

Update on Nuclear Test Personnel Review (NTPR) Program

***Brief for: Veterans' Advisory Board on
Dose Reconstruction (VBDR)***

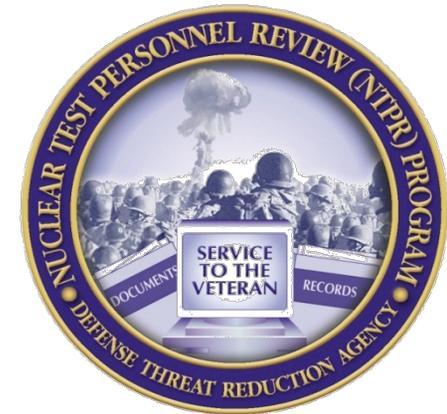
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July 23, 2013





Agenda

- VBDR Recommendation Impact
- Atomic Veteran Update
- Non-Atomic Veteran Support
 - Operation Tomodachi Update
 - McMurdo Station Update
- Way Ahead





VBDR Recommendations

Meeting No.	Date	Location	VBDR-DTRA Recommendations
1	Aug 2005	Tampa, FL	None
2	Jan 2006	Los Angeles, CA	None
3	Jun 2006	Austin, TX	4
4	Nov 2006	Hampton, VA	2
5	Mar 2007	Las Vegas, NV	6
6	Sep 2007	Chicago, IL	6
7	Apr 2008	San Diego, CA	None
8	Sep 2008	Baltimore, MD	None
9	Jun 2009	Bethesda, MD	2
10	Mar 2010	Arlington, VA	1 Joint (DTRA-VA)
11	Mar 2011	Arlington, VA	0
12	Mar 2012	San Antonio, TX	0
Total:			20 DTRA & 1 Joint



VBDR Recommendations

No.	Subject	Status	Result
1	Expedited Skin RDA	Accepted, Closed	DTRA NTPR RDA SOP
2	Expedited Prostate RDA	Accepted, Closed	RDA SOP RA02, Rev. 1.0
3	Beta Dose Uncertainty	Accepted, Closed	DTRA-TR-09-16 & RDA SOPs ED03, ED04, ED05
4	QA Plan	Accepted, Closed	NTPR Quality Plan
5	RDA DBS	Accepted, Closed	Ongoing QA process
6	QA Metrics	Accepted, Closed	QQR
7	SOP Development	Accepted, Closed	See DTRA-NTPR public website http://www.dtra.mil/
8	QA Plan Submission	Accepted, Closed	NTPR Quality Plan
9	Expedited PSC RDA	Accepted, Closed	RDA SOP RA02, Rev. 1.3
10	Other Expedited RDAs	Accepted, Closed	RDA SOP RA02, Rev. 2.0
RDA: Radiation Dose Assessment, DBS: Double Blind Study, QQR: Quarterly Quality Report, PSC: Posterior Subcapsular Cataracts; DTRA-TR-09-16, "Radiation Doses to Skin From Dermal Contamination"			



VBDR Recommendations

No.	Subject	Status	Result
11	RDA Templates	Accepted, Closed	RDA MathCad Templates
12	Reduce RDA data	Accepted, Closed	Revised NTPR Questionnaire
13	Develop DSS for RDAs	Accepted, Closed	DSS template
14	Discontinue Upper Bounds	Accepted, Closed	DTRA-TR-09-13
15	RDA Reviews	Accepted, Closed	Ongoing QA process
16	Justify Expedited RDAs	Accepted, Closed	DSS & ongoing QA process
17	Tech. Basis for Expedited RDA	Accepted, Closed	DTRA-TR-10-29
18	Veteran Outreach	Accepted, Closed	NTPR inquiries increase
19	QQR	Accepted, Closed	RDA SOP RA02, Rev. 1.3
20	DSS	Accepted, Closed	DSS in RDA SOP RA02
Joint	Expedite PSC Claims	Accepted, Closed	Expedited VA PSC claims
DSS: Decision Summary Sheet; DTRA-TR-09-13, "A Probabilistic Approach to Uncertainty Analysis in NTPR RDAs", DTRA-TR-10-29, "A Technical Approach to Expedited Processing of NTPR RDAs"			



