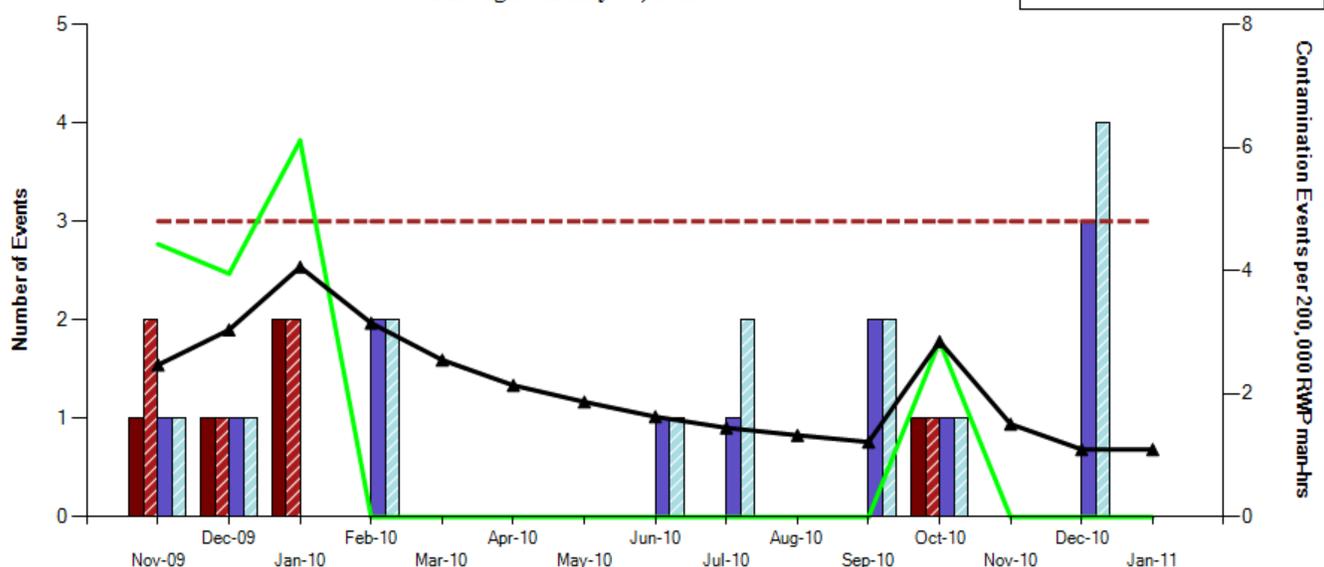
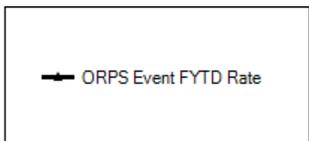
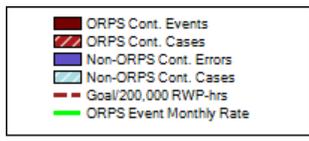


M&O Radiological Safety Total ORPS and Non-ORPS Reportable Personnel Contamination Events/Cases Through January 03, 2011



Title	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11
ORPS Cont. Events	1	1	2	0	0	0	0	0	0	0	0	1	0	0	0
ORPS Cont. Events (FY)	1	2	4	4	4	4	4	4	4	4	4	4	1	1	1
ORPS Cont. Cases	2	1	2	0	0	0	0	0	0	0	0	1	0	0	0
Non-ORPS Cont. Errors	1	1	0	2	0	0	0	1	1	0	2	1	0	3	0
Non-ORPS Cont. Cases	1	1	0	2	0	0	0	1	2	0	2	1	0	4	0
Goal/200,000 RWP-hrs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
RPW Hrs. (Month)	45146	50678	65508	56915	59900	59934	53599	62660	59978	52529	55833	70186	62002	50082	0
RWP Hrs. (FY)	80844	131522	197030	253945	313845	373779	427378	490038	550016	602545	658378	70186	132188	182270	182270
ORPS Event Monthly Rate	4.43	3.95	6.11	0	0	0	0	0	0	0	0	2.85	0	0	0
ORPS Event FYTD Rate	2.47	3.04	4.06	3.15	2.55	2.14	1.87	1.63	1.45	1.33	1.22	2.85	1.51	1.1	1.1
Score: ORPS Event FYTD Rate	>1.5	>=2.5	>=2.5	>=2.5	>=2.5	>1.5	>1.5	>1.5	<=1.5	<=1.5	<=1.5	>=2.5	>1.5	<=1.5	<=1.5

