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Dose Reconstruction

3. Statistics concerning the number and time to complete individual dose reconstructions

a. Initial Submissions

As of this writing 25,833 claims (initial versions) have been received from and submitted to DOL. Table 1 lists the number of such initial receipts based upon the year the claim was received by NIOSH as well as the year the Claim was submitted to DOL.

Table 1: Number of Initial Claims by Calendar Year Received and Submitted

Number of Claims Based On Calendar Year Received	Calendar Year Received	Number of Claims Based On Calendar year Submitted	Calendar Year Submitted
1160	2001	0	2001
8967	2002	22	2002
4949	2003	1225	2003
3165	2004	4812	2004
2514	2005	5412	2005
2191	2006	5224	2006
3162	2007	3077	2007
2466	2008	2901	2008
2308	2009	2523	2009
806	2010	857	2010

Table 2 lists the average number of days that an initial claim was with NIOSH before being submitted to DOL based on the calendar year in which the claim was received and the calendar year in which the claim was submitted to DOL.

Table 2: Average Time in Days an Initial Claim is with NIOSH based on Year Received and Submitted

Average Time in Days	Calendar Year Received	Average Time in Days	Calendar Year Submitted
1120	2001	0	2001
1011	2002	253	2002
843	2003	440	2003
589	2004	593	2004
475	2005	897	2005
288	2006	761	2006
388	2007	720	2007
272	2008	537	2008
189	2009	569	2009
61	2010	652	2010

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Dose Reconstruction

Author's Observations and Conclusions:

1. The number of initial claims received per year is declining from a high of 8967 received in 2002 to 2308 received in 2009.
2. The average time that an initial claim is with NIOSH is also declining from 1011 days for a claim received in 2002 to 189 days for a claim received in 2009.
3. It is reasonable to assume that the number of claims received in future years will likely be more like the number received in 2008 and 2009 as opposed to 2002. This should free up resources that can be applied to completing claims in a shorter time. NIOSH should set aggressive targets for the average time that an initial claim is with NIOSH. Any such target needs to take into account allowing for a reasonable amount of time to secure the appropriate records from DOE and others. As for NIOSH's part of completing the dose reconstruction once the information is in hand, a target of 90 days or less should be considered.

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Dose Reconstruction

b. Returns from DOL

As of this writing 9905 claims have been returned to NIOSH by DOL. These returns may be the result of DOL adding information to the claim such as an additional cancer or modifying years of employment, or the return may be the result of a NIOSH request necessitated by the need to reevaluate the claim based upon a change in the underlying science. Of the 9905 claims returned, 5531 were returned at the request of NIOSH, 2547 were returns initiated by DOL. The remaining 1827 could not be placed in either category as information necessary to support such a judgment is not available. Table 3 lists the number of returns for the year the return was received for DOL initiated returns and NIOSH initiated returns.

Table 3: Returns by Year Returned-DOL and NIOSH Initiated

Year Return Received	DOL Initiated	NIOSH Initiated
2004	8	-
2005	7	-
2006	100	9
2007	717	3414
2008	797	1714
2009	741	382
2010	177	12
Total	2547	5531
Percent of Total -Initial Claims (25833)	9.8%	21.4%

Of the total of 9905 returns, 959 or 9.7% resulted in the probability of causation increasing from below 50% to greater than or equal to 50%. The majority of returns (90.3%) did not result in an increase of probability of causation.

A review of Table 3 shows that the majority of NIOSH initiated returns were in 2007 and after. To better understand the science issues that have resulted in NIOSH initiated returns, Table 4 was prepared. Table 4 lists the PER’s (Program Evaluation Reports) that were prepared to account for changes in the underlying science. Table 4 also listed the date that the PER was initiated and the number of claims affected. Note the total number of claims affected as listed in Table 4 is 12,241. This number is different than the number of NIOSH initiated returns listed in Table 3 because an individual claim can be impacted by more than one PER.

