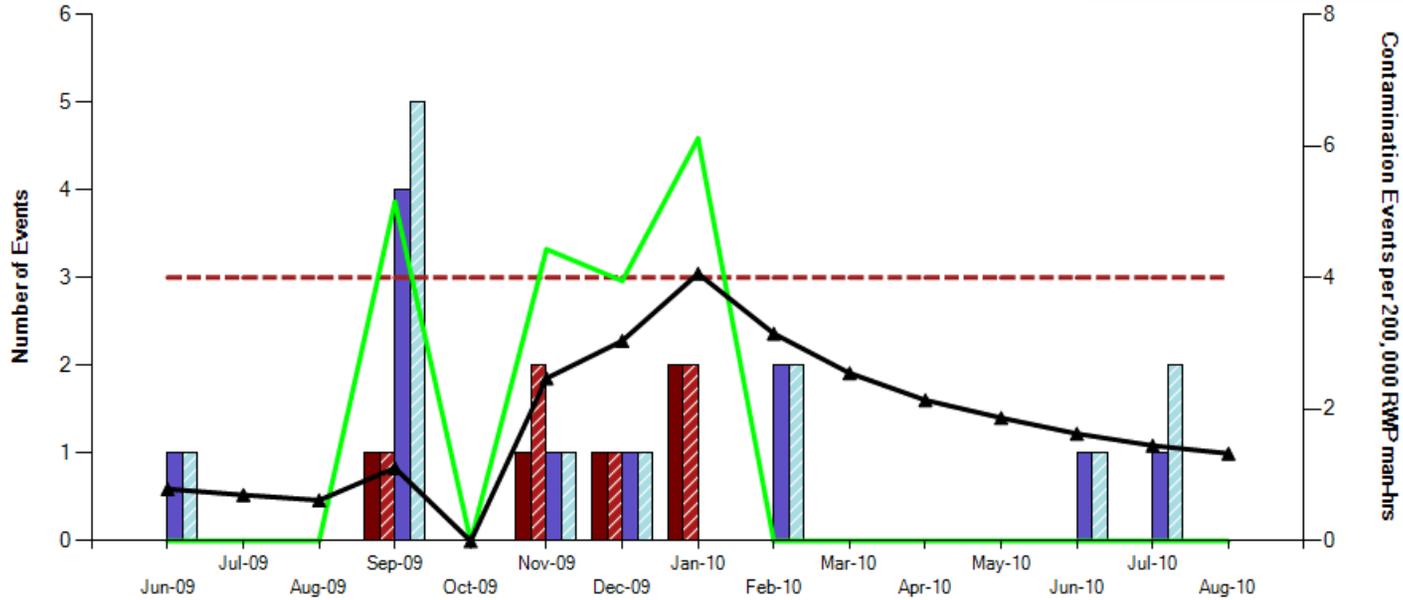


M&O Radiological Safety Total ORPS and Non-ORPS Reportable Personnel Contamination Events/Cases Through August 31, 2010



Title	Jun-09	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
ORPS Cont. Events	0	0	0	1	0	1	1	2	0	0	0	0	0	0	0
ORPS Cont. Events (FY)	1	1	1	2	0	1	2	4	4	4	4	4	4	4	4
ORPS Cont. Cases	0	0	0	1	0	2	1	2	0	0	0	0	0	0	0
Non-ORPS Cont. Errors	1	0	0	4	0	1	1	0	2	0	0	0	1	1	0
Non-ORPS Cont. Cases	1	0	0	5	0	1	1	0	2	0	0	0	1	2	0
Goal/200,000 RWP-hrs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
RPW Hrs. (Month)	31286	32706	34354	38857	35698	45146	50678	65508	56915	59900	59934	53599	62660	59978	52146
RWP Hrs. (FY)	254435	287141	321495	360352	35698	80844	131522	197030	253945	313845	373779	427378	490038	550016	602162
ORPS Event Monthly Rate	0	0	0	5.15	0	4.43	3.95	6.11	0	0	0	0	0	0	0
ORPS Event FYTD Rate	0.79	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
Score: ORPS															

Event FYTD Rate <=1.5 <=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

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 2009 begins FY2010.

