



Beryllium-Associated Worker Registry

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Number of Beryllium-Associated Workers Reported to the Registry



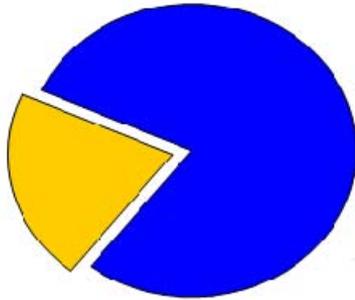
- ◆ A total of 21,051 individuals who have been included in rosters reported to the Registry
 - Received a medical screening examination for CBD or were monitored for beryllium exposure
- ◆ The Registry has data on another 3,998 Rocky Flats workers collected prior to site closure in 2005
 - Not included in these summaries



DOE-Wide Prevalence of Beryllium Sensitization (BeS) and Chronic Beryllium Disease (CBD)

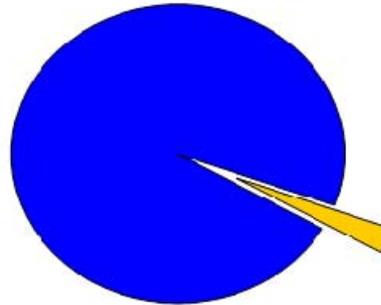


21,051 Employees Reported to the Registry

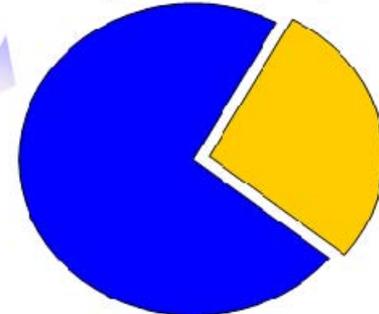


Screened 16,599 (79%)
Not Screened 4,452 (21%)

