Update on Nuclear Test Personnel Review (NTPR) Program

Brief for: Veterans' Advisory Board on Dose Reconstruction

Briefer: Paul K. Blake, Ph.D.

3:00 PM – 3:30 PM

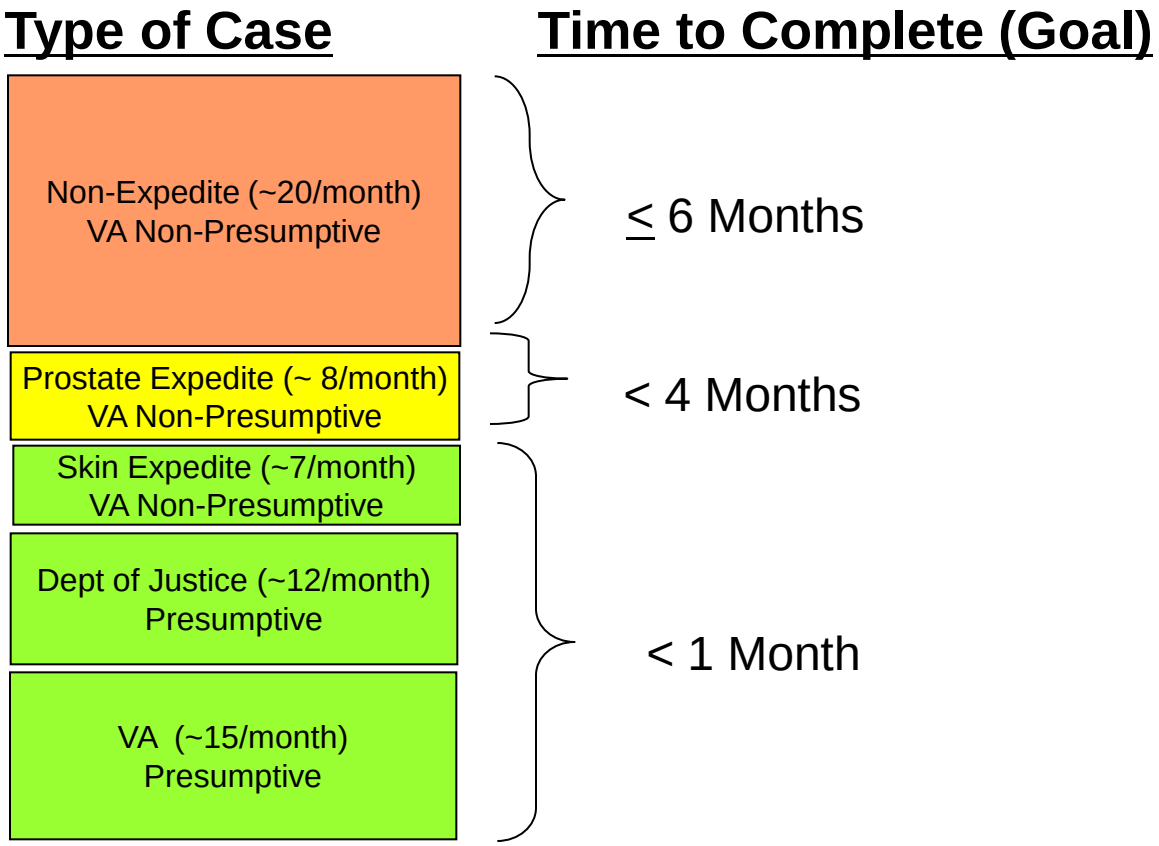
March 7, 2007

Briefing Outline

- NTPR Program update
- Status of VBDR recommendations
- Cataract expedited dose initiative
- Non-radiogenic disease initiative
- The road ahead

- Projected briefing time: 30 minutes

Update - Principal Caseload



TOTAL 62 Incoming Cases/month Average (thru Nov 2006)

Update – CY2006 Metrics

- Oldest case:
  - 01 Jan 2006: 3.4 yrs
  - 31 Dec 2006: 4.1 yrs
- Non-presumptive case backlog:
  - 01 Jan 2006: 1,534
  - 31 Dec 2006: 582
- Non-presumptive cases processed:
  - Expedited (VBDR endorsed): 882
  - Non-expedited: 308