Analysis

Analysis: Excellent **Color:** Blue
Current ORPS(6D3) Events: None

Current Non-ORPS Errors: None

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.

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, 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).

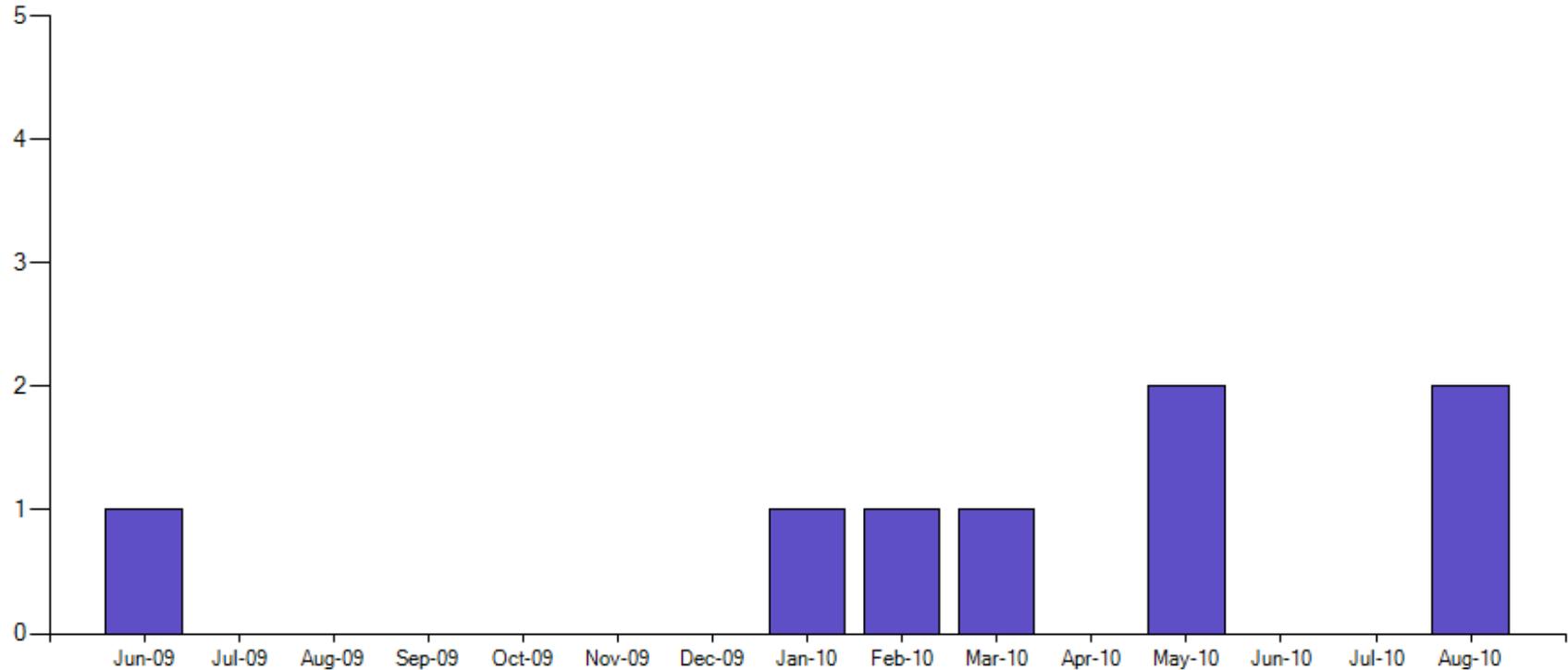
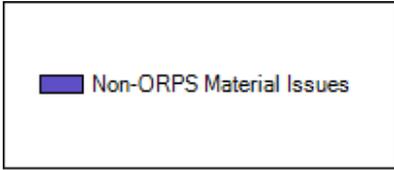
Historical Non-ORPS(6D4) Errors: 5/6/08 FCA TRU Op contaminates modesty clothing to 4K d/m/100cm2 alpha and skin to 500 d/m/100cm2 alpha, 5/16/08 SRNL Employee shoe found contaminated in PCM to 40K d/m/100cm2, BG, 5/21/08 645-2N Three ENSAFE subs were found to be contaminated after opening a drum with 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.

