, 76, 82, 85) provided		
375	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
376	marked as provided; note: no internal dose	in-vivo summary (83)/in-vivo (83) provided		
377	marked as provided; note: no internal	in-vivo (84)/bioassay (60–65) provided		
378	marked as provided; note: no internal	in-vivo (69–70, 75, 77–80, 82–84)/bioassay (69, 82–83) provided		
379	marked as provided; note: no internal	in-vivo (87–89, 91–94) provided		
380	marked as provided; note: no internal	in-vivo (82–85, 87, 90, 92) provided		
381	marked as provided; note: no internal dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
382	marked as provided; note: no internal	in-vivo (61, 63–67)/bioassay (58–65, 69) provided		
383	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
384	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	in-vivo (72)/bioassay (65) provided
385	marked as provided; note: no internal dose	in-vivo (73, 78, 80–81) provided		
386	marked as provided; note: no internal	in-vivo summary (65, 68–69, 79, 84)/in-vivo (65, 68–69, 73, 79, 84)/bioassay (53, 55, 60–63, 67) provided		
387	marked as provided; note: no internal	in-vivo summary (79–80)/in-vivo(79–80)/bioassay (69) provided		
388	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
389	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
390	marked as provided; note: no internal	in-vivo (65, 68)/bioassay (59–65) provided		
391	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
392	marked as provided; note: no internal	in-vivo (66, 68, 72, 77)/bioassay (57–66) provided		
393	marked as provided; note: no internal	bioassay (57–60) provided		
394	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
395	marked as provided; note: no internal dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
396	marked as provided; note: no internal exposure	in-vivo (91) provided		

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397	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
398	marked as provided; note: no internal dose	in-vivo (80) provided		
399	marked as provided; note: no internal dose	in-vivo (82–85, 88, 90–91) provided		
400	marked as provided; note: no internal dose	in-vivo (91) provided		
401	marked as provided; note: no internal	bioassay (55, 59-61, 64) provided		
402	marked as provided; note: no internal	in-vivo (68, 72, 74–75, 77, 79–80, 84)/bioassay (53–54, 56–66) provided		
403	marked as provided; note: no internal dose	in-vivo (82)/bioassay (56–57, 59–60, 62–64) provided		
404	marked as provided; note: no internal	in-vivo (67)/bioassay (56–63, 65–66) provided		
405	marked as provided; note: no recordable dose	in-vivo summary (65–66, 74)/in-vivo (61–63, 65–66, 69, 73–74)/biosasay (57–66) provided		
406	note: not in system	notation in file that records show no record of EE receiving dose at INL		
407	marked as provided; note: no internal	in-vivo (66, 68, 82, 94, 96) provided		
408	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
409	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
410	marked as provided; note: no internal dose		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
411	marked as provided; note: no internal	in-vivo (66, 69, 71)/bioassay (58–65) provided	recordable dose, see attached retter	croussay resures for this EE
412	marked as provided; note: no internal	in-vivo (63–66, 70–71)/bioassay (53–66) provided		
413	marked as provided; note: no internal	bioassay (61–66) provided		
414	marked as provided; note: no internal dose	in-vivo (82, 86, 89–90) provided		
415	marked as provided; note: no internal	bioassay (59–61, 65) provided		
416	marked as provided; note: no internal dose	The state of the s	note: no recordable dose, see attached letter	in-vivo (61)/bioassay (61) provided
417	marked as provided; note: no internal dose	in-vivo (91) provided		
418	marked as provided; note: no internal dose	in-vivo (82, 84–87, 89) provided		
419	marked as provided; note: no internal dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
420	marked as provided; note: no internal		marked as does not exist; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
421	marked as provided; note: no internal	in-vivo (64–65, 68, 74)/bioassay (57–59, 61–66) provided	,	
422	marked as provided; note: no internal dose	in-vivo summary (82, 86–87, 90)/in-vivo (82, 86–87, 90) provided		
423	marked as provided; note: no internal dose	in-vivo summary (92)/in-vivo (92) provided		
424	marked as provided; note: no internal	in-vivo (73) provided		
425	note: all dose is NRF	in-vivo (81) provided		
426	marked as provided; note: no internal	in-vivo (65)/bioassay (67) provided		
427	marked as provided; note: no internal	notation in file stating that all records are for ANL		
428	marked as provided; note: no internal	in-vivo (75) provided		