Definition

This chart reflects non-ORPS and ORPS reportable personnel contamination events/cases per month >500 dpm alpha or >5000 dpm beta-gamma. Beginning in Oct. 2008 we converted to an annual goal of ≤ 3.0 events per 200,000 RWP-hrs. The monthly and FYTD rate is obtained by multiplying the number of events by 200,000 hours and dividing by the number of applicable RWP hours. The score coincides with the FYTD Rate. The non-ORPS portion of this PI is a leading indicator for ORPS events. October 2010 begins FY2011.

Analysis

Analysis: Excellent **Color:** Blue

Current ORPS(6D3) Events: None

Current Non-ORPS Errors: **12/14/10 SRNL** 1 Tech & 1 Researcher contaminate shoes (500 d/m/100cm² alpha & 1000 d/m/100cm² alpha) upon exiting C-154 RBA where they had been working with DU in a rad hood, **12/15/10 SRNL** 1 Tech contaminated shoes and pants (600 d/m/100cm² alpha, 500 d/m/100cm² BG shoes, 2K d/m/100cm² alpha pants) after placing waste bag in TRU drum in C-077, **12/16/10 SRNL** R&D FLM contaminates shoes to 1K d/m/100cm² alpha upon exiting C-Wing labs where she was placing lids on TRU drums.

Action: Star Third Tier Bin Items are being categorized with regard to ISMS Core Function. This process will support identification of areas of concern for review and address in response to these leading indicators. Performance continues to be acceptable and stable in the majority of the facilities. However, a negative trend was discovered in SRNL in December. Mitigative actions have been established to prevent recurrence.

Historical ORPS(6D3) Events: **4/21/02 SRNL** Tech in B159 contaminates lab coat to 10K d/m/100cm² alpha and shirt in chest area to 9500 d/m/100cm² alpha, **9/5/08 SRNL** 2 Researchers contaminate skin 80K-100K d/m/100 cm² BG, **9/25/08 SWM MRS** 2 Op contaminated PE 20K d/m/100cm² alpha & 3K d/m/100cm² alpha (non-ORPS) **11/24/08 HBL** shoe 80K d/m/100cm² alpha, **9/10/09 HCA** Const. worker PE 40K d/m/100cm² alpha, **11/9/09 SWM:** 2 Ops contaminated PE working w/Pu238 drums to 10K d/m/100cm² alpha (worker 1) & 100K d/m/100cm² alpha(worker2), **12/23/09 SRNL:** Lab tech contaminates white labcoat in B-103 to 400K d/m/100cm² BG, **1/18/10 F/H Lab:** Construction contaminates PE to 15K d/m/100cm² alpha while renovating CR in 772-1F, **1/25/10 SRNL:** Lab tech contaminates white labcoat (4-10K d/m/100cm² alpha), PE (800 d/m/100cm² alpha), and skin (400 d/m/100cm² alpha) while working with samples in B-134, **10/29/10 HCA** Construction Carpenter contaminates modesty clothing to 2E5 d/m/100cm² BG and skin to a maximum of 1.2E4 d/m/100cm² BG while installing a hut in Section 12 of the HGVC at Noz. 108.

