		Default
BPRG Calculator [Scenario = Resident, Media = Dust, BPRG Type = Site-Specific, Risk Output = Yes, Units = pCi]	DCGLw (dpm/100 cm^2)	
	DCGLw (pCi/cm^2)	
	Ingestion DCGLw (pCi/cm^2)	
	Yield	
	Equilibrium fraction	
	BPRG Output Option	1
	Half-life (yr)	
	Ingestion Input Concentration (pCi/cm^2)	.
	External Input Concentration (pCi/cm^2)	.
	Target risk	1.00E-06
	Frequency of hand to mouth - adult, FQa	3
	Surface area of fingers - resident child, SAres-c (cm2)	49
	Surface area of fingers - resident adult, SAres-a (cm2)	16
	Ingestion risk	
	External exposure risk (ground plane)	
	Total chain risk	
	Cumulative risk	*4.15E-02*

Output files: Resident_bprg_01OCT2019_All ROCs_EPA defaults_sec eq no decay

Am-241	Co-60	Eu-152	Eu-154	H-3	Cs-137	*Ba-137m*	Sr-90	*Y-90*	Pu-239	*U-235m*
100	5000	5000	5000	5000	5000		1000		100	
0.45	22.52	22.52	22.52	22.52	22.52	22.52	4.50	4.50	0.45	0.45
0.45	22.52	22.52	22.52	22.52	22.52	22.52	4.50	4.50	0.45	0.45
1.0	1.0	1.0	1.0	1.0	1.0	*0.944*	1	*0.998*	1	*0.997*
1.0	1.0	1.0	1.0	1.0	1.0	*1.000*	1	*1.0*	1	*1.0*
1	1	1	1	1	1		1		1	
0.4505	*22.5225*	*22.5225*	*22.5225*	*22.5225*	*22.5225*	*21.2613*	*4.5045*	*4.4955*	*0.4505*	*0.4489*
0.4505	22.523	22.523	22.523	22.523	22.5225	21.2613	4.5045	4.4955	0.4505	0.4489
							1.00E-04			

2.30E-03	2.8E-03	4.4E-03	1.8E-03	6.5E-06	3.1E-03	2.0E-03	2.45E-03
5.67E-06	1.2E-03	5.8E-04	6.2E-04	0.0E+00	2.8E-04	1.9E-06	6.46E-06
2.31E-03	3.98E-03	4.93E-03	2.45E-03	6.48E-06	*3.35E-03*	*1.95E-03*	*2.46E-03*

U-235	*Th-231*	Ra-226	Th-232
488		100	36.5
2.20	2.20	0.45	0.16
2.20	2.20	0.45	0.16
1.0	*1.0*	1.0	1.00
1.0	*1.0*	1.0	1.00
1		1	1
2.1982	*2.1982*	*0.4505*	*0.1644*
2.1982	2.1982	0.4505	0.1644