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429	marked as provided; note: no internal dose	in-vivo (87–88, 90–91, 94) provided		
430	no notation/markings	in-vivo (82) provided		
431	marked as provided; note: no internal	in-vivo (66, 70, 75, 77, 95)/bioassay (64–65) provided		
432	marked as provided; note: no internal	bioassay (60–61) provided		
433	marked as provided; note: no internal	in-vivo (66–67, 70–71, 82)/bioassay (64, 67) provided		
434	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
435	marked as provided; note: no internal dose		note: not monitored	notation in file stating no internal bioassay results for this EE
436	marked as provided; note: no internal	in-vivo (76, 78, 81–89) provided		
437	marked as provided; note: no internal	bioassay (55, 67) provided		
438	marked as provided; note: no internal	in-vivo (73, 87–88) provided		
439	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
440	marked as provided; note: no internal dose	in-vivo (78–79, 91) provided		
441	marked as provided; note: no internal dose	in-vivo (69, 73–75, 77, 79, 82–87)/bioassay (82–84, 86) provided		
442	marked as provided; note: no internal	bioassay (57–61) provided		
443	marked as provided; note: no internal dose	notation in file stating that all records are for ANL		
444	marked as provided; note: no internal dose	in-vivo (84)/bioassay (56) provided		
445	marked as provided; note: no internal dose		marked as does not exist; no hand- written note	notation in file stating no internal bioassay results for this EE
446	marked as provided; note: no internal dose		note: no recordable dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
447	marked as provided; note: no internal dose	in-vivo (81, 90–95) provided		
448	marked as provided; note: no internal dose	in-vivo (91) provided		
449	marked as provided; note: see attached	in-vivo (61, 63, 65–66, 69, 71)/bioassay (56–63, 65–66) provided		
450	marked as provided; note: no internal dose		note: not monitored	notation in file stating no internal bioassay results for this EE
451	marked as provided; note: no internal dose	in-vivo (61–66, 68, 71, 75, 80–86, 88–90, 93)/bioassay (57–66) provided		
452	marked as provided; note: no internal dose		marked as does not exist; note: not monitored, see attached letter	notation in file stating no internal bioassay results for this EE
453	marked as provided; note: no internal dose	in-vivo (91) provided		
454	marked as provided; no hand-written note	bioassay (59-64) provided		
455	marked as provided; note: no internal dose	in-vivo (79-81, 83-85, 87, 89-90) provided		
456	marked as provided; note: no internal dose	in-vivo (66, 70, 82–83, 86–87)/bioassay (59–63, 66) provided		
457	marked as provided; note: no internal dose	in-vivo (81, 89–90, 92–93) provided		
458	marked as provided; note: no internal dose	in-vivo (92) provided		
459	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
460	marked as provided; no hand-written note	in-vivo (65)/bioassay (59, 61–63, 65) provided		

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461	marked as provided; note: no internal dose		note: not monitored	notation in file stating no internal bioassay results for this EE
462	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
463	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
464	marked as provided; note: no internal dose	in-vivo (86–87) provided		
465	marked as provided; note: no internal dose	in-vivo (62–65, 69, 72, 76, 81–82, 84–87)/bioassay (57–66) provided		
466	marked as provided; note: no internal dose		marked as does not exist; note: consistent with his employment	notation in file stating no internal bioassay results for this EE
467	note: nothing to report	notation in file that all records are ANL-W or NRF		
468	marked as provided; note: no internal dose	in-vivo (64–66, 69, 73, 77, 95)/bioassay (64–66, 68) provided		
469	marked as provided; note: no internal dose	in-vivo (73, 75–78) provided		
470	marked as provided; note: no internal dose	in-vivo (80, 85–86, 88–92, 94–95) provided		
471	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
472	marked as provided; note: no internal dose	in-vivo (93–94) provided		
473	marked as provided; note: no internal dose	in-vivo (86) provided		
474	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
475	marked as provided; note: no internal	in-vivo (70) provided		
476	marked as provided; note: no internal dose	in-vivo (85–89, 91, 93, 95) provided		
477	marked as provided; note: no internal dose	bioassay (59-61) provided		
478	marked as provided; note: no internal dose	in-vivo (82, 93) provided		
479	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
480	marked as provided; note: no recordable internal dose/monitoring not required	in-vivo (80–81, 86–87, 90		
481	marked as provided; note: no internal dose	in-vivo (73, 75)/bioassay (53–56) provided		
482	marked as provided; note: no internal dose	in-vivo (87–88, 93–94) provided		
483	marked as provided; note: no internal dose		note: no recordable dose, see	notation in file stating no internal
403			attached letter, not monitored	bioassay results for this EE
484	marked as provided; note: no internal dose		note: not monitored	notation in file stating no internal bioassay results for this EE
485	marked as provided; note: no internal dose	in-vivo summary (65–66, 79, 81–85, 88–89)/in-vivo (63–67, 71, 75, 79, 81–85, 88–89)/bioassay (56–65) provided		
486	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
487	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
488	marked as provided; note: no internal dose/no monitoring required			

