

Title	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10
ORPS Cont. Events	0	0	0	0	0	0	0	0	1	0	1	1	2	0	0
ORPS Cont. Events (FY)	1	1	1	1	1	1	1	1	2	0	1	2	4	4	4
ORPS Cont. Cases	0	0	0	0	0	0	0	0	1	0	2	1	2	0	0
Non-ORPS Cont. Errors	0	1	0	0	0	1	0	0	4	0	1	1	0	2	0
Non-ORPS Cont. Cases	0	1	0	0	0	1	0	0	5	0	1	1	0	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)	22994	26260	30557	27935	30288	31286	32706	34354	38857	35698	45146	50678	65508	56915	59900
RPW Hrs. (FY)	108109	134369	164926	192861	223149	254435	287141	321495	360352	35698	80844	131522	197030	253945	313845
ORPS Event Monthly Rate	0	0	0	0	0	0	0	0	5.15	0	4.43	3.95	6.11	0	0
ORPS Event FYTD Rate	1.85	1.49	1.21	1.04	0.9	0.79	0.7	0.62	1.11	0	2.47	3.04	4.06	3.15	2.55
Score: ORPS Event FYTD Rate	<=3	<=3	<=3	<=3	<=3	<=3	<=3	<=3	<=3	<=3	<=3	>3	>3	>3	<=3

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:

In response to the recent and adverse trend of contamination events; the RPD Director had created a Causal Analysis Team to focus on both personnel and area/equipment contamination events for a common cause or failure. This evaluation used the SRNS standard Causal Analysis Process Techniques and integrated principles and elements of both ISMS and HPI. The scope of this analysis focused on radiological contamination events which included ORPS, Non-ORPS, and Third Tier Bin items from STAR. The final report was submitted to RPD & ESH&Q management on 3/31/10.

Historical ORPS(6D3) Events: 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,

Historical Non-ORPS(6D4) Errors: 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).

Scoring Target

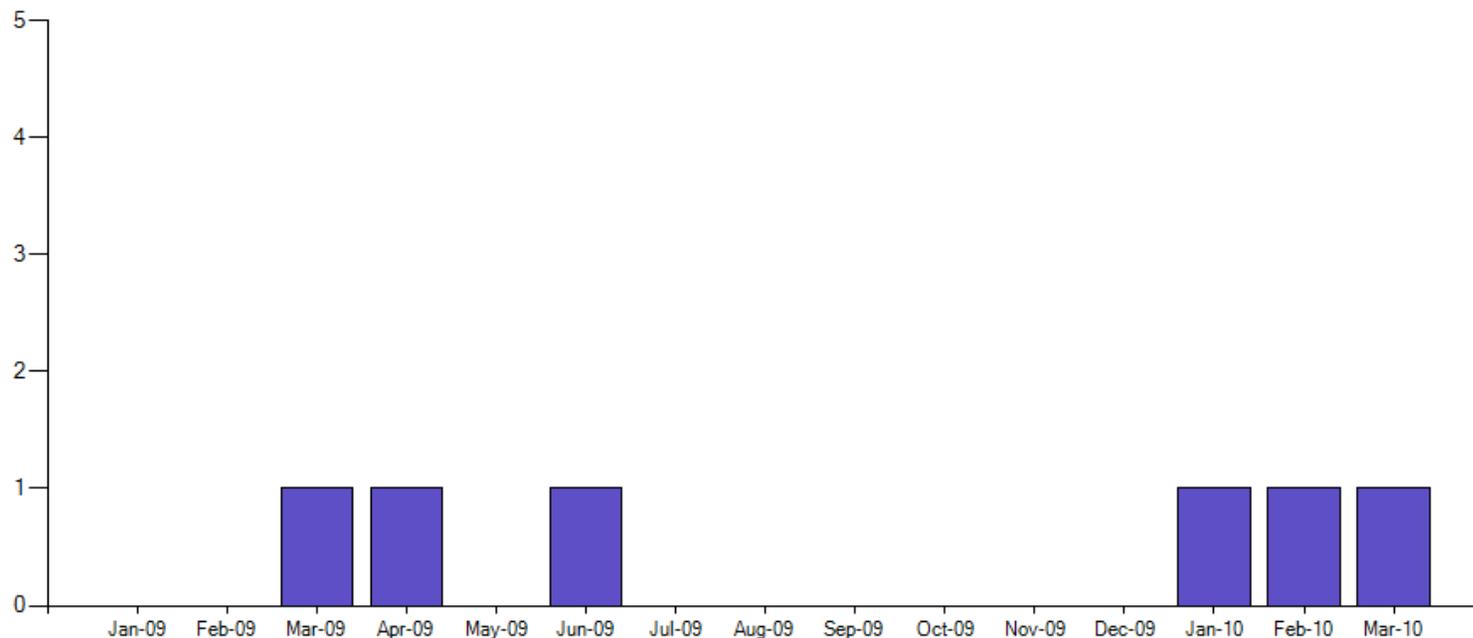
FYTD Goal is based on ORPS contamination events and RWP-hrs