Historical Non-ORPS(6D4) Errors: **5/6/08 FCA TRU** Op contaminates modesty clothing to 4K d/m/100cm² alpha and skin to 500 d/m/100cm² alpha, **5/16/08 SRNL** Employee shoe found contaminated in PCM to 40K d/m/100cm², BG, **5/21/08 645-2N** Three ENSAFE subs were found to be contaminated after opening a drum with a maximum of 1900 d/m/100cm² alpha, **5/31/08 F/H Lab** Tech's shirt contaminated to 8K d/m/100cm² BG, **7/9/08 SRNL** B159 one tech's white labcoat was contaminated to 4Kd/m/100cm² alpha, **9/22/08 HCA 292-H** Mech. contaminates hand 800 d/m/100cm² alpha, 10K d/m/100cm² BG, **10/6/08 FCA TRU** shoe 1600 d/m/100cm² alpha, **11/5/08 SRNL** shoe 12K d/m/100cm² BG, **11/12/08 SRNL** White Labcoat 600 d/m/100cm² alpha, **2/26/09 SRNL** White lab coat 8K d/m/100cm² BG, **6/9/09 HCA** Shoe contaminated 4K d/m/100cm² alpha, **9/1/09 SRNL** 2 shoes 3K d/m/100cm² & 2400 d/m/100cm² alpha, **9/9/09 SRNL** 1 White labcoat 3K d/m/100cm² alpha, **9/23/09 SRNL** 1 shoe contaminated 800 d/m/100cm² alpha, **9/24/09 SRNL** 1 White labcoat 50K d/m/100cm² BG, **11/18/09 FH Lab** shoe contaminated 820 d/m/100cm² alpha, **12/30/09 105-C SFP:** Construction worker contaminates personnel clothing to 30K d/m/100cm² BG in Transfer Bay, **2/2/10 SRNL:** Researcher contaminated white labcoat in B-154 to 20K d/m/100cm² BG, **2/22/10 SRNL:** Lab Tech contaminates shoes in B-067 to 2K d/m/100cm² alpha (Am241), **6/12/10 F/H Lab** Lab Tech's jeans and skin were contaminated when a loose cap on a peanut vial caused the Tech to drop the vial splashing acidic sample onto their lab coat which permeated the labcoat onto jeans/skin. Maximum contamination 2000 d/m/100cm² alpha (wet) on jeans and 300 d/m/100cm² alpha on skin, **7/26/2010 SRNL:** 2 Researchers working in C-126 contaminate shoes to 4K d/m/100cm² alpha, and 1K d/m/100cm² alpha (floor/hood lip: 4K d/m/100cm² alpha, labcoat: 2 K d/m/100cm² alpha), **9/7/10 SRNL** A researcher's shoe was found to be contaminated to 1K d/m/100cm² alpha upon exiting C-155 RBA Lab, **9/29/10 F/H Lab** A Lab FLM's shoe was found to be contaminated to 4K d/m/100cm² alpha upon exiting the Pu/Purex CA, **10/1/10 HCA** Mechanic steps on sharp in HCMA, penetrates thru PPE to personal shoe and contaminates shoe to 6K d/m/100cm² BG