Total: 1,190

Update – 12 Feb 2007 Snapshot

- Pending Non-presumptive: 549
  - Full RDAs: 311
  - Expedited Prostate: 114
  - Expedited Skin: 7
  - Pending Cataract: 77
  - Pending Non-radiogenic: 40

Update – 12 Feb 2007 Snapshot

- Correspondence released: **77 letters**
  - VA Non-Expedited Doses: 7
  - VA Expedited Doses: 6
  - VA Presumptive: 15
  - DOJ Presumptive: 8
  - Personal Inquiries: 11
  - SPARES: 5
  - Questionnaires: 2
  - Information Release Forms: 7
  - Interim Responses: 3

VBDR Dec 2006 DTRA Recommendations

Recommendation	Status/Impact
1. The VBDR recommends that … NTPR include, at a defined frequency in terms of a percentage of cases processed, the processing of a double blind radiation dose assessment (RDA) of the same case by at least two independent analysts, and the assessment of the respective generated results by pre-defined metrics. Key requirements that should be addressed in the assessment are the allowable relative differences between the respective reported point estimates of total external, internal and, if applicable, skin dose and the respective reported upper bound estimates for each of the reported doses. Pre-established actions to be taken if an allowable difference is exceeded should be defined and documented.	The NTPR QA Plan will document the procedures for the recurring process of a "double blind" RDA of the same case, including pre-defined assessment metrics and pre-defined post assessment actions. DTRA is exploring an NCRP contract modification to allow for approximately three double blind RDAs per year. This is in addition to the RDA audits performed by ORAU.
2. After NTPR's implementation of the QA Plan, Program and Procedures Manual, VBDR recommends that NTPR submit the following key QA tracking results to Subcommittee 3 on a quarterly basis: performance and QA metrics, QA corrective actions, and audit reports.	The QA Plan is forecasted to be completed by June 2007. Full implementation will most likely not occur until Fall 2007. Despite the delay to officially document all procedures, many QA practices are in place and metrics are being collected and analyzed monthly. These metrics and analysis will continue to evolve until full QA Plan implementation, but quarterly updates to SC-3 should provide insight into progress and an opportunity for feedback.

VBDR Dec 2006 Addendum

Recommendation	Status/Impact
1. The updated review and assessment of credible upper bound doses from skin contamination should be given a very high priority and should include a substantial section containing guidance useful to the analysts carrying out dose reconstructions that will lead to greater coherence. This assessment should also reassess the upper bound for skin doses based on beta-to-gamma ratios. VBDR recommends that an interim upper bound factor be applied to all skin dose estimates that are based on beta-to-gamma ratios until this assessment is completed.	A draft DTRA Technical Report (TR) on dermal contamination is scheduled for release to peer reviewers in June 2007.
2. VBDR recommends that NTPR document that the default upper bound factors currently applied for both external and internal doses always provide upper bound factors that reach or exceed the 95th percentile.	• NTPR is developing a comparison table for external dose scenarios to validate the 3x adjustment factor. This table will compare veteran's film badge readings with reconstructed doses for the same exposures. • With regard to 10x adjustment factor for internal dosimetry, SENES will explore this issue via a DTRA TR (publication date yet to be scheduled). • With regard to the 6x adjustment factor for neutron exposure, the DTRA TR to be published in March 2007 will validate this factor.

VBDR Dec 2006 Addendum

Recommendation	Status/Impact
3. VBDR recommends that the default upper bound factor currently applied to ingestion doses be re-evaluated since the mean (central) estimate already appears to be sufficiently high-sided.	Discussed in response to Addendum recommendation #2.
4. VBDR recommends that NTPR develop a method for adjusting film badge upper bounds to reflect the generally larger uncertainty in doses that are based on cohort film badges as opposed to individual personal dosimeters.	NTPR will explore this issue and document it procedurally.
5. VBDR recognizes that the independent QA audits contracted for by NTPR are very beneficial and should be continued. VBDR recommends that NTPR also extend the QA program to include double blind RDAs (See Recommendation 1 for DTRA).	Agree.
6. VBDR recommends that the QA Plan, Program and Procedures Manual should comprise an integrated enterprise QA system, spanning from NTPR down through the prime contractor and any subcontractors. Within that system, the roles and responsibilities of all individuals involved in executing the QA system should be clearly specified.	Discussed in response to DTRA recommendation #2.
7. VBDR recommends that the QA Plan, Program and Procedures Manual be designed to explicitly achieve four fundamental goals, and to clearly demonstrate their achievement to outside observers. These four goals: Defensibility, Consistency, Objectivity, and Documentation.	Agree.