≤ 3
> 3.0 - < 5.0
> 5.0 - < 7.0
> 7.0 - < 9.0
> 9.0

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**Non-ORPS Radioactive Material/Contamination
Radiological Protection
Through March 31, 2010**



Title	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10
Non-ORPS Material Issues	0	0	1	1	0	1	0	0	0	0	0	0	1	1	1
Score	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

Color: None

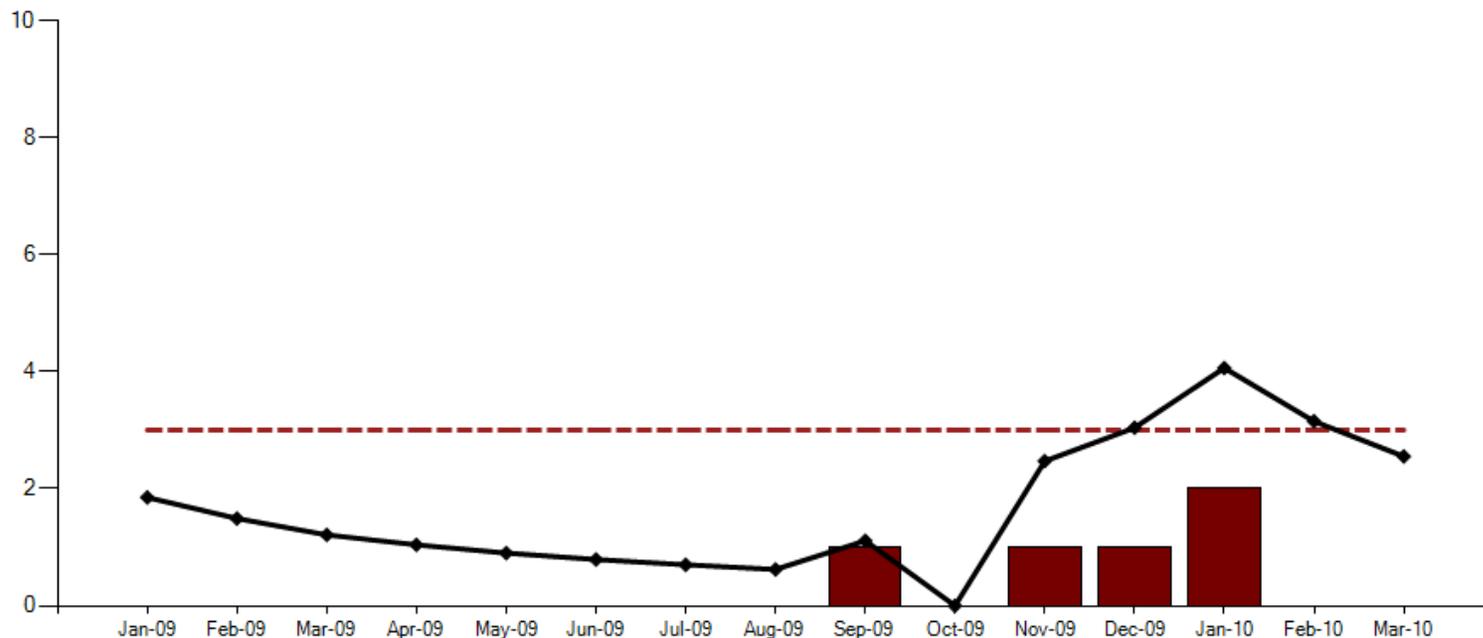
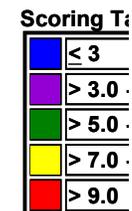
Analysis: **Current Non-ORPS Errors: 3/10/10 SWM:** Drum on Pad 6 found to be contaminated to 4K d/m/100cm2 alpha (transferable 1370 d/m/100cm2 alpha)

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. **2/20/09 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)

Action: None



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



Title	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10
Contamination Events	0	0	0	0	0	0	0	0	1	0	1	1	2	0	0
Contamination Events (FY)	1	1	1	1	1	1	1	1	2	0	1	2	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)	22994	26260	30557	27935	30288	31286	32706	34354	38857	35698	45146	50678	65508	56915	59900
RWP Hrs. (FY)	108109	134369	164926	192861	223149	254435	287141	321495	360352	35698	80844	131522	197030	253945	313845
Fiscal YTD Rate	1.85	1.49	1.21	1.04	0.9	0.79	0.7	0.62	1.11	0	2.47	3.04	4.06	3.15	2.55
Score: Fiscal YTD Rate	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	≤3	>3	>3	>3	≤3

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: **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:

In response to the recent and adverse trend of contamination events; the RPD Director had created a Causal Analysis Team to focus on both personnel and area/equipment contamination events for a common cause or failure. This evaluation used the SRNS standard Causal Analysis Process Techniques and integrated principles and elements of both ISMS and HPI. The scope of this analysis focused on radiological contamination events which included ORPS, Non-ORPS, and Third Tier Bin items from STAR. The final report was submitted to RPD & ESH&Q management on 3/31/10.