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Dose Reconstruction

Table 4: PER's by Title, Date Initiated and Claims Affected

PER Number	PER Title	Initiated Date	Claims Affected
1	OCAS-PER-01 SRS Dosimetry Records	9/8/2003	0
2	OCAS-PER-02 Error X-ray Surrogate Organ Assignment	12/15/2003	3
3	OCAS-PER-03 Add Ingestion Bethelium Steel	1/28/2005	6
4	OCAS-PER-04 Photofluorography Pinellas	2/15/2005	11
5	OCAS-PER-05 Dose Factor for Hanford	6/9/2006	30
6	OCAS-PER-06 Prostrate Target Organ	9/15/2006	0
7	OCAS-PER-07 Revision to Bethlehem Steel TBD	11/9/2006	20
8	OCAS-PER-08 IREP Lung Model	4/12/2007	95
9	OCAS-PER-009 Lymphoma	11/1/2007	500
10	OCAS-PER-010 RFP NDRP	4/13/2007	88
11	OCAS-PER-011 K-25	9/11/2007	433
12	OCAS-PER-012 Super S	11/2/2007	5689
13	OCAS-PER-013 Paducah TBD	1/14/2008	734
14	OCAS-PER-014 Construction	11/13/2007	948
15	OCAS-PER-015 Mallinckrodt	8/1/2007	15
16	OCAS-PER-016 45% to 50% POC	9/25/2007	85
17	OCAS-PER-017 ANL/INEEL data	1/14/2008	68
18	OCAS-PER-018 LANL	8/29/2007	249
19	OCAS-PER-019 SRS Neutrons	5/18/2007	4
20	OCAS-PER-020 Blockson	8/29/2007	91
21	OCAS-PER-021 RFP	9/11/2007	590
22	OCAS-PER-022 Chapman Valve	9/11/2007	31
23	OCAS-PER-023 ANL-W	9/13/2007	22
24	OCAS-PER-024 GSI	9/24/2007	4
25	OCAS-PER-025 Huntington PP	9/27/2007	1
26	OCAS-PER-026 Pantex	9/27/2007	47
27	OCAS-PER-027 Clarksville	10/23/2007	65
28	OCAS-PER-028 Pinellas	10/23/2007	24
29	OCAS-PER-029 Hanford	12/12/2007	1172
30	OCAS-PER-030 SRS TBD	12/14/2007	53
31	OCAS-PER-031 Y-12 TBD	12/15/2007	689
32	OCAS-PER-032 NTS TBD	12/15/2007	474
Total			12,241

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Dose Reconstruction

Author's Observations and Conclusions:

1. Certainly the Dose Reconstruction Rule anticipated that there might be changes to the scientific elements underlying individual dose reconstruction techniques (Sections 82.30-82.32).⁴
2. The fact that 21.4% of initial dose reconstructions were reevaluated as the result of such changes in science is a direct result of a rigorous review of the science by the Advisory Board as well as by NIOSH. Such a rigorous review creates a tension between the program values of timeliness and the use of the best available science.
3. The fact that 9.7% of the dose reconstructions that were redone resulted in the increase of the probability of causation from below 50% to greater than or equal to 50% (therefore likely resulting in a decision to compensate) underscores the importance of such a rigorous review.
4. Such reworks and reevaluations do add to the confusion that surrounds the program in the eyes of many claimants.
5. NIOSH Leadership needs to focus on this tension and take steps to minimize the confusion that surrounds such changes while maintaining the use of the best available science and ensuring that individuals that warrant compensation consistent with that "right" science receive compensation.

⁴ Subpart E—Updating the Scientific Elements Underlying Dose Reconstructions

§ 82.30 How will NIOSH inform the public of any plans to change scientific elements underlying the dose reconstruction process to maintain methods reasonably current with scientific progress?

Periodically, NIOSH will publish a notice in the Federal Register notifying the public of plans to change scientific elements underlying the dose reconstruction process under EEOICPA to reflect scientific progress. Notice will include a summary of the planned changes and the expected completion date for such changes.

§ 82.31 How can the public recommend changes to scientific elements underlying the dose reconstruction process?