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489	marked as provided; note: no internal dose	in-vivo (90–94) provided		
490	marked as provided; note: no internal dose	in-vivo summary (66)/in-vivo (66, 68)/bioassay (66, 69) provided		
491	marked as provided; note: no internal dose		marked as provided; note: no internal dose, see attached letter	in-vivo (64) provided
492	marked as provided; note: no internal dose		marked as provided; no hand-written note	in-vivo (65) provided
493	marked as provided; note: no internal dose	in-vivo summary (94)/in-vivo (94) provided		
494	marked as provided; note: no internal dose	in-vivo summary (90)/in-vivo (90)/bioassay (90) provided		
495	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
496	marked as provided; note: no internal dose	in-vivo (82, 83) provided		
497	marked as provided; note: no internal dose	in-vivo summary (65, 85)/in-vivo (85) provided		
498	marked as provided; note: no internal dose			
499	marked as provided; note: no internal dose		marked as provided; note: no recordable dose, see attached letter	bioassay (60–61) provided
500	marked as provided; note: no internal dose	in-vivo summary (97) provided		
501	marked as provided; note: no internal dose	in-vivo (76, 85) provided		
502	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
503	marked as provided; note: no internal dose	in-vivo (61, 66)/bioassay (57-66) provided		
504	marked as provided; note: no internal exposure	in-vivo (81) provided		
505	marked as provided; note: no internal dose	in-vivo (73, 75–77, 79–83, 85–90)/bioassay (56–61) provided		
506	marked as provided; note: no internal dose		marked as provided; note: no internal dose, see attached letter	in-vivo (63–65, 67)/bioassay (61–62, 64–67) provided
507	marked as provided; note: no internal dose		note: not monitored	notation in file stating no internal bioassay results for this EE
508	marked as provided; note: no internal dose		marked as does not exist; note: not monitored, see attached letter	notation in file stating no internal bioassay results for this EE
509	marked as provided; note: no internal dose		marked as provided; no hand-written note	bioassay (62–63) provided
510	marked as provided; note: no internal dose	in-vivo (82) provided		
511	marked as provided; note: no internal dose	in-vivo (62)/bioassay (57–62) provided		
512	marked as provided; note: no internal dose	bioassay (58) provided		
513	marked as provided; note: no internal dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
514	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
515	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
516	note: not monitored	notation in file that records show no record of EE receiving dose at INL		

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517	marked as provided; note: no internal dose	in-vivo summary (66)/in-vivo (66, 69)/bioassay (53–66) provided		
518	marked as provided; no hand-written note	in-vivo summary (88–98)/in-vivo (88, 90–91, 93– 95)/bioassay (88–97) provided		
519	marked as provided; note: no internal dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
520	marked as provided; note: no internal dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
521	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
522	marked as provided; note: no internal dose	in-vivo (93, 95) provided		
523	marked as provided; note: no internal dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
524	marked as provided; no hand-written note	in-vivo (67, 69–70, 73–94)/bioassay (81–84, 86) provided		
525	marked as provided; note: no internal dose	bioassay (59, 61–65) provided		
526	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
527	note: US Navy not reported	notation in file that all records are for US Navy which are not reported		
528	marked as provided; note: no internal dose	bioassay (69) provided		
529	marked as provided; note: no internal dose	in-vivo (66-67, 71, 77)/bioassay (60-65) provided		
530	marked as provided; note: no monitoring required			
531	no markings; note: no internal dose		marked as provided; no hand-written note	in-vivo (70–71, 75) provided
532	no markings; note: no internal dose	in-vivo (64, 69, 73-74, 76)/bioassay (53-65) provided		
533	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (85) provided
534	no markings; note: no internal dose	in-vivo (63–65, 69, 71–73, 77–79, 89)/bioassay (56–66) provided		
535	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
536	marked as provided; note: no recordable dose	in-vivo (82–83) provided		
537	marked as provided; note: no recordable dose	in-vivo (71) provided		
538	marked as provided; note: no recordable dose	bioassay (58) provided		
539	marked as provided; note: no recordable dose	in-vivo (61, 63, 81–83, 93)/bioassay (57–66, 82–83) provided		
540	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
541	marked as provided; note: no monitoring required			

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542	marked as provided; note: no recordable dose	in-vivo (61–63)/bioassay (56–63) provided		
543	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	bioassay (56) provided
544	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
545	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	in-vivo (92) provided
546	marked as provided; note: no recordable dose	in-vivo (61, 63–66, 69, 72, 76)/bioassay (53–55, 57–66, 78) provided		
547	marked as provided; note: no recordable dose			
548	marked as provided; note: included	in-vivo (76, 80, 82–83, 85, 88–95)/bioassay (56, 59, 63–64, 90) provided		
549	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (90–94) provided
550	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (90, 92–95) provided
551	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	in-vivo (89) provided
552	marked as provided; note: no recordable dose	in-vivo (64, 68, 70, 77)/bioassay (59–66) provided		
553	note: not monitored at INL	notation in file that records show no record of EE receiving dose at INL		
554	marked as provided; note: no recordable dose		marked as does not exist; note: not monitored, see attached letter	notation in file stating no internal bioassay results for this EE
555	marked as provided; note: no recordable dose	bioassay (57, 60–65) provided		
556	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
557	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
558	note: not monitored at INL	notation in file that records show no record of EE receiving dose at INL		
559	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	bioassay (64) provided
560	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
561	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (79, 82–85, 87, 90, 92, 95) provided
562	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
563	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (87, 89) provided