1.03E-02	8.21E-03	1.53E-03
3.15E-05	1.71E-05	8.18E-06
1.03E-02	8.23E-03	1.54E-03

RESIDENTIAL

ROC	RGs dpm/ 100 cm2	RGs pCi/ cm2	Navy calculated BPRG risks (default exposu			Navy calculated RESRAD				Ratio of BPRG:RESRAD
			External	*Ingestion*	Total Risk	*Ingestion*	*Inhalation*	External	Total Risk	
Am-241	100		*5.7E-06*	*2.3E-03*	**2.3E-03**	3.3E-08	1.2E-06	3.9E-08	**1.32E-06**	1746
Cs-137	5000		*2.8E-04*	*3.1E-03*	**3.4E-03**				**0.00E+00**	#DIV/0!
Co-60	5000		*1.2E-03*	*2.8E-03*	**4.0E-03**				**0.00E+00**	#DIV/0!
Eu-152	5000		*5.8E-04*	*4.4E-03*	**4.9E-03**	7.0E-08	9.8E-08	3.6E-05	**3.64E-05**	135
Eu-154	5000		*6.2E-04*	*1.8E-03*	**2.4E-03**	9.6E-08	8.9E-08	3.1E-05	**3.08E-05**	79
H-3	5000		*0.0E+00*	*6.5E-06*	**6.5E-06**	9.1E-10	3.1E-10	0.0E+00	**1.22E-09**	5332
Pu-239	100		*6.5E-06*	*2.5E-03*	**2.5E-03**	4.2E-08	1.5E-06	1.7E-09	**1.57E-06**	1569
Ra-226	100		*1.7E-05*	*8.2E-03*	**8.2E-03**	3.8E-07	6.6E-07	1.9E-06	**2.98E-06**	2764
Sr-90	1000		*1.9E-06*	*2.0E-03*	**2.0E-03**	1.7E-07	3.6E-08	5.2E-08	**2.54E-07**	7689
Th-232	36.5		*8.2E-06*	*1.5E-03*	**1.5E-03**	1.5E-07	2.3E-06	9.8E-07	**3.41E-06**	451
U-235	488		*3.2E-05*	*1.0E-02*	**1.0E-02**	1.2E-07	2.3E-06	9.4E-07	**3.32E-06**	3108
SUM:			2.8E-03	3.9E-02	**4.2E-02**	1.1E-06	8.2E-06	7.1E-05	**8.0E-05**	

Exceeds 1 x 10-2

Exceeds 1 x 10-3

ROC	Option	HPNS RGs dpm/ 100 cm2
Am-241	**SE**	100
Cs-137		5000
Co-60		5000
Eu-152		5000
Eu-154		5000
H-3		5000
Pu-239	**SE**	100
Ra-226	**SE**	100
Sr-90		1000
Th-232	**SE**	36.5
U-235	**SE**	488

Columns G, H, I from ORNL xsheet provided 7-15-20
Columns J, K, L from ACOE xsheet provided xxx
red font matches WP output from online calculator with defaults, assuming SE.

	10-4, center receptor, SE				10-4, SE		
HPNS RGs	**Fixed PRGs- ?**	**Fixed PRGs- 6 surf?**	**Fixed PRGs- floor +6'**		**Dust PRGs, 6 surfaces**	**Dust PRGs, 6 surfaces**	**Fixed, 6 surfaces ?**
pCi/ cm2	pCi/cm2	pCi/cm2	pCi/cm2		pCi/cm2	pCi/cm2	pCi/cm2
0.5	5.9	8.0	12.4	INC	*0.02*	*0.02*	*7.95*
22.5	11.9	7.9	21.8	-	*0.73*	*0.67*	*7.92*
22.5	1.4	1.8	5.2	DEC	*0.82*	*0.57*	*1.84*
22.5	2.0	3.9	9.3	DEC	*0.52*	*0.46*	*3.91*
22.5	2.4	3.7	8.9	DEC	*1.23*	*0.92*	*3.65*
22.5	-				*348.00*	*348.00*	
0.5	7.4	7.0	10.9	INC	*0.02*	*0.02*	*6.98*
0.5	2.9	2.6	6.3	INC	*0.01*	*0.01*	*2.64*
4.5	2520000	239.9	251.1	INC	*0.23*	*0.23*	*235.00*
0.2	1.4	2.0	4.7	INC	*0.01*	*0.01*	*2.01*
2.2	7.37	7.0	10.9	INC	*0.02*	*0.02*	*6.98*

-

Am-241
Cs-137
Co-60
Eu-152
Eu-154
H-3
Pu-239
Ra-226
Sr-90
Th-232
U-235

HPNS RGs are the current building remediation goals used at the Hunters Point site
All PRGs at 1 x 10-4. Secular equilibrium assumed for Am-241, Pu-239, Ra-226, Th-232, U-235. Decay assumed for Cs-137
BPRGs in columns ___ are from online calculator using default exposure assumptions
ORNL PRGs in column I are from xheet provided on _____
Navy PRGs from xsheet with conversion to 10-4: "HPNS Structures BPRG Inputs and Results_1Oct19"
CHECK IF ERROR IN SR-90