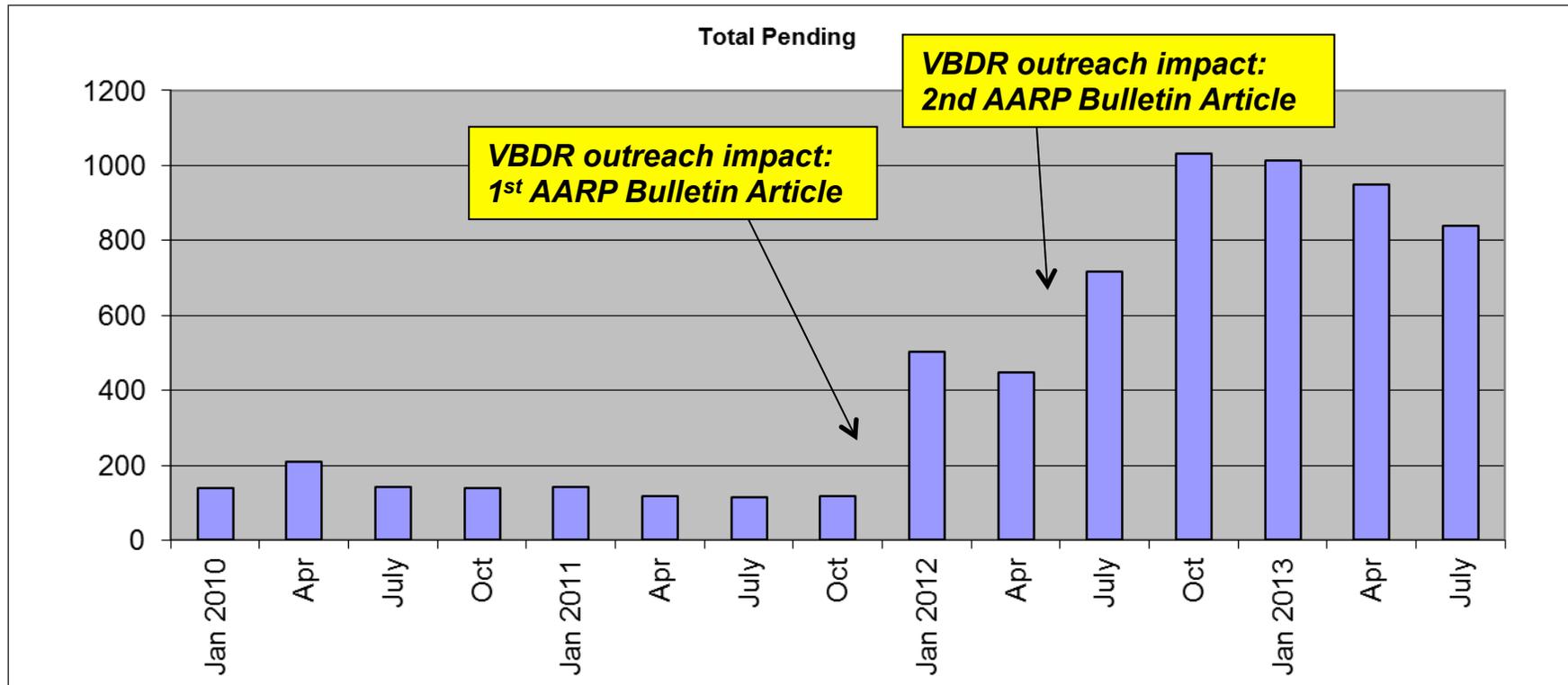
VBDR Recommendation Impact

- In 2006, elimination of a four year backlog of NTPR RDA requests.
- In 2007, average NTPR response time dropped to 50 days (or less), with all cases being completed in under six months¹.
- Service connection increased for VA atomic veteran radiogenic disease compensation from 9% to 29%.
- A DTRA cost savings of \$20M.