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564	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	bioassay (56, 62) provided
565	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
566	marked as provided; note: no recordable dose		no notations/markings	bioassay (63) provided
567	marked as provided; note: no recordable dose		marked as provided; no hand-written note	bioassay (59–60) provided
568	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (74) provided
569	marked as provided; note: no recordable dose		note: no internal dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
570	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	in-vivo (86–93) provided
571	marked as provided; note: no recordable dose		note: not monitored	notation in file stating no internal bioassay results for this EE
572	marked as provided; note: no recordable dose	in-vivo (63, 65, 67, 71, 75, 84–89, 91–93)/bioassay (61–66) provided		
573	marked as provided; note: no recordable dose		marked as provided; no hand-written note	bioassay (59-60) provided
574	marked as provided; note: no recordable dose	in-vivo (86) provided		
575	marked as provided; note: no recordable dose	bioassay (56-60, 62) provided		
576	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (80, 82, 87–93, 95)/bioassay (54, 56–57, 59–64) provided
577	marked as provided; note: no recordable dose		note: not monitored	notation in file stating no internal bioassay results for this EE
578	marked as provided; note: no recordable dose	additional request already sent to INL – response received – in-vivo (78) provided		
579	marked as provided; no hand-written note		marked as provided; note: see transmittal letter	notation in file stating no internal bioassay results for this EE
580	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	in-vivo (73) provided
581	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	in-vivo (90) provided
582	marked as provided; note: no recordable dose	in-vivo (81–82, 84–91, 94)/bioassay (81) provided		
583	marked as provided; note: no recordable dose	bioassay (57–61) provided		
584	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (92) provided
585	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	in-vivo (90–92) provided

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586	marked as provided; note: no recordable dose	bioassay (53–57, 59, 61–64) provided		
587	marked as provided; note: no recordable dose	in-vivo (68)/bioassay (68) provided		
588	marked as provided; note: no recordable dose	in-vivo (61, 73, 77)/bioassay (60–61) provided		
589	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
590	marked as provided; note: no recordable dose	in-vivo (70, 73)/bioassay (66) provided		
591	marked as provided; note: no recordable dose	in-vivo (80, 82–85)/bioassay (60–61) provided		
592	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (67)/bioassay (64, 67) provided
593	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (94) provided
594	marked as provided; note: no recordable dose	in-vivo (63–66, 70–71, 81–82)/bioassay (57–66) provided		
595	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
596	marked as provided; note: no recordable dose	in-vivo (87)/bioassay (56–60, 63–64) provided		
597	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (93) provided
598	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
599	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
600	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (88, 91)/bioassay (59–60, 62–64) provided
601	note: not monitored	notation in file that records show no record of EE receiving dose at INL		
602	marked as provided; note: no recordable dose		note: no internal exposure, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
603	marked as provided; note: no recordable dose		marked as provided; note: not normally required, note "training"	in-vivo (92) provided
604	marked as provided; note: no recordable dose	in-vivo (72, 81–82, 90–95) provided		
605	marked as provided; note: no recordable dose			
606	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
607	marked as provided; note: no recordable dose	in-vivo (65–67, 71)/bioassay (53–55, 59–66) provided		

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608	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (77, 89) provided
609	marked as provided; note: no recordable dose	bioassay (56–61) provided		
610	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
611	note: not monitored	notation in file that records show no record of EE being monitored or receiving dose at INL		,
612	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
613	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
614	marked as provided; note: no recordable dose	in-vivo (65, 69, 73–75, 77, 79, 81)/bioassay (53–65) provided		·
615	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
616	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	bioassay (56, 59, 61–64) provided
617	marked as provided; note: no recordable dose	bioassay (57–60) provided		
618	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (95) provided
619	marked as provided; note: no recordable dose	bioassay (67) provided		
620	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
621	marked as provided; note: no recordable dose		no notations/markings	in-vivo (89) provided
622	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (90–91, 93, 95) provided
623	marked as provided; note: no recordable dose	in-vivo (62–67, 72, 76, 81–83, 85–87, 89–91, 95)/bioassay (60–66) provided		
624	marked as provided; note: no recordable dose	in-vivo (66, 68, 72, 75, 77, 80)/bioassay (61–66) provided		
625	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
626	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
627	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	in-vivo (68, 83, 90, 92, 95)/bioassay (59–60, 62–64) provided
628	marked as provided; note: no recordable dose	in-vivo (62)/bioassay (56–58, 61–62) provided		

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629	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	in-vivo (93) provided
630	marked as provided; note: no recordable dose		marked as provided; no hand-written	in-vivo (86) provided
631	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
632	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
633	marked as provided; note: no recordable dose	bioassay (63–64) provided		·
634	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
635	marked as provided; note: no recordable dose	in-vivo (65, 68, 72, 75, 77–79, 82)/bioassay (53–66, 81–82) provided		
636	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter	bioassay (61) provided
637	note: not monitored at INL	notation in file that records show no record of EE being monitored or receiving dose at INL		
638	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
639	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
640	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
641	marked as provided; note: no recordable dose		note: no recordable dose, see attached letter, not monitored	notation in file stating no internal bioassay results for this EE
642	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
643	marked as provided; note: no recordable dose	in-vivo (66, 70–71, 75, 84)/bioassay (57–66) provided		
644	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
645	marked as provided; note: no recordable dose		no notations/markings	in-vivo (92) provided
646	marked as provided; note: no recordable dose	bioassay (62–65) provided		
647	marked as provided; note: no recordable dose		marked as provided; note: no internal dose, see attached letter	in-vivo (90) provided
648	marked as provided; note: no recordable dose	bioassay (59–63, 65) provided		
649	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (64–66)/bioassay (63–67) provided
650	page not provided	bioassay (68) provided		