458 BeS or CBD Employees (3% of Screened)



128 Reported CBD (28% of Abnormal)





Beryllium Sensitized and CBD by DOE Site

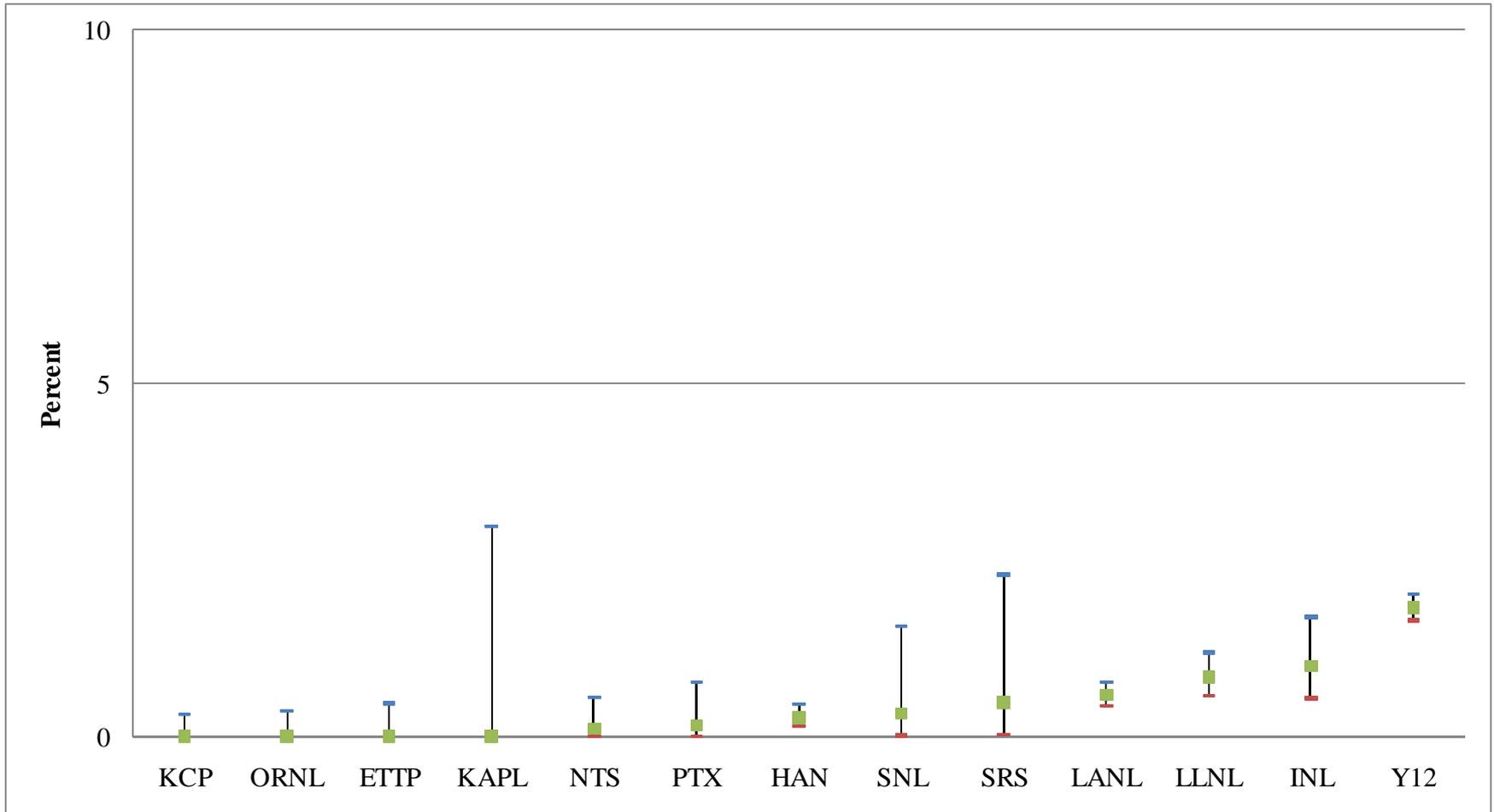


*Site	Employees with BeLPT Results	Sensitized Employees	CBD Employees
HAN	5,028	75 (1.5%)	31 (0.6%)
Y-12	2,285	94 (4.1%)	50 (2.2%)
LANL	2,118	3 (0.1%)	3 (0.1%)
PTX	1,641	27 (1.6%)	15 (0.9%)
KCP	1,109	38 (3.4%)	13 (1.2%)
LLNL	858	35 (4.1%)	2 (0.2%)
NTS	856	19 (2.2%)	4 (0.5%)
SRS	622	13 (2.1%)	6 (1.0%)
SNL	585	1 (0.2%)	0
ORNL	417	9 (2.2%)	0
ETTP	381	6 (1.6%)	4 (1.0%)
INL	299	3 (1.0%)	0
ANL	121	3 (2.5%)	0