1: This changed in 2012, due to VBDR outreach efforts.



Atomic Veteran Update

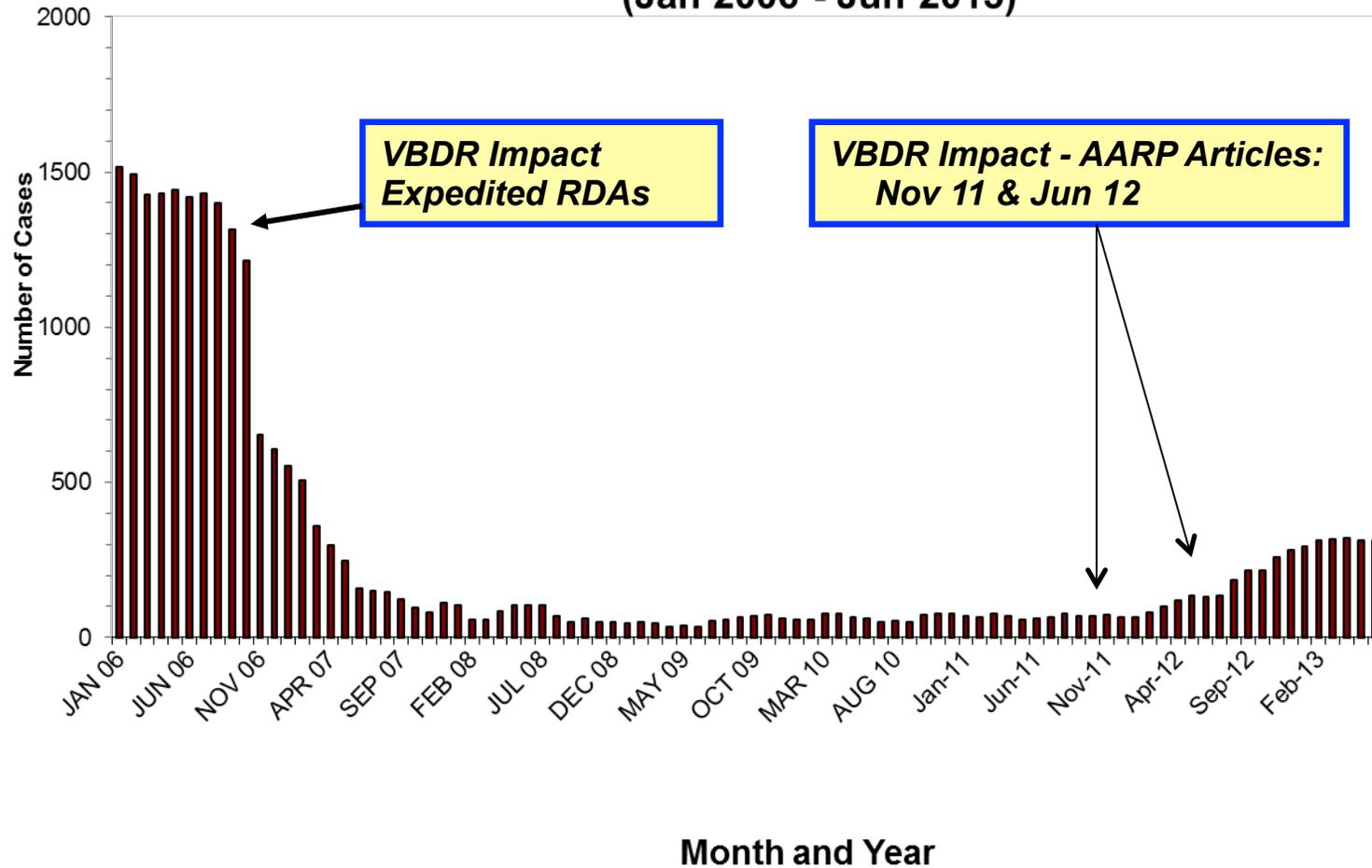


AARP: American Association of Retired Persons



Atomic Veteran Update

Non-Presumptive Pending VA Case Load
(Jan 2006 - Jun 2013)





Atomic Veteran Update

- DTRA has increased NTPR budget to reduce total pending cases to 200 or less by end of FY14.