(a) At any time, the public can submit written recommendations to NIOSH for changes to scientific elements underlying the dose reconstruction process, based on relevant new research findings and technological advances. NIOSH will provide these recommendations to the Advisory Board on Radiation and Worker Health to be addressed at a public meeting of the Advisory Board, with notification provided to the source of the recommendations. Recommendations should be addressed to: Director, Office of Compensation Analysis and Support, National Institute for Occupational Safety and Health, 4676 Columbia Parkway, MS-R45, Cincinnati, Ohio 45226.

(b) The public can also submit recommendations by e-mail. Instructions will be provided on the NIOSH Internet homepage at www.cdc.gov/niosh/ocas.

§ 82.32 How will NIOSH make changes in scientific elements underlying the dose reconstruction process, based on scientific progress?

NIOSH will present proposed changes to the Advisory Board on Radiation and Worker Health prior to implementation. These proposed changes will be summarized in a notice published in the Federal Register. The public will have the opportunity to comment on proposed changes at the meeting of the Advisory Board and/or in written comments submitted for this purpose. NIOSH will fully consider the comments of the Advisory Board and of the public before deciding upon any changes.

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Dose Reconstruction

c. The Timing of Initial Submissions vs. Returns

Table 5 contains data on the time that NIOSH has in its possession an initially submitted claim as well as a returned claim based upon the calendar year the claim was received.

Table 5: Time to Complete Claims, Initial and Return by Calendar Year Submitted

Calendar Year Received	Average Time in Days To Complete Initially Submitted Claim	Average Time in Days To Complete Returned Claim
2001	1120	-
2002	1011	-
2003	843	166
2004	589	205
2005	475	164
2006	288	135
2007	388	222
2008	272	293
2009	189	132
2010	61	45

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Dose Reconstruction

Author's Observations and Conclusions:

1. It is reasonable that the time that NIOSH holds a returned claim should be less than the time NIOSH holds an initially submitted claim. Two reasons for this are, first a returned claim may well be the result of an additional cancer meaning that the claimant is experiencing deteriorating health and second the claimant of a returned claim has already been in the system for some time and therefore is understandably anxious to have their case completed.
2. In all years but 2008 the average time to complete an initial claim is longer than the average time to complete a returned claim.
3. In settings its goals for the timely completion of claims NIOSH should give a higher priority to returned claims.

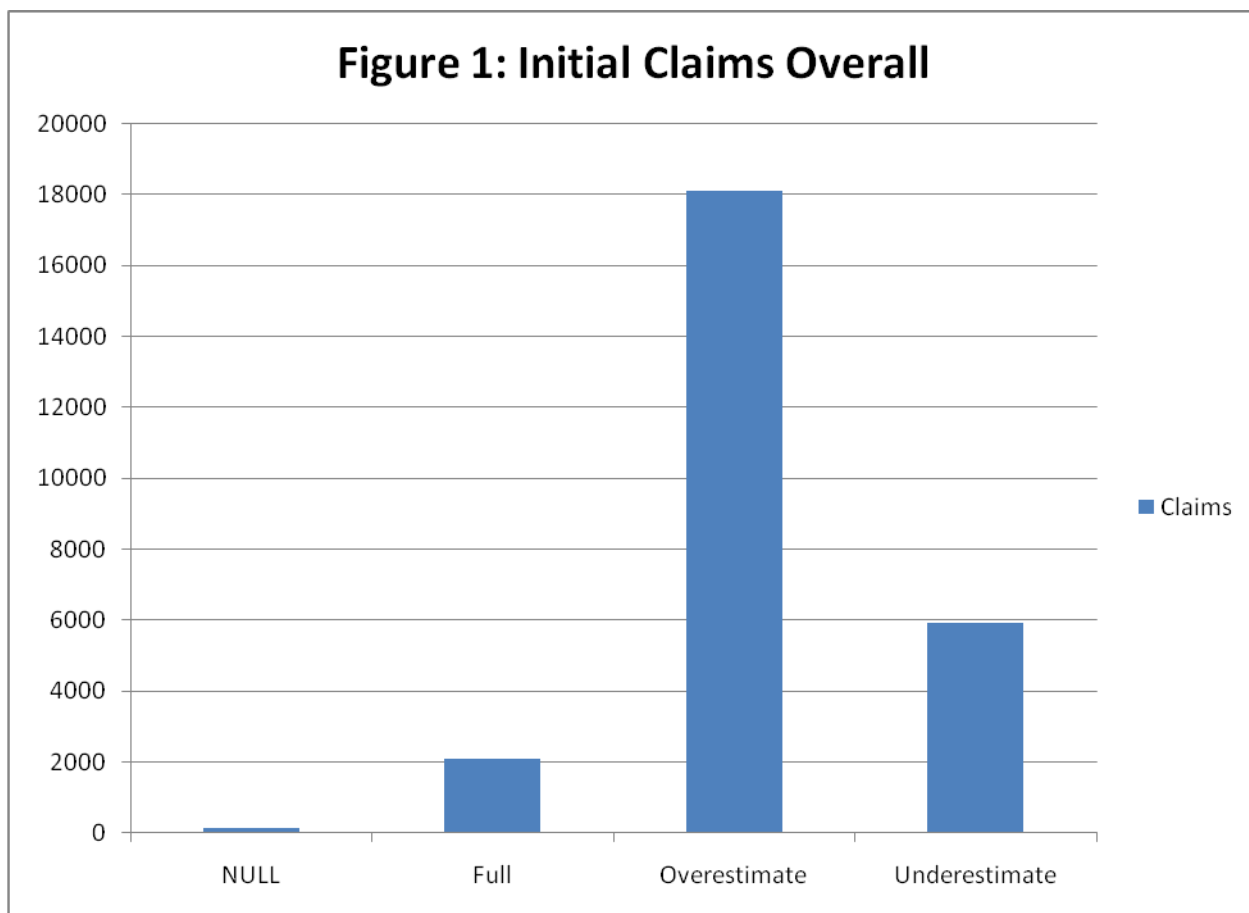
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Dose Reconstruction