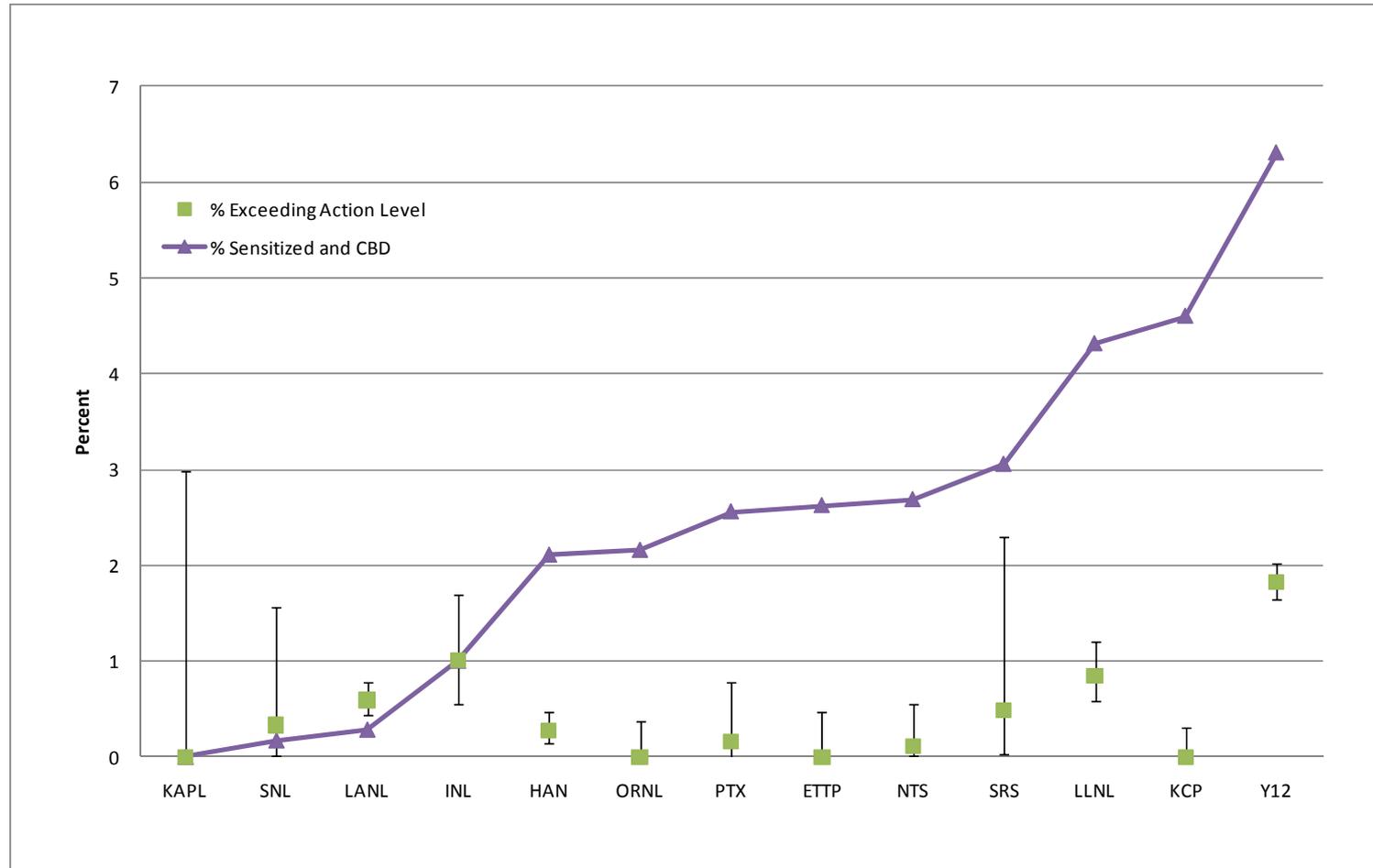
Analysis by Site 2002 -2009

Percent Exceeding $0.2 \mu\text{g}/\text{m}^3$ and
95% Upper and Lower Confidence Limits