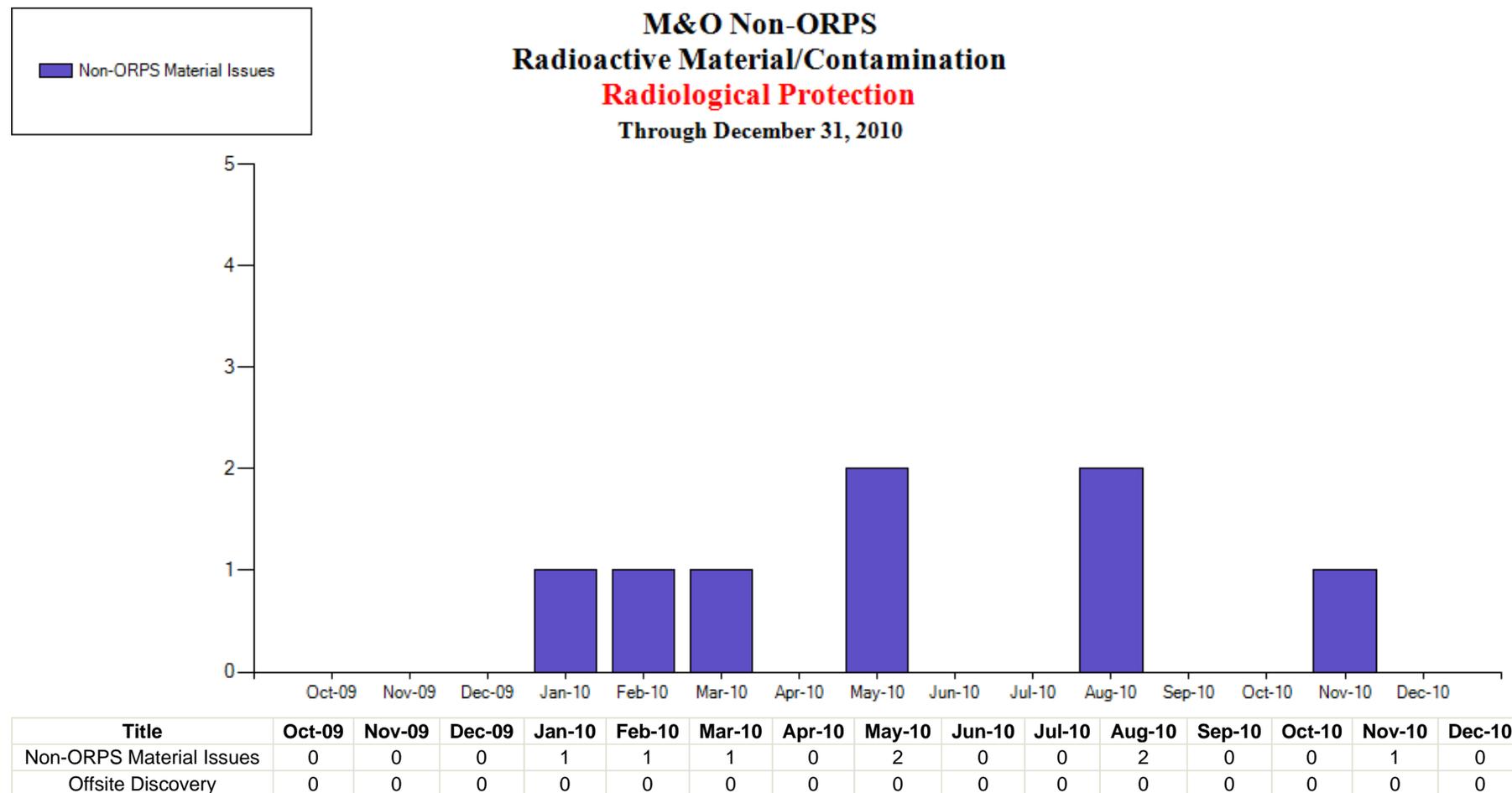
Scoring Target

FYTD Goal is based on ORPS contamination events and RWP-hrs

≤ 1.5
> 1.5 - < 2.5
≥ 2.5 - ≤ 5.0
> 5.0 - ≤ 7.5
> 7.5

SRNS PI Owner: Jim Stafford (803) 952-9888, SRNS SME Ellen Parrish (803) 208-1027

DOE PI Owner: Charles Radford (803) 952-8595



Definition

This chart reflects the number of ORPS (6B5) reportable occurrences of radioactive material or spread of contamination found outside of radiological areas (includes RBAs not contiguous with a Contamination Area, clean areas, and controlled areas). Area Non-ORPS errors are leading indicators for Area ORPS events.

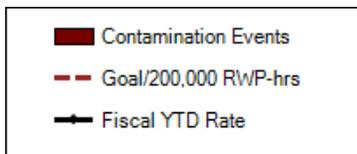
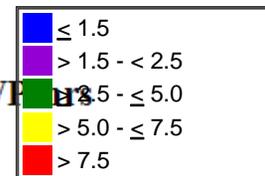
Analysis