Scoring Target

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

Blue	≤ 1.5
Purple	> 1.5 - < 2.5
Green	≥ 2.5 - ≤ 5.0
Yellow	> 5.0 - ≤ 7.5
Red	> 7.5

**M&O Non-ORPS
Radioactive Material/Contamination
Radiological Protection
Through August 31, 2010**



Title	Jun-09	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
Non-ORPS Material Issues	1	0	0	0	0	0	0	1	1	1	0	2	0	0	2
Offsite Discovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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: 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.

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

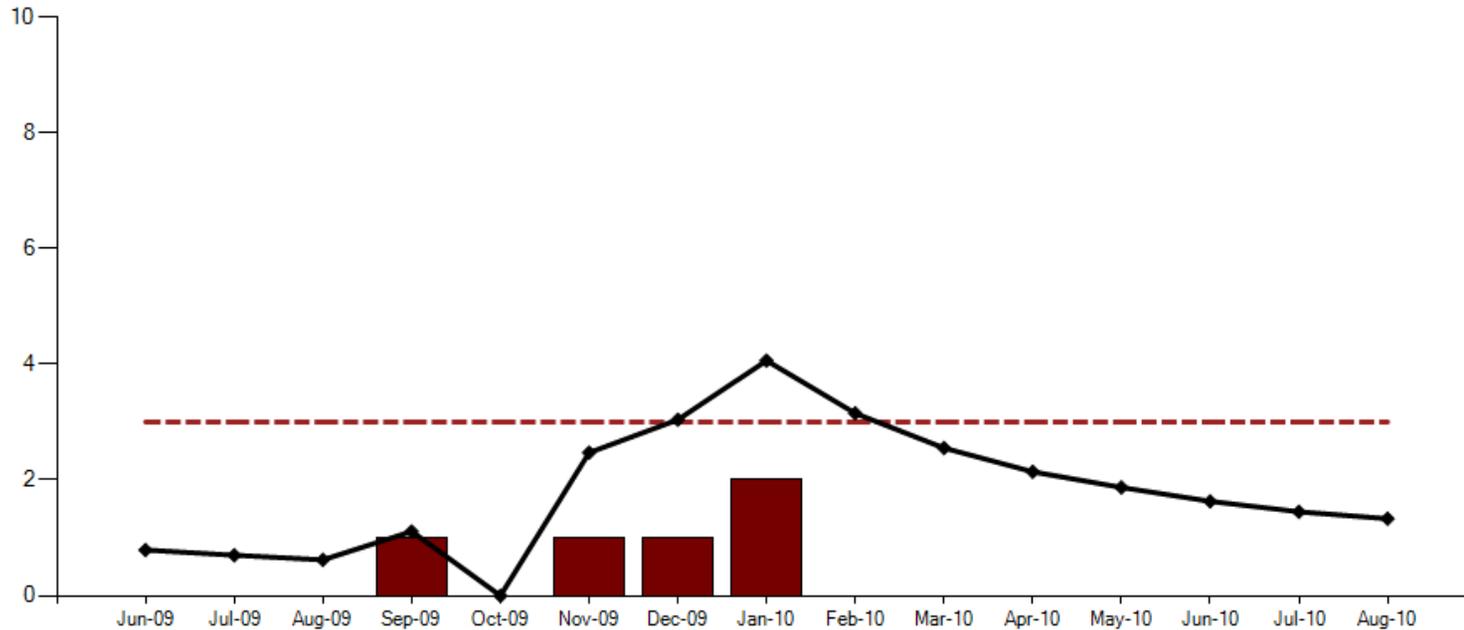
Action:

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.