Prevalence Rates versus Exceedance Rates





DOE-Wide BeS and CBD by Year of First Hire

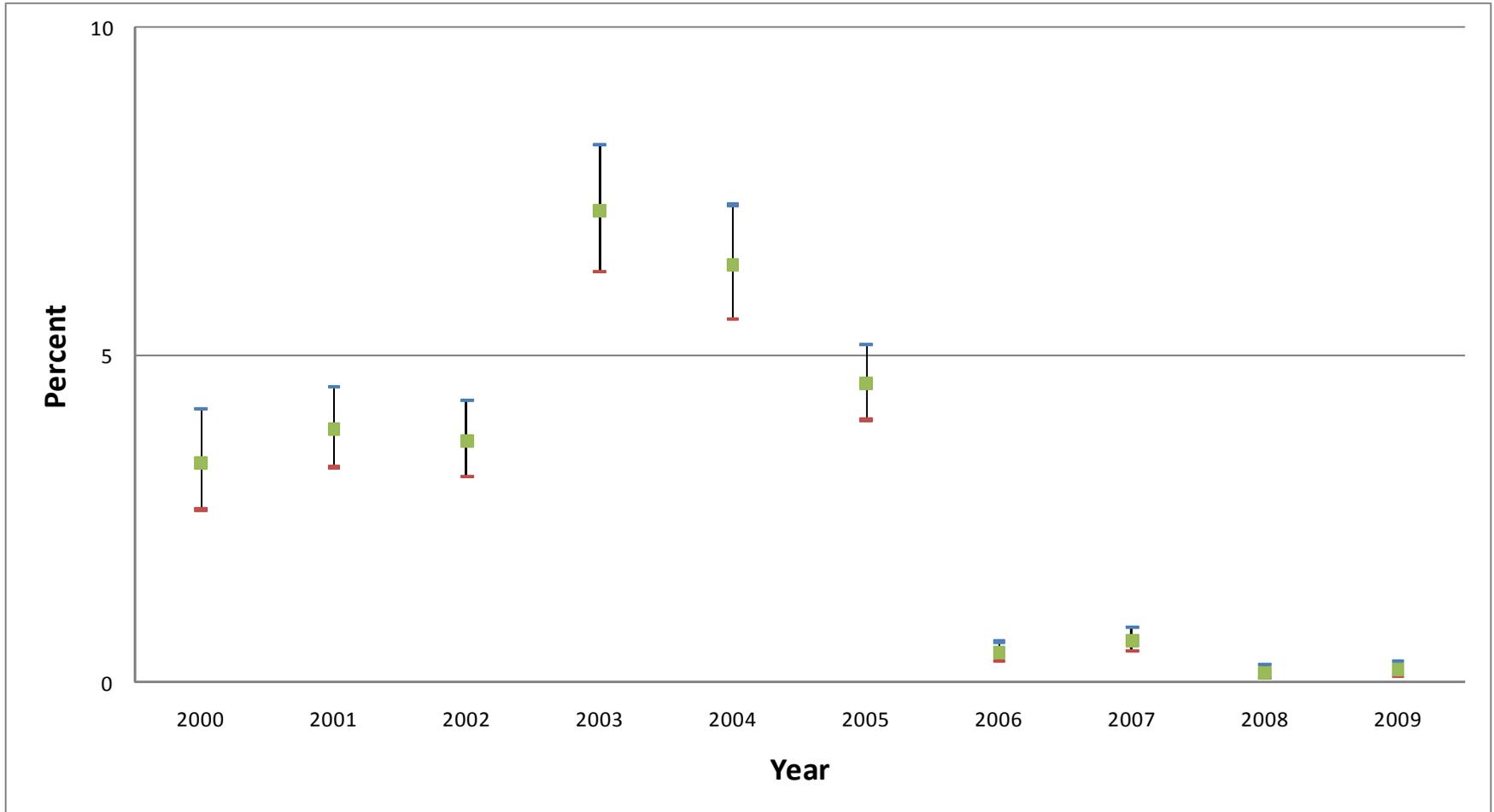


Year of First Hire	Employees with BeLPT Results	"Sensitized" Employees	CBD Employees
<1961	62	0	1 (1.6%)
1961-1965	107	3 (2.8%)	0
1966-1970	607	21 (3.5%)	22 (3.6%)
1971-1975	717	12 (1.7%)	12 (1.7%)
1976-1980	2,025	73 (3.6%)	27 (1.3%)
1981-1985	1,595	36 (2.3%)	19 (1.2%)
1986-1990	1,341	23 (1.7%)	3 (0.2%)
1991-1995	1,248	32 (2.6%)	5 (0.4%)
1996-2000	1,153	15 (1.3%)	4 (0.3%)
2001-2005	1,895	31 (1.6%)	1 (0.1%)
2006-2010	733	9 (1.2%)	3 (0.4%)
Not Reported	5,116	75 (1.5%)	31 (0.6%)
Totals	16,599	330 (2.0%)	128 (0.8%)



DOE –Wide Exposure Trend

Percent Exceeding $0.2 \mu\text{g}/\text{m}^3$ and
95% Upper and Lower Confidence Limits





KCP BeS and CBD by Year of First Hire



Year of First Hire	Employees with BeLPT Results	"Sensitized" Employees	CBD Employees
<1961	5	0	0
1961-1965	29	2 (6.9%)	0
1966-1970	122	4 (3.3%)	0
1971-1975	19	0	0
1976-1980	486	21 (4.3%)	7 (1.4%)
1981-1985	313	10 (3.2%)	4 (1.3%)
1986-1990	44	1 (2.3%)	0
1991-1995	23	1 (4.3%)	1 (4.3%)
1996-2000	34	0	1 (2.9%)
2001-2005	36	0	0
2006-2009	10	0	0
Not Reported	28	0	0
Totals	1,149	39 (3.4%)	13 (1.1%)