Analysis: Current Non-ORPS Errors: None

Historical Data: **1/22/08 HCA:** Leak found on the east side of HCA at nozzle 82A, 2K d/m/100cm² alpha, 4K d/m/100cm² BG. **1/25/08 HCA:** Contaminated alpha instrument from 221-HOF, 600 d/m/100cm² alpha. **2/7/08 HCA:** Contaminated alpha instrument from 221-H, 600 d/m/100cm² alpha. **2/8/08 SRNL:** Contaminated lead found in B-003 during excess activities, 4K d/m/100cm² alpha, 2K d/m/100cm² BG. **2/20/08 FCA:** FCA W. Dock Area RBA contaminated (see non-ORPS PE), 3K d/m/100cm² alpha. **2/28/08 C/S:** RO-20 dose rate instrument contaminated, 400 d/m/100cm² alpha, 34K d/m/100cm² BG. **3/11/09 Tritium:** Retired equipment found contaminated in clean area, 47K d/m/100cm² H3. **3/27/08 SWM:** Contaminated TRU drum found in RMA, 47 d/m/100cm² alpha, 11,507 d/m/100cm² BG. **4/3/08 SRNL:** F-154 contaminated cabinet found during relocation activities, 20K d/m/100cm² BG. **4/29/08 B-Lab:** Contaminated Cs137 Pit Source shield from L-Area found contaminated during release survey, 8K d/m/100cm² BG. **6/9/08 SWM/HCA:** Sealand shipment from 211-H-A-Line to SWM leaked yellow substance, 8K d/m/100cm² alpha (U-Nat), 200K d/m/100cm² BG. **6/18/08 SWM/N-Area:** 3 Offsite Shipping containers from Material & Energy Corp. found contaminated upon receipt, 1700 d/m/100cm² alpha. **6/26/08 221-H OF:** EUS RMA stairway found contaminated, 24K d/m/100cm² alpha (U-Nat), 300K d/m/100cm² BG. **7/28/08 SFP:** C-Area rail spur found contaminated, 20K d/m/100cm² BG. **9/25/08 SWM:** Crowbar contaminated at Sealand, 2K d/m/100cm² alpha (see ORPS PE). **3/26/09 REF/ACP:** Contaminated respirator, 4K d/m/100cm² alpha & BG. **4/29/09 REF/ACP:** Contaminated Respirator, 30K d/m/100cm² BG. **6/8/09 REF/ACP:** Contaminated respirator, 12K d/m/100cm² BG. **1/4/10 Tritium:** Contaminated protective shipping cap, 43,517 d/m/100cm² H3. **2/11/10 REF/ACP:** Contaminated work table, <10K d/m/100cm² BG (100% SR), **3/10/10 SWM:** Drum on Pad 6 found to be contaminated to 4K d/m/100cm² alpha (transferable 1370 d/m/100cm² alpha), 5/10/10 ACP: Found 14K d/m/100cm² BG (probe) during roll back of RMA laundry shack in R-Area, **5/20/10 FCA:** Fire Water Valve contaminated to 3K d/m/100cm² alpha probe and 105 d/m/100cm², **8/17/10 ACP-D-Area:** Fixed contamination of 14,000 d/m/100cm² BG was found on 420-2D in Zone E. **8/23/10 SFP L-Area:** Plastic wrap around HTS Rack #5 tore when placed on cribbing spilling SP-400 absorbent with a maximum of 6K d/m/100cm² BG, **11/23/10 SFP:** Contaminated railcar trucks, probed 4K d/m/100cm² alpha & BG.

Action: SRS continues to use engineering controls to contain contamination at the source, performs MFO's in the field to assess the work area, and performs fact finding meetings of spread of contamination or radioactive material.