NTPR Category	Pending ¹	Non-Part ¹	Pending ²	Non-Part ²
VA	445 (53%)	42%	96 (69%)	37%
DOJ	237 (28%)	70%	13 (9%)	46%
Personal	156 (19%)	77%	31 (22%)	32%
Total:	838 (100%)		140 (100%)	
1: 30 Jun 2013 2: 18 Dec 2009 Non-Part: Non-participant as defined by 38 CFR 3.309 (for VA and Personal) or 28 CFR 79 (for DOJ).				



Atomic Veteran Update

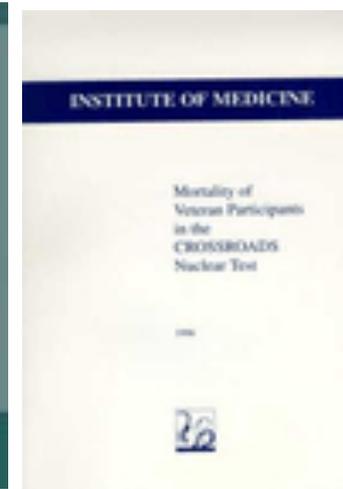
Responses from callers to the question:
“How did you hear of the NTPR Program?”

Responses as of Dec 28, 2012 (since Sep 2011)	Total
AARP	482
No Comment	194
Internet	83
Miscellaneous, e.g., handout, research, etc.	69
National Association of Atomic Veterans	66
Friend/Family	56
Newspaper	52
Veterans Affairs	42
Magazine	36
Fellow Veteran	23
VA Mailout (<i>Are YOU an Atomic Veteran?</i>)	21
VFW	11
Grand Total	1135



Atomic Veteran Update

- DTRA, VA, & Veteran Service Organizations are co-sponsoring atomic veteran radioepidemiology studies.
- Dr. Boice (VBDR member) is principal investigator on a National Cancer Institute (NCI) funded study.
- This is a study of potential radiogenic disease in Operation Trinity, Crossroads, Greenhouse, Upshot-Knothole, Castle, Redwing, Plumbbob, & Hardtack I veterans.



Radioepidemiology Team (Feb 2012)
5 Year NCI Grant to Vanderbilt University
Government Sponsors: H&HS, DOD, VA, ...



Atomic Veteran Update

- **Boice Study:**
 - Oct 2012: 3rd annual meeting, Vanderbilt University;
 - Dr. Till (RADM, USN (Retired)) presented his analysis of his visit to the USS Laffey (DD-724) in Charleston, SC. The USS Laffey participated in Operation Crossroads, is known as the “The ship that would not die” and is the last example of a Sumner Class destroyer (58 ships launched between 1943-1945) in the United States.
- **Rongerik Weather Station Observer Study:**
 - Dr. Steve Simon (NCI) has proposed a study of this high dose subcohort at Operation Castle. NTPR will support (as practical).



USS Laffey at Patriots Point,
Charleston, SC



Front Row: Andre Bouville, Harold Beck, Paul Voillequé, Han Kang, John Boice, John Till
Back Row: David Fu, Ken Kopecky, Dan Stram, Helen Grogan, Justin Mohler, Shawn Mohler,
Mike Mumma, Jill Aanenson, Dick Toohy, William Wu



Non-Atomic Veteran Support

NTPR's atomic veteran RDA methodology is useful for other military communities. Over the last few years, NTPR has provided RDA support for:

- Approx. 10,000 US Coast Guard veterans stationed at LORAN transmitters between 1942-2010,
- A few thousand military veterans working at McMurdo Station, Antarctica between 1962 – 1979, and
- The DOD-affiliated community of approx. 70,000 personnel that were adjacent to the Fukushima Daiichi Nuclear Power Station, Japan in 2011.