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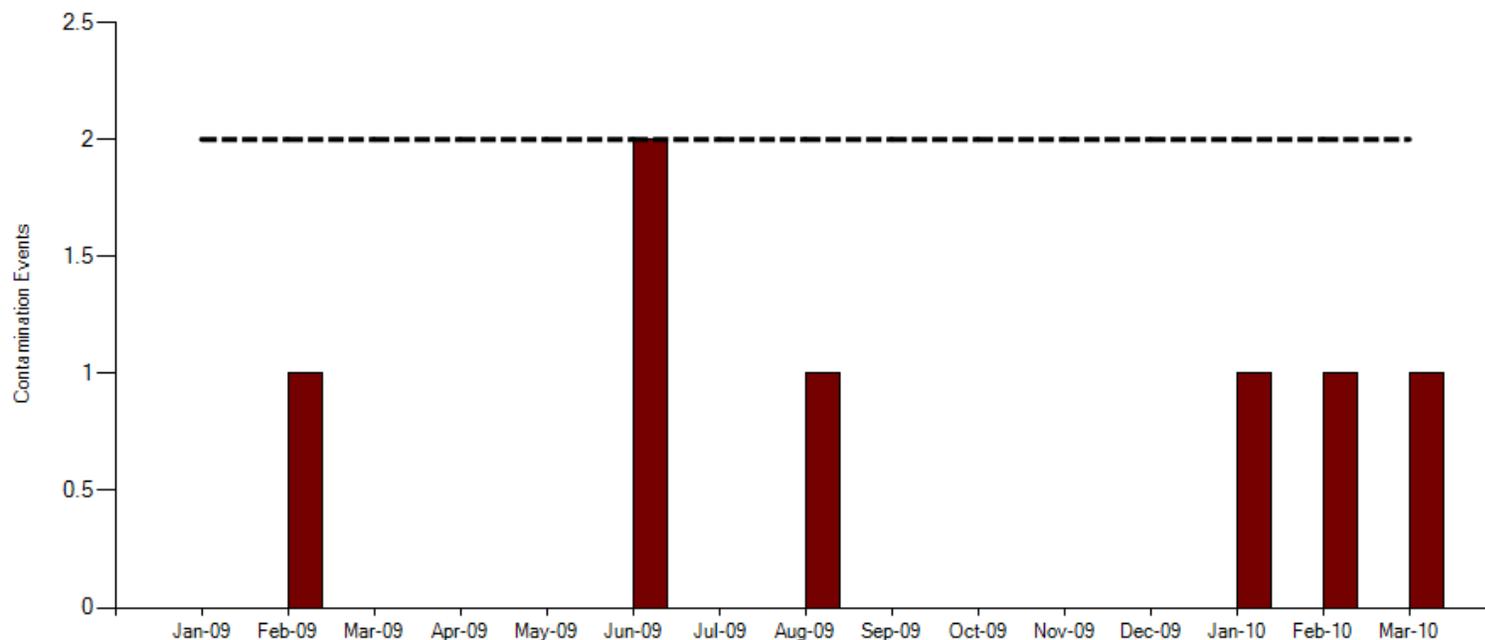
M&O RADIOLOGICAL SAFETY PERFORMANCE

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

Through March 31, 2010

Scoring Table

Blue	< 1 pe
Purple	= 1 pe
Green	= 2 pe
Yellow	= 3 pe
Red	> 3 pe



Title	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-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	1	0	0	0	2	0	1	0	0	0	0	1	1	1
Score: Contamination Events	<1	=1	<1	<1	<1	=2	<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:** Purple**Analysis:** Very Good**Current ORPS Events:** 3/10/10 **HOF:** A valve on the High Line at 211-H was found to be probing 20K d/m/100cm2 alpha & BG.**Historical ORPS Events:** 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.**Action:**

In response to the recent and adverse trend of contamination events; the RPD Director had created a Causal Analysis Team to focus on both personnel and area/equipment contamination events for a common cause or failure. This evaluation used the SRNS standard Causal Analysis Process Techniques and integrated principles and elements of both ISMS and HPI. The scope of this analysis focused on radiological contamination events which included ORPS, Non-ORPS, and Third Tier Bin items from STAR. The final report was submitted to RPD & ESH&Q management on 3/31/10.

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