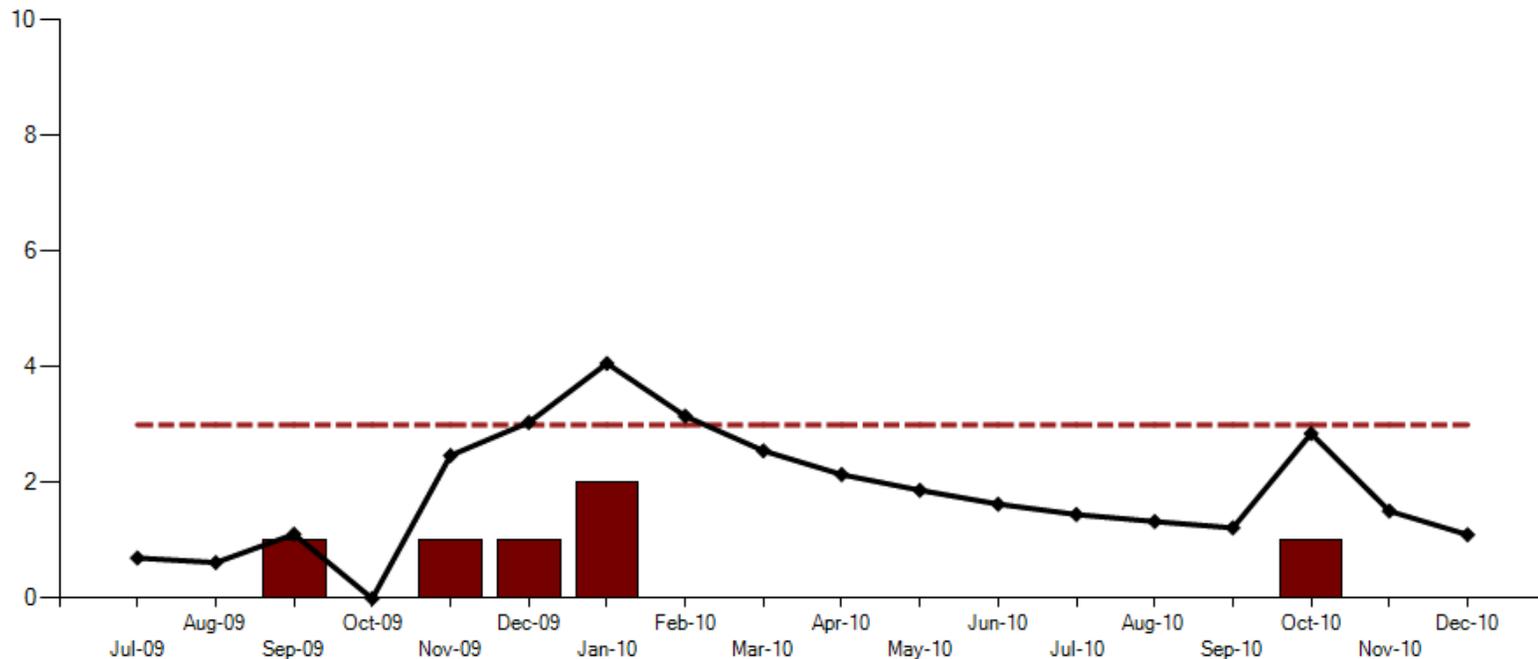
Scoring Target



M&O Radiological Safety Performance

Reportable Personnel Contamination Events/200,000 RWP-hrs

Through December 31, 2010



Title	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Contamination Events	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	1	0	0
Contamination Events (FY)	1	1	2	0	1	2	4	4	4	4	4	4	4	4	4	1	1	1
Goal/200,000 RWP-hrs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
RWP Hrs. (Month)	32706	34354	38857	35698	45146	50678	65508	56915	59900	59934	53599	62660	59978	52529	55833	70186	62002	50082
RWP Hrs. (FY)	287141	321495	360352	35698	80844	131522	197030	253945	313845	373779	427378	490038	550016	602545	658378	70186	132188	182270
Fiscal YTD Rate	0.7	0.62	1.11	0	2.47	3.04	4.06	3.15	2.55	2.14	1.87	1.63	1.45	1.33	1.22	2.85	1.51	1.1
Score: Fiscal YTD Rate	<=1.5	<=1.5	<=1.5	<=1.5	>1.5	>=2.5	>=2.5	>=2.5	>=2.5	>1.5	>1.5	>1.5	<=1.5	<=1.5	<=1.5	>=2.5	>1.5	<=1.5

Definition

This chart reflects the number of ORPS reportable personnel contamination events per month. Beginning in Oct. 2008 the annual goal converted to an annual goal of ≤ 3.0 events per 200,000 RWP-hours. The FYTD rate is obtained by multiplying the number of events by 200,000 hours and dividing by the number of applicable RWP hours. The score coincides with the FYTD Rate. October 2009 begins FY2010.