Non-Atomic Veteran Support

Technical Publications

DTRA-TR-10-026: Personnel Radiation Exposure Associated with X-Rays Emanating from U.S. Coast Guard LORAN High Voltage Vacuum Tube Transmitter Units

DTRA-TR-12-001: Radiation Doses for Shore-Based Individuals in Operation Tomodachi

DTRA-TR-12-002: Probabilistic Analysis of Radiation Doses for Shore-Based Individuals in Operation Tomodachi

DTRA-TR-12-003: Upper-Bound Radiation Dose Assessment for Military Personnel at McMurdo Station, Antarctica, between 1962 and 1979

NTPR-TR-12-004: Radiation Internal Monitoring by In Vivo Scanning in Operation Tomodachi

NTPR-TR-12-017: Radiation Doses for Embryo, Fetus and Nursing Infants from Operation Tomodachi

NTPR-TR-12-041: Radiation Doses for Fleet-Based Individuals in Operation Tomodachi (in press)

NTPR-TR-12-045: Characterization of the Radiological Environment at J-Village during Operation Tomodachi

NTPR-TR-12-048: Comparison of Radiation Dose Studies of the 2011 Fukushima Nuclear Accident Prepared by the World Health Organization and the U.S. Department of Defense

NTPR-TR-13-044: Operation Tomodachi Registry Radiation Data Compendium



Operation Tomodachi Update

- On March 11th, a destructive 9.0 earthquake off the northeast coast of Japan triggered a tsunami (tidal wave). This caused widespread devastation, including damage to the Fukushima Daiichi nuclear power station. A major result of this damage was release of radioactive material from the power plant.
- DOD launched Operation Tomodachi to help Japan respond to these events.





Operation Tomodachi RDA Support



Office of Secretary of Defense:

Oversight and policy guidance



Military Health Physicists:

Evaluate data and conduct dose assessments

DTRA (NTPR):

DOD's lead for radiation dose reconstruction



AFRRI:

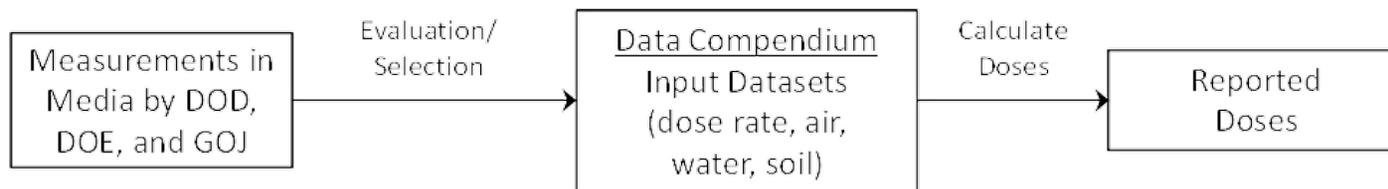
Tri-Service focal point for human radiation exposure sciences





Op. Tomodachi Registry

- The ASD(HA) OTR website launched: Sep 2012:
<http://registry.csd.disa.mil/otr>
- DoD/DOE posted its environmental radioactivity monitoring data:
<http://www.data.gov/> and this is linked to OTR website.
- DoD identified, evaluated and selected available environmental (DoD, DOE, GOJ: ext. exp. rates & activity concentrations from air, water, soil) and personal radiation monitoring data (DoD).
- From this selection, DoD prepared datasets for input to external radiation dose calculations. Comprised of measured, adjusted, interpolated or extrapolated quantities for each hour during the 60-day period. DoD also prepared datasets for input to internal radiation dose calculations for each day during the same period. Ref: DTRA-TR-13-044.