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651	note: not monitored	notation in file that records show no record of EE being monitored or receiving dose at INL		
652	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (87–95) provided
653	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
654	marked as provided; note: no recordable dose		marked as provided; no hand-written note	in-vivo (65)/bioassay (66) provided
655	marked as provided; note: no recordable dose		marked as provided; no hand-written note	bioassay (61–62, 64–65) provided
656	marked as provided; note: no recordable dose	in-vivo (64, 70, 72)/bioassay (57–58, 61–65) provided		
657	marked as provided; note: no recordable dose		note: not monitored	notation in file stating no internal bioassay results for this EE
658	marked as provided; note: no recordable dose		marked as provided; note: no recordable dose, see attached letter	bioassay (57) provided
659	marked as provided; note: no recordable		marked as provided; note: no internal dose, see attached letter	in-vivo (61)/bioassay (53, 58, 61–65) provided
660	marked as provided; note: none recorded	note that 1966-73 NRF dose not reported and 1974 not monitored		
661	marked as provided; note: no recordable dose	in-vivo (83)/bioassay (70) provided		
662	marked as provided; note: no recorded dose	notation in file that records show no record of EE being monitored or receiving dose at INL		
663	marked as provided; note: no recordable dose	in-vivo (83–85) provided		
664	marked as provided; note: no recordable dose	in-vivo summary (65–66, 81–84, 86)/in-vivo (62, 65–66, 81–84, 86)/bioassay (53–59, 61–65) provided		
665	page not provided		marked as provided; note: no recordable dose, see attached letter	in-vivo summary (80, 82–85, 87–88, 90–91, 95)/in-vivo (80, 82–85, 87–88, 90–91, 95) provided
666	marked as provided; no hand-written note		marked as provided; note: no recordable dose, see attached letter	notation in file stating no internal bioassay results for this EE
667	marked as provided; note: no recordable dose	notation in file that records show no record of EE being monitored or receiving dose at INL		
668	marked as provided; note: no recordable dose	in-vivo (95) provided		
669	marked as provided; note: no recordable dose	in-vivo (79–80) provided		
670	marked as provided; note: no recordable dose	in-vivo (88) provided		
671	note: not monitored	notation in file that records show no record EE being monitored or receiving dose at INL		
672	note: not monitored	notation in file that records show no record EE being monitored or receiving dose at INL		

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673	marked as provided; note: no recordable dose	in-vivo (85–95)/bioassay (86) provided		
674	marked as provided; note: no recordable dose	in-vivo (84–85, 87, 99–00) provided		
675	marked as provided; note: no recordable dose	in-vivo (63–64, 66, 70, 76–77)/bioassay (56–66) provided		
676	marked as provided; no hand-written note	in-vivo (84–89)/bioassay (83–86)		
677	marked as provided; note: no recordable dose	in-vivo (77) provided		

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APPENDIX B: REVIEW OF ANL-W CASES WITH POC <50% POTENTIALLY AFFECTED BY OCAS-PER-017

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SC&A Case ID #	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT- 004	INTERNAL DOSE RECORDS
1	marked as provided; hand-written note implies other information not readily available	in-vivo summary (91–95)/in-vivo (85, 88–89, 91–95) provided		
2	marked as provided; no hand-written note	in-vivo summary (66–67, 69, 71, 81, 87, 89–91, 93)/in-vivo (63, 66–67, 69–72)/bioassay (60, 62–66) provided		
3	marked as provided; note: no recordable dose	in-vivo (66–67, 69, 71)/bioassay (59, 62–66) provided		
4	marked as provided; note: no analytical records	in-vivo summary (66–69, 72, 79–84, 86–89)/in-vivo (75, 77, 79–84, 86, 88–89) provided		
5	no notations/markings	response appears to be solely from ANL-E		
6	marked as provided; note: no internal dose	in-vivo summary (66, 79, 81–90)/in-vivo (65–73)/bioassay (59–60, 62–66) provided		
7	marked as provided; note: no internal dose	in-vivo summary (66, 68, 80–84, 86–92)/in-vivo (64–72)/bioassay (62–66, 80–81) provided		
8	marked as provided; no hand-written note	in-vivo summary (66, 68, 79–97)/bioassay (79, 81, 95) provided		
9	marked as provided; note: no recordable dose			
10	marked as provided; note: no internal dose	in-vivo summary (68, 71, 73, 76, 79–80, 82–95)/in-vivo (67, 69, 71–73, 76) provided		
11	marked as provided; note: no internal dose	in-vivo (72) provided		
12	no notations/markings	in-vivo summary (86, 88–95, 97) provided		
13	marked as provided; note: no internal dose	in-vivo summary (79–87, 89–92, 94–95) provided		
14	marked as provided; note: no internal dose	in-vivo summary (66–68, 71)/in-vivo (66–72)/bioassay (59–60, 62–66) provided		
15	marked as provided; no hand-written note	in-vivo summary (65–66, 68, 71, 79, 82–93, 95)/in-vivo (66–68, 70–72)/bioassay (63, 66) provided		
16	marked as provided; note: no internal dose	bioassay (79) provided		
17	ANL-W response not yet received			
18	marked as provided; note: no internal dose	in-vivo summary (67–68, 70)/in-vivo (67–72)/bioassay (67) provided		
19	marked as does not exist; no hand-written note	response appears to be solely from ANL-E	marked as provided; note: no internal dose	in-vivo (64, 66, 68, 70)/ bioassay (64, 68) provided
20	notation stating not monitored	notation in file stating that EE did not receive dose at ANL-W (there is bioassay data available for ANL-E)		
21	marked as provided; no hand-written note	in-vivo summary (67–68, 71, 73, 79–90)/in-vivo (64, 67–73)/bioassay (59–60, 62–66) provided		
22	marked as provided; note: no internal dose	in-vivo (71–72)/bioassay (85) provided		
23	marked as provided; no hand-written note	* * * * * * * * * * * * * * * * * * * *		
24	note: not monitored at ANL	notation in file stating dosimetry records show not monitored at ANL-W		
25	marked as provided; note: no ANL-W records	notation in file stating that only dose information is for INL; no record of ANL-W employment		