Analysis

Analysis: Excellent **Color:** Blue

ORPS(6D3) Event: None

Historical ORPS(6D3) Event: **4/21/08 SRNL** Researcher's white labcoat was contaminated to 10K d/m/100cm² alpha and shirt to 9500 d/m/100cm² alpha, **9/5/08 SRNL** 2 Researchers contaminate skin 80K-100K d/m/100cm² BG, **9/25/08 SWM MRS** 2 Op contaminated PE 20K d/m/100cm² alpha & 3K d/m/100cm² alpha (non-ORPS) **11/24/08 HBL** shoe 80K d/m/100cm² alpha, **9/10/09 HCA** Construction worker contaminates PE 40K d/m/100cm² alpha, **11/9/09 SWM 2** Ops contaminated PE working w/Pu238 drums to 10K d/m/100cm² alpha (worker 1) & 100K d/m/100cm² alpha (worker 2), **12/23/09 SRNL:** Lab Tech contaminates white labcoat in B-103 to 400K d/m/100cm² BG, **1/18/10 CLAB** 1 Construction worker contaminated personal clothing to 15K d/m/100cm² alpha while renovating Control room in 772-1F. **1/25/10 SRNL** Lab tech. contaminates white labcoat (4-10K d/m/100cm² alpha), PE (800 d/m/100cm² alpha), and skin (400 d/m/100cm² alpha) while working with samples in B-134, **10/29/10 HCA** Construction Carpenter contaminates modesty clothing to 2E5 d/m/100cm² BG and skin to a maximum of 1.2E4 d/m/100cm² BG while installing a hut in Section 12 of HGVC at Noz. 108.

Action: SRNS management continues to closely monitor contamination events, including STAR Third Tier events that are below the ORPS reporting thresholds. The Third Tier events are used as a leading indicator that may signal adverse trends that could lead to an increase in the number of reportable events. For each event, corrective actions are taken and documented in STAR and a review is performed for any commonalities that may exist.

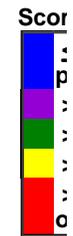
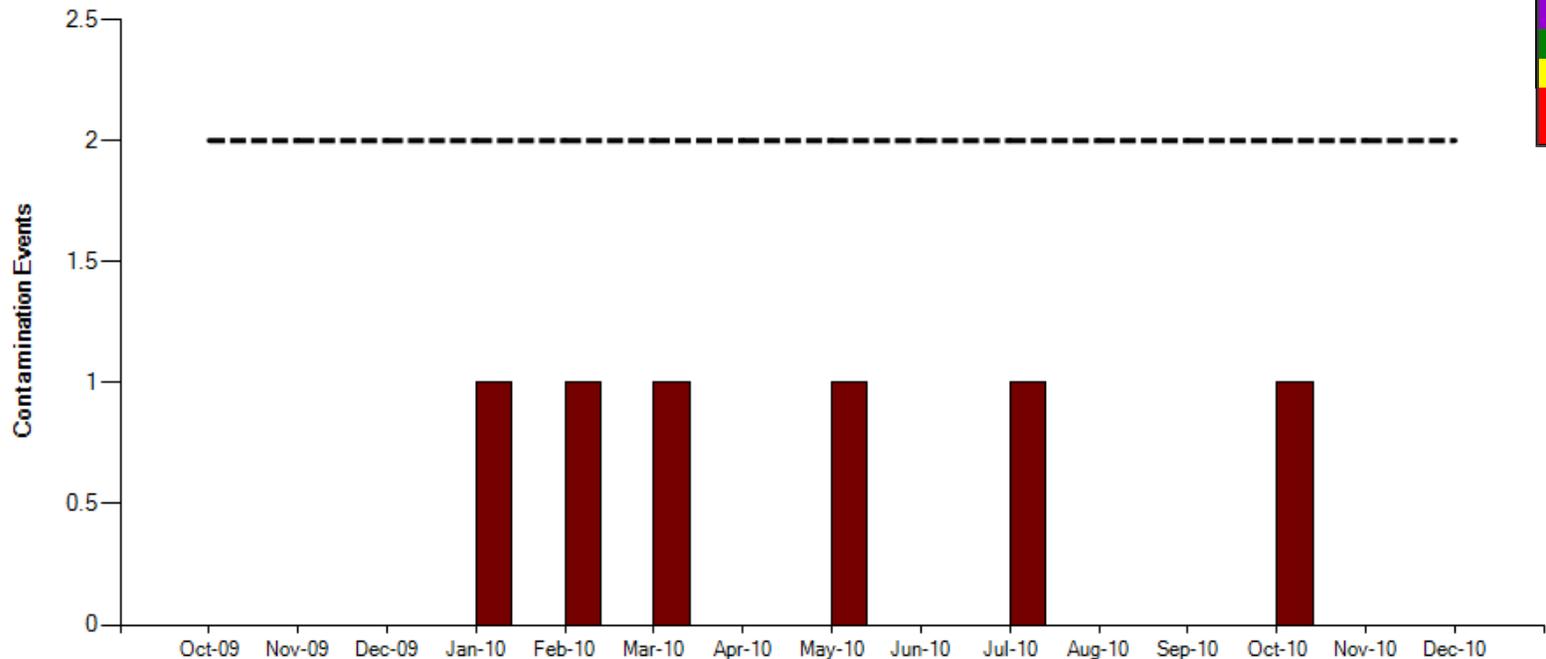
SRNS PI Owner: Jim Stafford (803) 952-9888, SRNS SME Ellen Parrish (803) 208-1027