KCP Exposure Monitoring Data Summary



	2002	2003	2004	2005	2006	2007	2008	2009	2010	Units
Observations in the data set	44	177	30	386	238	28	45	64	60	
The number of detected values	0	0	0	0	0	0	1	6	5	
Number of individuals monitored	14	20	11	13	24	24	18	15	12	
Observed 95th Percentile of data	NA	0	NA	NA	NA	NA	NA	0.03	0.03	$\mu\text{g}/\text{m}^3$
Upper Tolerance Limit 95th Percentile	NA	<0.334	NA	<0.1389	<0.13	NA	NA	0.19	0.07	$\mu\text{g}/\text{m}^3$
Largest value in the data set	<0.04	<0.37	<0.02	<0.1	<0.26	<0.02	0.11	0.19	0.07	$\mu\text{g}/\text{m}^3$
Percent of values that are non-detects	100	100	100	100	100	100	97.8	90.6	91.7	%
Percent exceeding 0.2 $\mu\text{g}/\text{m}^3$ (F)	0	0	0	0	0	0	0	0	0	%
Lower Confidence Limit for F	0	0	0	0	0	0	0	0	0	%
Upper Confidence Limit for F	6.6	1.7	9.5	0.8	1.3	10.1	6.4	4.6	4.9	%



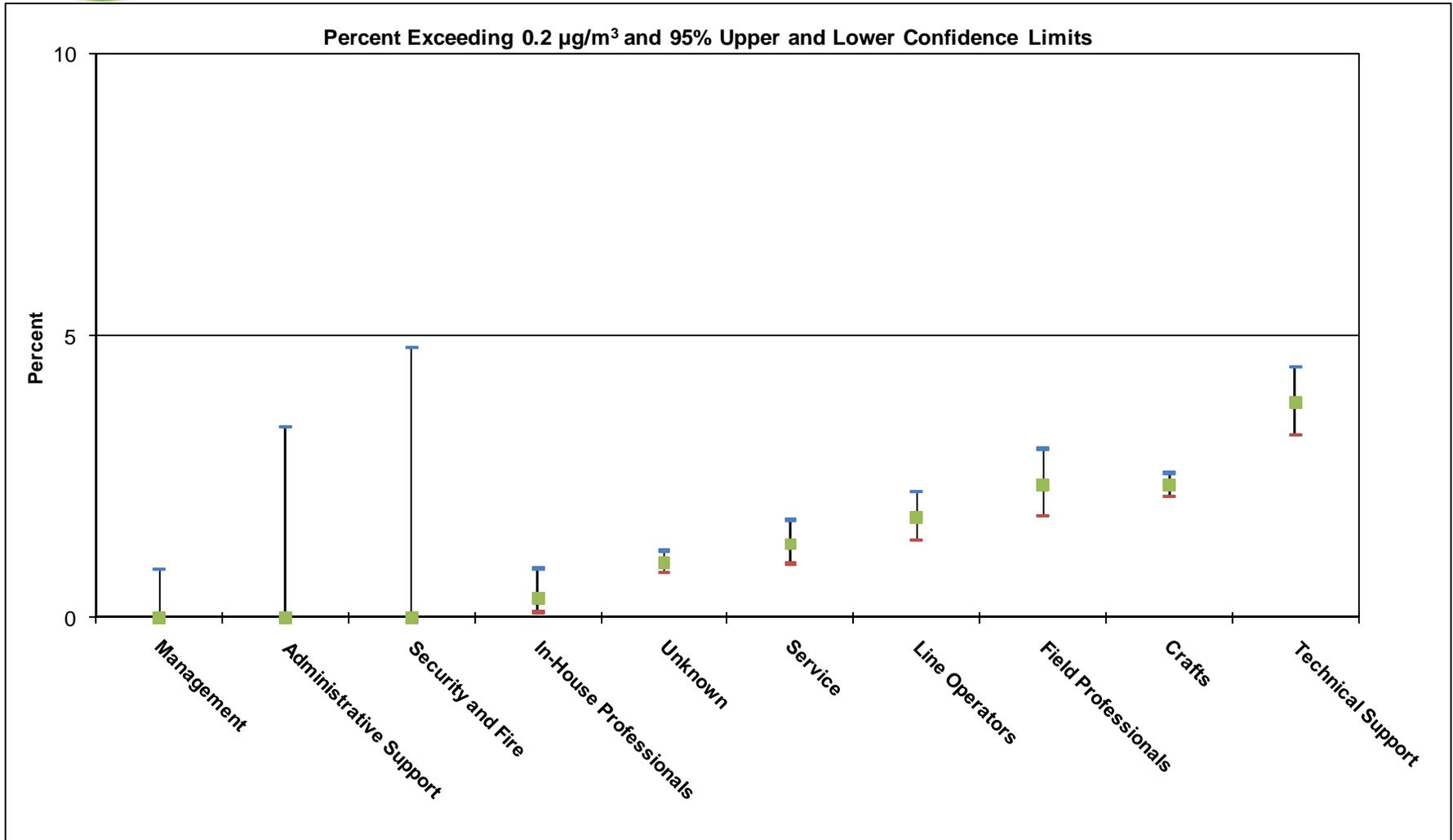
DOE-Wide BeS and CBD by Work History Activity