VBDR Dec 2006 Addendum

Recommendation	Status/Impact
8. VBDR recommends that Subcommittee 3 (SC3) be involved in the evaluation of the QA Plan, Program and Procedures Manual as drafts are submitted. As the QA metrics, QA Plans and Subcommittee 1 (SC1) case audit checklist are being developed, SC3 and SC1 should be consulted for input and review.	Agree
9. VBDR recommends that the different QA documents have a clear, explicit and well documented division of scope to minimizing overlap. Primary division of scope: The RDA Standard Operating Procedures (SOP) lists all relevant RDA calculation bases and assumptions (e.g., coefficients and multipliers) involved in performing RDAs. The QA Plan, Program and Procedures Manual should be designed to assure that all RDAs are performed in a manner consistent with the RDA SOP. Key condition: If an RDA uses a particular coefficient type, multiplier type or calculation assumption, it uses the value or applicable assumption specified in the RDA SOP.	Agree
10. VBDR recommends that management reviews and QA audits provide an adequate basis for tracking QA, corrective actions and continuous improvement.	Agree
11. VBDR recommends that case file records control be improved so that audits can be carried out expeditiously.	Agree

DTRA Technical Report Status

Title	Peer-Review Release Date
Fallout Fractionation Report	Feb 2007
Screening Dose Report	Feb 2007
Neutron Dosimetry Report	Feb 2007
Plutonium Bioassay Report	Mar 2007
NTS Inhalation/Resuspension Report	Apr 2007
FIIDOS Report	Apr 2007
Dermal Contamination Report	Jun 2007
Nevada Test Site Fallout Report	To be determined

Expedited Cataract Initiative

- Review of 61 post-NRC 2003 posterior subcapsular cataract (PSC) radiation dose assessments:
  - Dose contribution pathways include whole body exposure, localized skin contamination, and in some special activities - direct eye exposure
- Literature review of threshold cataractogenisis:
  - medical research
  - population studies
    - Long-term monitoring of Hiroshima and Nagasaki survivors
    - World Health Organization: Chernobyl victims
- Potential to expedite approximately 70 PSC claims

Expedited Cataract Initiative

- NTPR has prepared a point paper on this subject for VBDR review. Based on the facts presented in the paper, NTPR proposes to expedite Pacific Proving Ground (PPG) and Nevada Test Site (NTS) cases. Hiroshima and Nagasaki (H&N) cases would still require a complete radiation dose assessment.
- This initiative is based on the previous VBDR endorsed, expedited skin dose initiative.

Non-Radiogenic Disease Review

- At the last VBDR meeting, Dr. Zeimer stated that the NIOSH program does not perform non-radiogenic case dose reconstructions. In addition, NTPR presented a point paper on non-radiogenic conditions, based on historical dose reconstruction data, and analysis of VA radiogenic disease medical opinions, that demonstrated the chance of a successful VA claim adjudication is practically non-existent for non-radiogenic disease.
- Since the last meeting, NTPR's medical advisor has reviewed over 80 cases awaiting radiation dose assessments:
  - Cases including non-radiogenic conditions
  - Cases requiring clarification of conditions/sites.
- NTPR forwarded a summary of these cases to VBDR (SC2) in late February 2007. Fifteen of the NTPR case files (in PDF format) have also been released to SC2 for review.

Non-Radiogenic Disease Point Paper

- NTPR remains concerned that the generation of radiation dose assessments for non-radiogenic conditions is pointless and only serves to delay the dose assessments for veterans suffering from radiogenic diseases.

The Road Ahead

- 1st Half 2007:
  - Maximize SPARE production
  - Expedited cataract initiative
  - Technical basis document publication
- 2nd Half 2007:
  - Release of processing and quality assurance procedures
- 2008:
  - Revision of 32 CFR 218, “DTRA Dose Reconstruction Policy”