DOE PI Owner: Charles Radford (803) 952-8595



M&O RADIOLOGICAL SAFETY PERFORMANCE

Number of Occurrences of Radioactive Material/Contamination Detected Outside of Radiological Areas Through December 31, 2010



Title	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Offsite Contamination Events	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Score: Offsite Contamination Events	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0	=0
Contamination Events	0	0	0	1	1	1	0	1	0	1	0	0	1	0	0
Score: Contamination Events	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1	<=1

Definition

This chart reflects the number of ORPS (6B1, 6B2, 6B3, 6B4) reportable occurrences of radioactive material or spread of contamination found outside of radiological areas (includes RBAs not contiguous with a Contamination Area, clean areas, and controlled areas).

Analysis**Analysis:** Excellent **Color:** Blue**Current ORPS Events:** None

Historical ORPS Events: **3/3/08 SWM** Empty culvert contaminated to 16K d/m/100cm² alpha, **3/13/08 SPF** 105-C Legacy cask shipment to ORNL w/internal contam. 5,188,130 d/m/100cm² 3H, **3/18/08 HPICL** Tungsten source shield contaminated to 600K d/m/100cm² BG, **8/25/08 F-Area** DUO Oxide Gondola Rail car metal piece probes 800 d/m/100cm² alpha and 60K d/m/100cm² BG, **2/26/09 ACP** 100-P Settler Tank paint chips 130K d/m/100cm² BG, **6/29/09 105-C** Deionizer Pad 180K d/m/100cm² BG, **6/25/09 Tritium** HAOM 1.1E6 d/m/100cm² 3H, **8/30/09 L-Area** RMA Canisters 70K d/m/100cm² BG fixed, **1/29/10 SWBG Pad 17** Contamination found on footprint area of culvert mining. Max. fixed was 60K d/m/100cm² alpha, max. transferable was 40,100 d/m/100cm² alpha, **2/2/2010 SRNL** Contaminated chair found in F-090 Breakroom with maximum contamination of 280K d/m/100cm² BG, 20K d/m/100cm² alpha, **3/10/10 HOF:** A valve on the High Line at 211-H was found to be probing 20K d/m/100cm² alpha & BG. **5/3/10 SWM** Culvert ML14 leaked at bottom seam on Pad 1: 80K d/m/100cm² alpha (probe), **7/26/10 SWM:** 85-gallon TRU drum overpack on Pad 16 found leaking with levels >2,000,000 d/m alpha probing, **10/20/10 SWM** Pad 15 drum found with magenta paint. Contamination found on adjacent drum to 114K d/m/100cm² alpha fixed, 2K d/m/100cm² alpha transferable.

Action: SRS continues to use engineering controls to contain contamination at the source, performs MFO's in the field to assess the work area, and performs fact finding meetings of spread of contamination or radioactive material.

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