Work History Activity	Employees with BeLPT Results	"Sensitized" Employees	CBD Employees
Management (M)	757	19 (2.5%)	9 (1.2%)
Administrative Support (A)	629	28 (4.5%)	7 (1.1%)
In-House Professionals (I)	534	20 (3.7%)	7 (1.3%)
Field Professionals (F)	992	31 (3.1%)	5 (0.5%)
Technical Support (T)	1,286	29 (2.3%)	8 (0.6%)
Service (S)	786	19 (2.4%)	9 (1.1%)
Security and Fire (E)	570	14 (2.5%)	6 (1.1%)
Crafts (C)	2,079	56 (2.7%)	28 (1.3%)
Line Operators (O)	1,438	50 (3.5%)	18 (1.3%)
Guests (G)	8	0	0
Unknown (U)	112	7 (6.3%)	6 (5.4%)
Not Reported	7,408	57 (0.8%)	25 (0.3%)
Totals	16,599	330 (2.0%)	128 (0.8%)



DOE-Wide Exposure by Work Activity for 2002-2009





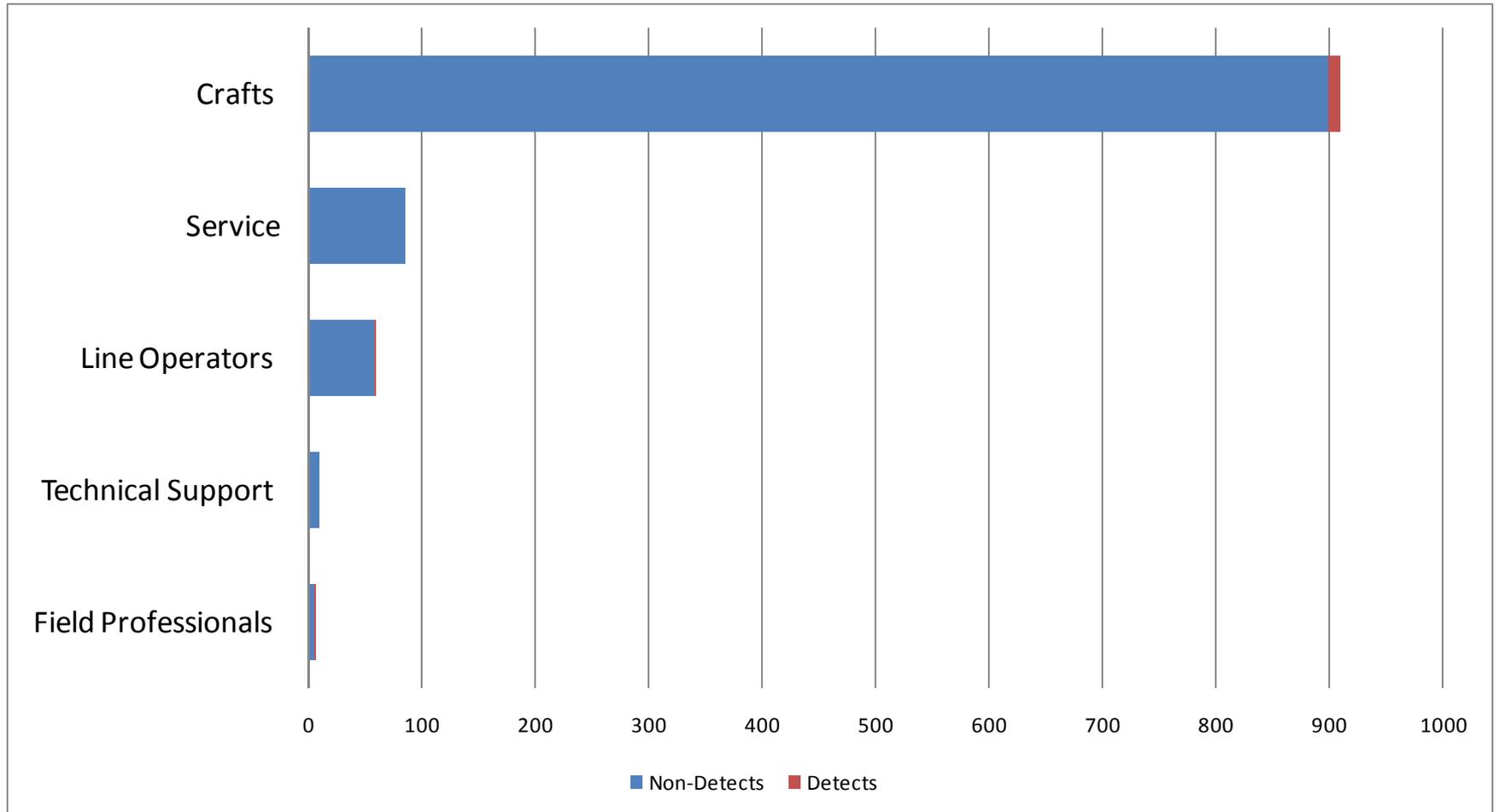
KCP BeS and CBD by Work History Activity