Op. Tomodachi Registry Website

Location-Based Radiation Dose Estimates

This page provides interested individuals with location-based radiation dose estimates for adults and children for the period of greatest potential exposure, from March 12, 2011 through May 11, 2011.

To obtain a location-based radiation dose estimate report, click on the "Dose Information Available" icon closest to where you or your family members were located for the majority of the time during the March 12 through May 11, 2011 timeframe, and then select the appropriate exposure category. Alternatively, you may click the "Table View" button to view the location-based radiation dose estimates in tabular format.

Table View Toggle Location Markers Reset Map Map Troubleshooting Dose Information Available

Map data ©2012 AerialDB, GIS Innovation, Google, Kingoys, MapInfo, SIRI-MC, ZENITH, Terra of US



Operation Tomodachi Registry
Location-Based Radiation Dose Estimate Report
Yokosuka Naval Base, Japan;
Adult greater than 17 years old



Thank you for visiting the Operation Tomodachi Registry website and obtaining a location-based radiation dose estimate report. On March 11, 2011, a 9.0 magnitude earthquake occurred northeast of Tokyo off the coast of Honshu Island. Approximately 40 minutes following the earthquake, a large tsunami reached the coast of Japan. The earthquake and tsunami damaged the Fukushima Daiichi Nuclear Power Station located 150 miles northeast of Tokyo and resulted in the release of radioactive material, including radioactive iodine, into the environment.

As one of many measures taken to ensure your health, the Department of Defense estimated whole-body and thyroid radiation doses to Department of Defense-affiliated individuals in 13 shore-based locations of Japan over the period from March 12, 2011 to May 11, 2011. Thyroid doses were specifically assessed because the thyroid takes up and stores iodine, so it is particularly vulnerable to the effects of radioactive iodine.

YOUR DOSE ESTIMATES

Based on the location and the age group you selected, Yokosuka Naval Base, Japan, Adult greater than 17 years old, your radiation dose estimates (in rem, a unit of effective radiation dose) for the 60-day period are:

Whole-Body Radiation Dose Estimate: 0.633 rem

Thyroid Radiation Dose Estimate: 0.40 rem

These estimates were calculated based on you spending 24 hours outdoors, having a constantly high physical activity level (and associated breathing rates), and being exposed to the radiation measured in the air, water and soil over the entire 60-day period. Your actual radiation doses are expected to be lower due to the protection afforded by being indoors and lower levels of physical activity for much of this time. To see what these doses mean to your health and how your whole-body and thyroid dose estimates compare to other common radiation exposures, please see the charts on the following page.

WHAT DOES THIS MEAN TO YOUR HEALTH?

Your whole-body and thyroid radiation dose estimates are well below levels associated with adverse medical conditions. Since the estimated radiation doses and health risks associated with this event are so low, no one is being placed in a medical surveillance program to monitor their long-term health outcomes. If you have medical concerns, please discuss these results with your health care provider.

Environmental Health Surveillance Registries
U.S. Department of Defense

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Environmental Health Surveillance
Protecting Health and Preventing Illness from Environmental Hazards
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Operation Tomodachi

News

DOD Launches Database for Personnel in Japan During 2011 Earthquake Nuclear Mishaps
Originally published in U.S. Medicine March 1, 2012

NATIONAL HARBOR, MD – A year after a massive earthquake occurred off the coast of Japan, resulting in a large tsunami that caused nuclear plant meltdowns, the U.S. military is creating a database to help track possible radiation exposure for troops who participated in relief efforts and for servicemembers and their beneficiaries who were stationed or living in Japan at the time of the disaster.

Full article —

Military installs ten high-powered radiation detectors in Japan
Originally published in Stars and Stripes August 20, 2011

CAMP ZAMA, Japan – The U.S. military can now do in-depth radiation testing and analysis in Japan, though officials say the new capability is only precautionary.