4. Statistics concerning the number and time to complete individual dose reconstructions by dose estimation type.

a. Number of Claims

Figure 1⁵ shows the number of initial claims that have been completed using Full Best Estimate Techniques (the term Full Best Estimate means that the dose reconstruction involved a Best Estimate determination for both internal and external dose), Overestimating Techniques and Underestimating Techniques. Initial claims were chosen for display as they better reflect NIOSH's choice of dose estimation technique when a claim is first encountered.



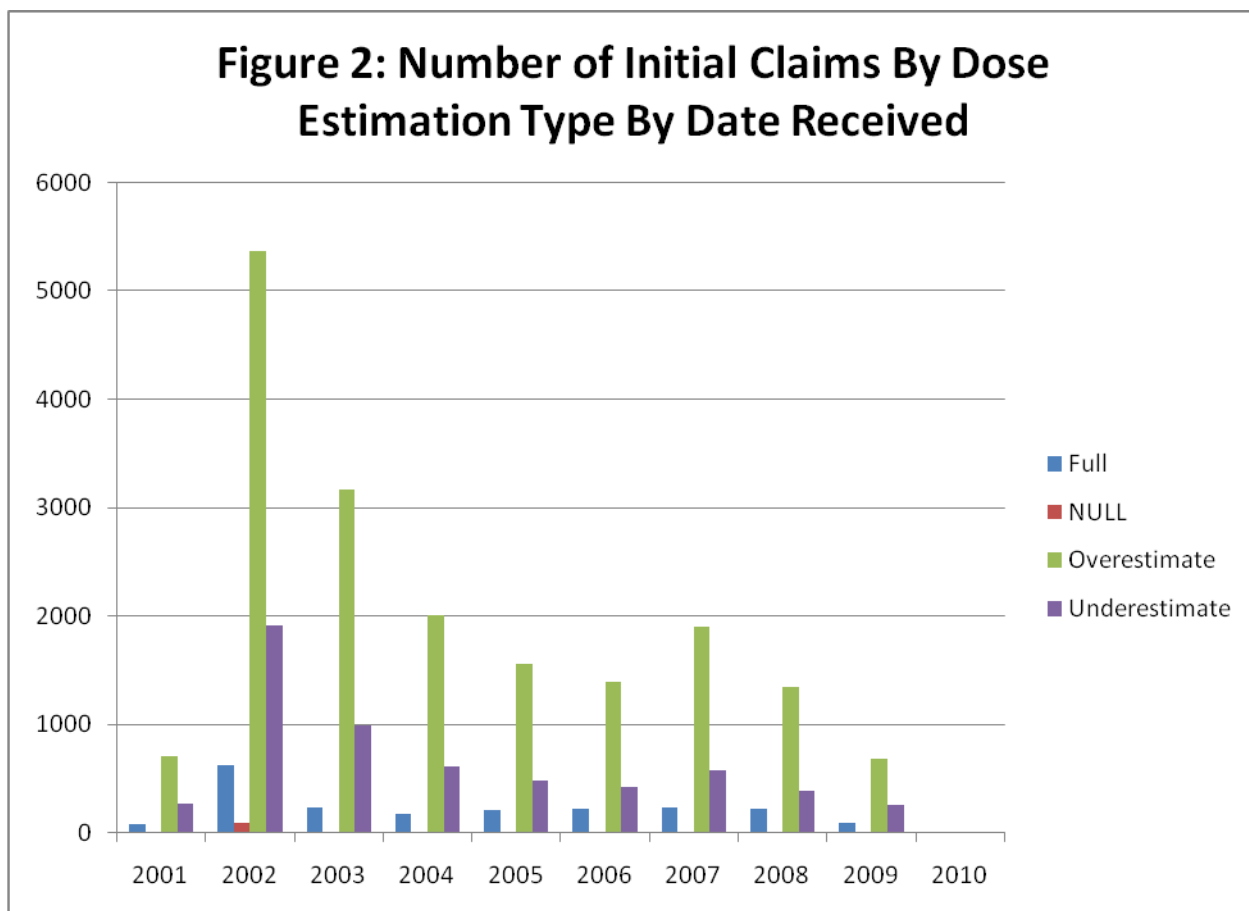
In total 8.0% of claims have been worked by Full Best Estimate Techniques, 22.5% by Underestimating Techniques, and the majority, 69.0% by Overestimating Techniques.

⁵ The null bar captures claims that were worked before records were kept of such designations

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Dose Reconstruction

Figure 2⁶ shows the number of initial claims worked by the different dose reconstruction techniques each year from 2001 until 2009. For this Figure, the year represents the year in which the claim was received from DOL and not the year in which NIOSH sent the completed dose reconstruction back to DOL. The year received was selected for display as the author feels this is more informative than using the year submitted to explore trends in NIOSH's use of dose reconstruction techniques, as a claim received in 2004 might not be submitted in 2004 or later for a number of reasons not related to the choice of Dose Estimate Technique.