Work History Activity	Employees with BeLPT Results	"Sensitized" Employees	CBD Employees
Management (M)	68	1 (1.5%)	0
Administrative Support (A)	140	8 (5.7%)	0
In-House Professionals (I)	2	1 (50.0%)	0
Field Professionals (F)	143	6 (4.2%)	1 (0.7%)
Technical Support (T)	175	5 (2.9%)	3 (1.7%)
Service (S)	84	2 (2.4%)	2 (2.4%)
Security and Fire (E)	78	2 (2.6%)	2 (2.6%)
Crafts (C)	254	7 (2.8%)	0
Line Operators (O)	167	7 (4.2%)	5 (3.0%)
Guests (G)	0	0	0
Unknown (U)	0	0	0
Not Reported	38	0	0
Totals	1,149	39 (3.4%)	13 (1.1%)



Exposure Monitoring Results by Work Activity for 2002-2009





List of 2009 Exposure Monitoring Results Above the 0.2 $\mu\text{g}/\text{m}^3$ Action Level



Activity Description	Work Activity Categories	8-Hour Time Weighted Average $\mu\text{g}/\text{m}^3$	Respirator Assigned Protection Factor
SUPPORT	Crafts	0.22	100
SUPPORT	Crafts	0.22	100
DEVELOPMENT	Field Professionals	0.26	100
SUPPORT	Crafts	0.35	100
PRODUCTION	In-House Professionals	0.40	50
DEVELOPMENT	In-House Professionals	0.46	50
DEVELOPMENT	Field Professionals	0.53	50
DEVELOPMENT	Field Professionals	0.74	100
ES&H Support Inspection, evaluation and investigation Waste Characterization	Technical Support	1.03	50
ES&H Support Inspection, evaluation and investigation Waste Characterization	Service	1.11	50

- ◆ Work planning processes identified the hazard and provided appropriate level of respiratory protection.



For More Information



◆ Beryllium-Associated Worker Registry Web Site

- http://www.hss.energy.gov/healthsafety/IIPP/hservices/bery_wr.html

Beryllium-Associated Worker Registry

The Office of Illness and Injury Prevention Programs support the operation of a surveillance registry of current workers who are exposed to beryllium in their current job, or may have been exposed to beryllium in the past from work conducted at a DOE site. The goal of the registry is to determine the incidence and prevalence of beryllium sensitization and chronic beryllium disease (CBD). The data will be analyzed to better understand CBD and to identify those at risk. Another goal is to monitor and evaluate the effectiveness of DOE's Chronic Beryllium Disease Prevention Program.

Current Worker Medical Surveillance Program Screening Results (Cumulative through December 31, 2009)

Category	Count	Percentage
Screened	16,599	79%
Not Screened	4,452	21%
458 BeS or CBD Employees	458	3% of screened
128 Reported CBD	128	28% of Abnormal

The flowchart illustrates the screening process: 21,051 employees reported to the registry, 16,599 (79%) were screened, 458 (3% of screened) were identified as BeS or CBD employees, and 128 (28% of abnormal) were reported as CBD.