Scoring Target

Blue	≤ 1.5
Purple	> 1.5 - < 2.5
Green	≥ 2.5 - < 5.0
Yellow	> 5.0 - < 7.5
Red	> 7.5

M&O Radiological Safety Performance
Reportable Personnel Contamination Events/200,000 RWP-hrs
 Through August 31, 2010



Title	Jun-09	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
Contamination Events	0	0	0	1	0	1	1	2	0	0	0	0	0	0	0
Contamination Events (FY)	1	1	1	2	0	1	2	4	4	4	4	4	4	4	4
Goal/200,000 RWP-hrs	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
RWP Hrs. (Month)	31286	32706	34354	38857	35698	45146	50678	65508	56915	59900	59934	53599	62660	59978	52146
RWP Hrs. (FY)	254435	287141	321495	360352	35698	80844	131522	197030	253945	313845	373779	427378	490038	550016	602162
Fiscal YTD Rate	0.79	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
Score: Fiscal YTD Rate	≤1.5	≤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

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.

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.

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

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

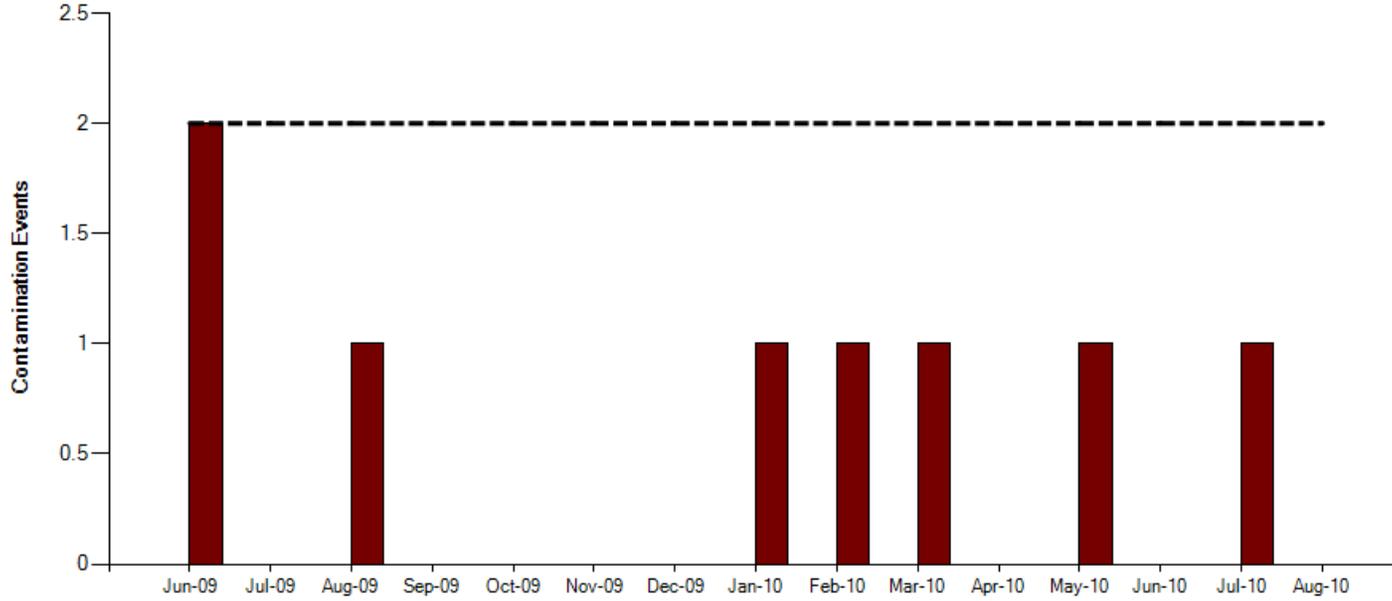


M&O RADIOLOGICAL SAFETY PERFORMANCE

Number of Occurrences of Radioactive Material/Contamination Detected Outside of Radiological Areas

Through August 31, 2010

Blue	≤ 1 per month
Purple	> 1 per month
Green	> 3 per month
Yellow	> 6 per month
Red	> 9 / month or 1 offsite



Title	Jun-09	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
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	2	0	1	0	0	0	0	1	1	1	0	1	0	1	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

Color: Blue
Analysis: Excellent

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.

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.

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

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