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26	marked as provided; note: no internal dose			
27	marked as provided; note: no internal exposure			
28	marked as provided; note: no analytical records marked as provided; note: no recordable dose	in-vivo (67)/bioassay (67) provided		
29	•		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
30	marked as provided; note: no recordable dose	notation in file stating dosimetry records show not monitored at ANL-W		
31	note: not monitored at ANL	notation in file stating dosimetry records show not monitored at ANL-W		
32	marked as provided; note: no internal exposure	in-vivo summary (81–82, 90, 95) provided		
33	marked as provided; note: none recorded	response appears to be solely from ANL-E		
34	marked as provided; note: no internal dose	in-vivo summary (65–66, 76, 79–93)/in-vivo (65–72, 76)/bioassay (60, 62–66, 80, 82–84) provided		
35	marked as provided; note: no internal dose	in-vivo summary (92, 98)		
36	marked as provided; note: no internal dose			
37	marked as provided; note: no internal dose	in-vivo summary (66, 70, 73)/in-vivo (66, 68–69, 71–73)/bioassay (58–60, 62–66) provided		
38	marked as provided; note: no recordable dose	in-vivo (65–73, 75–76, 78–94)/bioassay (65) provided		
39	marked as provided; note: no internal dose	in-vivo summary (66, 68–69, 71–72, 76, 79–81)/in-vivo (66–73, 76)/bioassay (65, 79, 81) provided		
40	marked as provided; note: no internal dose	in-vivo (65–72)/bioassay (60, 62–66) provided		
41	marked as provided; note: no internal dose	in-vivo (63, 66, 68–72)/bioassay (60–63, 65) provided		
42	marked as provided; note: no internal dose			
43	marked as provided; note: no internal dose			
44	no notations/markings	in-vivo (91–95) provided		
45	marked as provided; note: no internal dose	in-vivo (66–72)/bioassay (64–66) provided		
46	marked as provided; note: no internal dose	in-vivo summary (66–68, 71, 82, 90)/in-vivo (63, 66–72)/bioassay (59–60, 62–66, 81–82) provided		
47	marked as provided; note: no internal dose	in-vivo (71–73)/bioassay (69) provided		
48	marked as provided; note: no internal dose	in-vivo (65–69, 71–73, 75–77, 79–83, 86–89, 91–92)/bioassay (60, 62–65) provided		
49	marked as provided; note: no internal dose			
50	marked as provided; note: no internal dose	in-vivo (64, 67–71, 73)/bioassay (61–66) provided		
51	marked as provided; note: no internal dose	in-vivo (75) provided		
52	marked as provided; note: no recordable dose	additional request sent on 11/15/2006		
53	marked as provided; no hand-written note	in-vivo (63, 67–72)/bioassay (59–60, 62–64) provided		
54	marked as provided; note: no internal dose	in-vivo (66, 68, 70–72, 77)/bioassay (63–66) provided		
55	marked as provided; note: no internal dose	in-vivo summary (79–86, 88–97)/bioassay (83, 88, 91, 93–94, 97) provided		
56	marked as provided; no hand-written note	in-vivo (63, 66–67, 69–72)/bioassay (58, 60, 62–65, 67) provided		
57	marked as provided; note: no internal dose	in-vivo (64)/bioassay (62–64) provided		
58	marked as provided; note: no recordable dose			