Enter Operation Tomodachi Registry

Environmental Health Surveillance Registries
U.S. Department of Defense

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Operation Tomodachi Registry

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About this Registry

The Department of Defense (DOD) began establishing the Operation Tomodachi Registry following the devastating March 11, 2011 earthquake and tsunami in Japan. These unfortunate events caused severe damage to the Fukushima Daiichi Nuclear Power Station, which resulted in the release of radiation into the environment. This Registry will include the names of nearly 70,000 DOD-affiliated individuals who were on or near the mainland of Japan during the period from March 12, 2011 to May 11, 2011 along with radiation exposure estimates for each of these individuals.

The Operation Tomodachi Registry is being completed in phases. This website provides radiation exposure estimates for 13 different shore-based locations. Those locations were selected since most of the members of the DOD-affiliated population resided on or near the 13 DOD installations in Japan or in the cities represented.

Final radiation dose estimates are expected to be available by the end of 2012. These estimates may include updates to dose estimates for shore-based locations as well as dose estimates for U.S. Navy ships located off the mainland of Japan during the March 12 through May 11, 2011 timeframe. By the end of 2012, radiation doses are also expected to be available for upwards of 8,000 individuals who had their external or internal radiation measured directly.

View Dose Estimates



Op. Tomodachi RDA Review

- External peer-review of DoD RDAs transitioned from VBDR SC-1 to NCRP SC 6-8 in Apr 2012.
- NCRP SC 6-8 support (based on a DTRA contract):
 - Period of Performance: Apr 2012 – Apr 2013
 - SC 6-8 membership:
 - Dr. John Till, Chair
 - Dr. Iulian Apostoaei, Dr. John Boice, Mr. William Kennedy
 - SC 6-8 support personnel:
 - Mr. Mike Grissom and Dr. John Mercier
 - SC 6-8 reviewed numerous draft TR's and other documents for DoD.
- DoD RDA team should complete its tasking by Sep 2013.



McMurdo Station Update

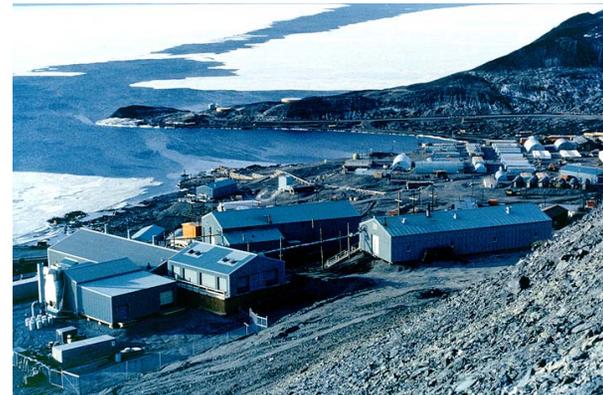
- A few McMurdo Station veterans have unsuccessfully sought VA radiogenic disease compensation.
- Non-comprehensive military radiation dose assessments for McMurdo Station, non-reactor plant staff who filed for VA radiogenic disease compensation may have occurred.
- To address this concern, DOD established a radiation dose assessment team in 2011 comprised of personnel from: NTPR Program, Navy, Army, and veteran volunteers.





McMurdo Station Update

- The McMurdo RDA team has accomplished its tasking:
 - Jun 2013: DTRA-TR-12-003, *Upper-Bound RDA for Military Personnel at McMurdo Station, Antarctica, between 1962-1979* published.
 - Jul 2013: Naval Dosimetry Center (NDC) SOP for McMurdo RDA completed.
 - McMurdo Station radiation dose assessments are now occurring for VA requests





Way Ahead

- Return to NTPR pending baseline (200 cases or less) by end of FY14.
- Assuming VBDR closure, add independent consultant(s) to NTPR Support contract to perform “periodic, random audits of dose reconstructions.”
- Support semi-annual joint DoD review of veteran radiogenic disease concerns with VA, DOJ, and other interested federal entities.
- Maintain VBDR website and respond to inquiries through CY14.
- Initiate 32 CFR 218 revision.