⁶ The null bar captures claims that were worked before records were kept of such designations

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Dose Reconstruction

Table 6 shows the number of claims worked using the various Dose Estimate Techniques based upon the year in which the individual dose reconstruction was received from DOL.

Table 6: Number of Claims By Dose Estimation Type By Date Received

	Full	NULL⁷	Overestimate	Underestimate
2001	76	14	705	272
2002	621	96	5365	1913
2003	235	11	3162	988
2004	176	0	2008	606
2005	210	0	1554	486
2006	225	0	1391	423
2007	236	0	1897	581
2008	222	0	1347	385
2009	95	0	678	262
2010	0	0	11	3

Contrasting 2002, a year in which the dose reconstruction program was fully operational to 2008, the last year for which there are complete data indicates that the use of the Full Best Estimate Technique has increased from 7.8% in 2003 to 11.3% in 2008, note the percentage of Full Best Estimate Technique dose reconstruction in 2003 was 5.3% of the total for that year.

Author’s Observations and Conclusions:

1. The author was struck by the heavy use of Overestimating Techniques; however there is no evidence to suggest that Overestimating Techniques were used inappropriately.
2. It is not surprising that use of the Full Best Estimate Technique is increasing as the “easier” to complete dose reconstructions are completed leaving the “more” difficult dose reconstructions that would require the Full Estimation Technique. One might expect that the percentage increase would have been larger than it actually is.

⁷ The null captures claims that were worked before records were kept of such designations