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SC&A Case ID #	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT- 004	INTERNAL DOSE RECORDS
59	marked as provided; note: no internal dose	in-vivo summary (70, 88)/in-vivo (65, 67–69, 71–72, 88)/bioassay (59–60, 62–66) provided		
60	marked as provided; note: no internal dose	in-vivo summary (66–67, 70, 79–82, 84)/in-vivo (66–69, 71–72, 81–82)/bioassay (62, 65, 81–83) provided		
61	marked as provided; note: no internal dose	in-vivo summary (70, 72, 74, 79–83, 85–90)/in-vivo (74, 81–83, 85–90) provided		
62	marked as provided; note: no internal dose	in-vivo (76) provided		
63	marked as provided; note: no internal exposure			
64	marked as provided; note: no recordable dose	in-vivo summary (84–95, 97)/bioassay (93) provided		
65	marked as provided; note: no recordable dose	in-vivo (72–73, 75–89) provided		
66	marked as provided; note: no recordable dose	in-vivo (63, 66–73, 75–85)/bioassay (62–65) provided		
67	marked as provided; note: no recordable dose	in-vivo (75–77, 79–81, 83–85, 87–92) provided		
68	marked as provided; note: no recordable dose	in-vivo (63, 65–71, 73, 76)/bioassay (62–66) provided		
69	marked as provided; note: no recordable dose	• • • • • • • • • • • • • • • • • • • •		
70	marked as provided; note: no recordable dose	in-vivo (76–78, 80–84) provided		
71	marked as provided; note: no recordable dose	, , , , , , , , , , , , , , , , , , ,		
72	marked as provided; note: no recordable dose			
73	note: not monitored at ANL	notation in file stating dosimetry records show not monitored at ANL-W		
74	marked as provided; note: no recordable dose	in-vivo (64, 67–77, 79–81, 83–92)/bioassay (61–66, 81, 83–84) provided		
75	marked as provided; note: no recordable dose			
76	marked as provided; no hand-written note	in-vivo (65–71, 73, 76–78, 82–84)/bioassay (58, 60, 62–66, 69) provided		
77	note: not monitored at ANL	notation in file stating dosimetry records show not monitored at ANL-W		
78	marked as provided; note: no recordable dose			
79	marked as provided; note: no recordable dose			
80	marked as provided; note: no recordable dose	notation in file stating dosimetry records show not monitored at ANL-W		
81	marked as provided; note: no recordable dose			
82	marked as provided; note: no recordable dose		marked as does not exist; note: see attached letter	notation in file stating no internal bioassay results for this EE
83	marked as provided; note: no recordable dose		marked as provided; note: see attached letter	in-vivo (75, 79–85) provided
84	no notations/markings	additional request already sent to ANL-W on 5/5/2006	marked as provided; note: no recordable dose	in-vivo summary (66–67, 71, 79, 81–91, 93–94)/in- vivo (67–72, 74–79, 81–91, 93–94)/bioassay (62–66) provided
85	note: not monitored	notation in file stating dosimetry records show not monitored at ANL-W		

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SC&A Case ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT- 004	INTERNAL DOSE RECORDS
86	note: not monitored	notation in file stating dosimetry records show not monitored at ANL-W		
87	marked as provided; note: no recordable dose	in-vivo (83)/bioassay (70) provided		

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APPENDIX C: REVIEW OF ANL-E CASES WITH POC <50% POTENTIALLY AFFECTED BY OCAS-PER-017

A	В	С	D	E
SC&A ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS
1	marked as not readily available; no hand-written	notation of minimal dose based on bioassay (no records in	marked as provided; no hand-	bioassay card and internal rad
'	notation no notations/markings	the response) notation in file stating no internal radiation exposure	written note	exposure record provided
2	Ţ.	records		
3	marked as not readily available; no hand-written notation	notation in file stating no bioassay records found		
4	no notations/markings	notation in file stating data was not available	marked as does not exist; no hand-written note	notation in file stating no bioassay records found
5	marked as provided; no hand-written notation	bioassay card and internal rad exposure record provided		
6	marked as does not exist; no hand-written notation	notation in file stating no bioassay records found		
7	marked as does not exist; no hand-written note	notation in file stating no internal radiation records; second notation stating no bioassay records found		
8	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records; second notation stating no bioassay records found		
9	marked as provided; no hand-written note	bioassay (internal rad exposure record) provided; later response recently received includes bioassay card (not previously provided)		
10	marked as provided; no hand-written notation	no internal records/notations in the response	marked as does not exist; no hand-written note	notation in file stating no internal records for this EE
11	marked as provided; no hand-written notation	bioassay (internal rad exposure record) provided		
12	marked as provided; no hand-written notation	bioassay (internal rad exposure record) provided		
13	marked as does not exist; no hand-written notation	notation in file stating no bioassay records found		
14	marked as provided; no hand-written notation	bioassay card provided		
15	marked as provided; no hand-written notation	notation in file stating no internal radiation exposure records; bioassay card provided		
16	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file		
17	marked as provided; no hand-written notation	bioassay card provided		
18	marked as provided; no hand-written notation	notation in file stating no internal radiation exposure records; bioassay card provided		
19	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records; second notation stating no bioassay records found		
20	marked as provided; no hand-written notation	bioassay card provided		
21	marked as provided; no hand-written notation	bioassay card provided		
22	marked as provided; no hand-written notation	bioassay card provided		
23	marked as provided; no hand-written notation	bioassay card and internal rad exposure record provided		
24	marked as provided; no hand-written notation	bioassay (internal rad exposure record) provided; second response recently received includes bioassay card (not previously provided)		