	HPNS RGs	HPNS RGs	BPRG Ext. Exp PRGs, default, online	BPRG Ext. Exp PRGs, Navy '19	ORNL Ext. Exp PRGs: floor + 6' wall - center	ORNL Ext. Exp PRGs: floor + 6' wall -SE - ave	ORNL Ext. Exp PRGs: floor + 6' wall - corner	Ratio of ORNL Ext Exp. PRGs to current RGs - CNTR	Ratio of ORNL Ext Exp. PRGs to current RGs - AVE
	dpm/ 100 cm2	*pCi/ cm2*	*pCi/ cm2*	*pCi/ cm2*	*pCi/ cm2*	*pCi/ cm2*	*pCi/ cm2*		
SE	100	0.5	~~2.7~~	7.95	12.4	8.2	7	28	18
	5000	22.5		7.93	27.3	18.4	16.45	1.2	0.8
	5000	22.5		1.83	18.5	12.4	11.2	0.8	0.6
	5000	22.5		3.91	16.8	11.7	10.5	0.7	0.5
	5000	22.5		3.66	21.2	14.7	13.1	0.9	0.7
	5000	22.5							
SE	100	0.5	~~3.2~~	6.98	10.9	7.2	6.4	24	16
SE	100	0.5	~~1.2~~	2.64	6.3	4.3	3.9	14	10
	1000	4.5		235.00	337.7	193.1	192.3	75	43
SE	36.5	0.2	~~0.6~~	2.01	4.7	3.2	2.8	28	19
SE	488	2.2	~~3.2~~	6.98	10.9	7.2	6.4	5	3

⁷, Co-60, Eu-152, Eu-154, H-3, Sr-90.

Ratio of ORNL Ext Exp. PRGs to current RGs - CRN	Risk at current RG, based on ORNL ext exp PRG, corner, floor + 6'	New RG if risk lowered to 1 x 10-4		Ratio of ORNL Ext Exp. PRGs to current Ext RGs - CNTR	Ratio of ORNL Ext Exp. PRGs to currentExt RGs - AVE	Ratio of ORNL Ext Exp. PRGs to current Ext RGs - CRN
	(x 10-4)	*dpm/ 100 cm2*				
16	0.1			~~1.6~~	~~1.0~~	~~0.9~~
0.7	1.4	3652		~~3.4~~	~~2.3~~	~~2.1~~
0.5	2.0	2494		~~10.1~~	~~6.8~~	~~6.1~~
0.5	2.1	2336		~~4.3~~	~~3.0~~	~~2.7~~
0.6	1.7	2919		~~5.8~~	~~4.0~~	~~3.6~~
14	0.1			~~1.6~~	~~1.0~~	~~0.9~~
9	0.1			~~2.4~~	~~1.6~~	~~1.5~~
43	0.0			~~1.4~~	~~0.8~~	~~0.8~~
17	0.1			~~2.3~~	~~1.6~~	~~1.4~~
3	0.3			~~1.6~~	~~1.0~~	~~0.9~~

Am-241
Cs-137
Co-60
Eu-152
Eu-154
H-3
Pu-239
Ra-226
Sr-90
Th-232
U-235

HPNS RGs are the current building remediation goals used at the Hunters Point site
All PRGs at 1 x 10-4. Secular equilibrium assumed for Am-241, Pu-239, Ra-226, Th-232, U-235. Decay assumed for Cs-137
BPRGs in columns ___ are from online calculator using default exposure assumptions
ORNL PRGs in column I are from xheet provided on _____