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A	В	C	D	E
SC&A ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS
25	marked as provided; no hand-written note	bioassay (internal rad exposure record) provided; later response recently received includes bioassay card (not previously provided)		
26	marked as provided; no hand-written notation	bioassay card provided		
27	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
28	marked as provided; no hand-written notation	bioassay card provided		
29	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
30	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
31	marked as provided; no hand-written notation	bioassay card provided		
32	marked as provided; note: no internal dose	notation in file stating no internal doses assessed	marked as provided; no hand- written note	bioassay card provided
33	marked as provided; no hand-written notation	bioassay (internal rad exposure record) provided		
34	marked as provided: note: no internal dose	notation in file stating no internal doses assessed	marked as provided; no hand- written note	bioassay card and internal rad exposure record provided
35	marked as provided; no hand-written notation	bioassay card provided		
36	marked as provided: note: no internal dose	notation in file stating no internal doses assessed	marked as provided; no hand- written note	bioassay card and internal rad exposure record provided
37	marked as provided: note: no internal dose	notation in file stating no internal doses assessed	marked as provided; no hand- written note	bioassay card and internal rad exposure record provided
38	marked as provided; no hand-written notation	bioassay card provided		
39	marked as provided: note: no internal dose	notation in file stating no internal doses assessed	marked as provided; no hand- written note	bioassay card provided
40	marked as provided; no hand-written notation	bioassay card provided		
41	marked as provided; note: none recorded - no records located	notation in file stating no internal radiation exposure records; second notation stating no bioassay records found		
42	marked as provided; no hand-written note	bioassay card provided		
43	marked as provided; no hand-written notation	bioassay card and internal rad exposure record provided		
44	marked as provided; no hand-written notation	bioassay card provided		
45	marked as provided; no hand-written notation	bioassay card provided		
46	marked as provided; no hand-written notation	bioassay card provided		
47	marked as provided; no hand-written notation	bioassay card provided		
48	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
49	marked as provided; no hand-written notation	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
50	marked as provided; no hand-written note	bioassay card and internal rad exposure record provided		

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SC&A ID#	INITIAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS	ADDITIONAL RESPONSE – NOTATION ON OCAS-INT-004	INTERNAL DOSE RECORDS
51	marked as provided; no hand-written notation	bioassay (internal rad exposure record) provided		
52	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file		
53	marked as provided; no hand-written notation	bioassay card provided		
54	marked as does not exist; no hand-written notation	notation in file stating no internal radiation exposure records on file		
55	marked as provided; no hand-written notation	bioassay card provided		
56	marked as provided; no hand-written notation	bioassay card provided		
57	marked as provided; no hand-written note	bioassay card and internal rad exposure record provided		
58	marked as provided; no hand-written notation	bioassay card provided		
59	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
60	marked as provided; no hand-written notation	bioassay card provided		
61	marked as provided; no hand-written notation	bioassay card provided		
62	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file		
63	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file		
64	marked as provided; no hand-written note	bioassay card provided		
65	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file		
66	marked as does not exist; no hand-written note	notation in file stating no internal radiation exposure records on file; second notation stating no bioassay records found		
67	marked as provided; no hand-written note	notation in file stating internal dose fields will be blank if no bioassay samples collected; no internal data in file		
68	marked as provided; no hand-written note	bioassay (internal rad exposure record) provided		
69	marked as does not exist; no hand-written note	notation in file stating no bioassay records found		

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APPENDIX D: INL CASE REWORK STATUS

SC&A Case ID#	Rework Status	Comments
36	Complete	
55	Complete	
58	Complete	
137	Complete	
140	Complete	
151	Complete	
182	Complete	
203	Complete	
237	DR Not Complete	PER-017 letter in file
259	Complete	
266	Complete	
284	Complete	
320	Complete	
335	Complete	
343	DR Not Complete	SEC 2010
384	Complete	
416	Complete	
491	DR Complete	No Final DOL Decision
492	DR Complete	No Final DOL Decision
498	Complete	
499	Complete	
506	Complete	
509	Complete	
531	DR Not Complete	
533	DR Not Complete	
543	Complete	
545	DR Complete	No Final DOL Decision
547	Complete	
549	Complete	
550	Complete	
551	Complete	
559	DR Complete	No Final DOL Decision
563	Complete	
564	DR Complete	No Final DOL Decision
567	DR Complete	No Final DOL Decision
568	DR Not Complete	PER-017 letter in file
570	DR Not Complete	PER-017 letter in file
576	Complete	

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580	DR Not Complete	No PER-017 letter in file
581	Complete	
584	DR Complete	No Final DOL Decision
585	DR Complete	No Final DOL Decision
593	Complete	
597	Complete	
600	Complete	
603	Complete	
605	Complete	
608	DR Not Complete	No PER-017 letter in file
616	DR Not Complete	PER-017 letter in file
621	DR Complete	No Final DOL Decision
627	Complete	
629	Complete	
630	DR Not Complete	PER-017 letter in file
636	DR Complete	No Final DOL Decision
645	Complete	
647	Complete	
649	Complete	
652	DR Not Complete	
654	DR Complete	No Final DOL Decision
655	Complete	
658	DR Not Complete	
659	DR Not Complete	
665	DR Complete	No Final DOL Decision

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APPENDIX E: ANL-W CASE REWORK STATUS

SC&A Case ID#	Rework Status	Comments
5	Complete	
19	Complete	
26	Complete	
27	DR Complete	No Final DOL Decision
36	DR Complete	No Final DOL Decision
42	DR Not Complete	
49	Complete	
58	DR Not Complete	
63	Complete	
72	Complete	
75	Complete	
78	DR Complete	No Final DOL Decision
79	Complete	
81	DR Complete	No Final DOL Decision
83	Complete	

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APPENDIX F: ANL-E CASE REWORK STATUS

SC&A Case ID#	Rework Status	Comments
1	DR Complete	No Final DOL Decision
32	Complete	
34	DR Complete	No Final DOL Decision
36	DR Complete	No Final DOL Decision
37	DR Complete	No Final DOL Decision
39	DR Complete	No Final DOL Decision