Red font - from ACOE xsheet

	HPNS RGs	20% RGs	BPRG Dust PRGs, default	HPNS RGs	BPRG Dust PRGs, default	Ratio of BPRG Ingestion PRGs to current RGs
	dpm/ 100 cm2	*dpm/ 100 cm2*	*dpm/ 100 cm2*	*pCi/ cm2*	*pCi/ cm2*	
SE	100	20	4.4	0.1	*0.02*	0.22
	5000	1000	149.2	4.5	*0.67*	0.15
	5000	1000	125.9	4.5	*0.57*	0.13
	5000	1000	101.5	4.5	*0.46*	0.10
	5000	1000	204.5	4.5	*0.92*	0.20
	5000	1000	77256.0	4.5	*348.00*	
SE	100	20	4.1	0.1	*0.02*	0.20
SE	100	20	1.2	0.1	*0.01*	0.06
	1000	200	51.3	0.9	*0.23*	0.26
SE	36.5	7.3	2.4	0.0	*0.01*	0.33
SE	488	97.6	4.7	0.4	*0.02*	0.05

', Co-60, Eu-152, Eu-154, H-3, Sr-90.

Am-241
Cs-137
Co-60
Eu-152
Eu-154
H-3
Pu-239
Ra-226
Sr-90
Th-232
U-235

HPNS RGs are the current building remediation goals used at the Hunters Point site

All PRGs at 1 x 10-4. Secular equilibrium assumed for Am-241, Pu-239, Ra-226, Th-232, U-235. Decay assumed for Cs-137

	HPNS RGs		HPNS RGs
	dpm/ 100 cm2		*pCi/ cm2*
SE	100		0.5
	5000		22.5
	5000		22.5
	5000		22.5
	5000		22.5
	5000		22.5
SE	100		0.5
SE	100		0.5
	1000		4.5
SE	36.5		0.2
SE	488		2.2

7, Co-60, Eu-152, Eu-154, H·

BPRGs in columns ___ are from online calculator using default exposure assumptions
ORNL PRGs in column I are from xheet provided on _____
Navy PRGs from xsheet with conversion to 10-4: "HPNS Structures BPRG Inputs and Results_1Oct19"
CHECK IF ERROR IN SR-90

BPRG Ext. Exp PRGs, default, online	BPRG Ext. Exp PRGs, Navy '19			ORNL Ext. Exp PRGs: floor + 6' wall - center	ORNL Ext. Exp PRGs: floor + 6' wall -SE - ave	ORNL Ext. Exp PRGs: floor + 6' wall - corner	Ratio of ORNL Ext Exp. PRGs to current RGs - CNTR	Ratio of ORNL Ext Exp. PRGs to current RGs - AVE	Ratio of ORNL Ext Exp. PRGs to current RGs - CRN	Risk at current RG, based on ORNL ext exp PRG, corner, floor + 6'
pCi/cm2	*pCi/ cm2*	*pCi/ cm2*		*pCi/ cm2*	*pCi/ cm2*	*pCi/ cm2*				*x 10-4*
2.7	7.95			12.4	8.2	7	28	18	16	0.1
	7.93			27.3	18.4	16.45	1.2	0.8	0.7	1.4
	1.83			18.5	12.4	11.2	0.8	0.6	0.5	2.0
	3.91			16.8	11.7	10.5	0.7	0.5	0.5	2.1
	3.66			21.2	14.7	13.1	0.9	0.7	0.6	1.7
3.2	6.98			10.9	7.2	6.4	24	16	14	0.1
1.2	2.64			6.3	4.3	3.9	14	10	9	0.1
	235.00			337.7	193.1	192.3	75	43	43	0.0
0.6	2.01			4.7	3.2	2.8	28	19	17	0.1
3.2	6.98			10.9	7.2	6.4	5	3	3	0.3

New RG if risk lowered to 1 x 10-4	Ratio of ORNL Ext Exp. PRGs to current Ext RGs - CNTR	Ratio of ORNL Ext Exp. PRGs to currentExt RGs - AVE	Ratio of ORNL Ext Exp. PRGs to current Ext RGs - CRN
dpm/ 100 cm2			
	1.6	1.0	0.9
3652	3.4	2.3	2.1
2494	10.1	6.8	6.1
2336	4.3	3.0	2.7
2919	5.8	4.0	3.6
	1.6	1.0	0.9
	2.4	1.6	1.5
	1.4	0.8	0.8
	2.3	1.6	1.4
	1.6	1.0	0.9